A Clinician's Guide to

# Dermatologic Differential Diagnosis

## Volume 1 The Text

Paul I Schneiderman
Marc E Grossman

informa
healthcare

# A Clinician's Guide to

# *Dermatologic Differential Diagnosis*

## Volume 1
## The Text

# *Dedications*

There are a great number of people who made significant contributions to my personal and professional development, provided me with nurturing love and guidance, the opportunity to succeed, and valuable professional support which has enabled me to make a difference for my patients and my specialty. I am deeply and humbly indebted to them all. It is to these members of my life family that this book is lovingly dedicated.

Miriam and Morris Schneiderman
Steven and Arthur Schneiderman
Judy Schneiderman
Hyman Karmen
Arthur and Marcia Karmen
Etta and Louis Biblowitz
Iris and Jerry Schwartzbaum
Kenneth Barnett, PhD
Eric Tash
Bette Schneiderman
Andy and Scott Schneiderman
Judy and Morty Eydenberg
John J. Gullo, MD
Robert O. Knapp, MD
Frank Call, MD
Edward W. Hook, MD
Dwight Wooster, MD
David Stone, MD
Kenneth E. Greer, MD
Richard L. Edelson, MD
Edward P. Cawley, MD
Louis E. Harman, MD
Peyton E. Weary, MD
Larry Legum, MD
Barry S. Coller, MD
Steven R. Kohn, MD
Larry Bilsky, MD
My co-author Marc E. Grossman, MD

*Paul I Schneiderman*

For my favorite girls
Leslie, Andrea, and Julie

*Marc E Grossman*

# A Clinician's Guide to

# *Dermatologic Differential Diagnosis*

## Volume 1
## The Text

**Paul I Schneiderman MD**
Clinical Professor of Dermatology
College of Physicians and Surgeons
Columbia University, New York, NY, USA

**Marc E Grossman MD**
Professor of Clinical Dermatology
College of Physicians and Surgeons
Columbia University, New York, NY, USA

informa
healthcare

First published in the United Kingdom in 2006 by Informa Healthcare, 4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN. Informa Healthcare is a trading division of Informa UK Ltd. Registered Office: 37/41 Mortimer Street, London W1T 3JH. Registered in England and Wales Number 1072954.

Tel: +44 (0)20 7017 6000
Fax: +44 (0)20 7017 6699
Email: info.medicine@tandf.co.uk
Website: www.tandf.co.uk/medicine



A CIP record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Data available on application

ISBN-10: 0-415-39052-4
ISBN-13: 978-0-415-39052-1

Also available
Volume 2: The Atlas (ISBN-10: 0-415-39051-6; ISBN-13: 978-0-415-39051-4)
Volumes 1 and 2 (ISBN-10: 0-415-40263-8; ISBN-13: 978-0-415-40263-7)

Distributed in North and South America by
Taylor & Francis
6000 Broken Sound Parkway, NW, (Suite 300)
Boca Raton, FL 33487, USA

*Within Continental USA*
Tel: 1 (800) 272 7737; Fax: 1 (800) 374 3401
*Outside Continental USA*
Tel: (561) 994 0555; Fax: (561) 361 6018
Email: orders@crcpress.com

Distributed in the rest of the world by
Thomson Publishing Services
Cheriton House
North Way
Andover, Hampshire SP10 5BE, UK
Tel: +44 (0)1264 332424
Email: tps.tandfsalesorder@thomson.com

Composition by C&M Digitals (P) Ltd., Chennai, India
Printed and bound by CPI Bath, UK

# Contents


| | |
|---|---|
| Dedication | ii |
| Foreword | viii |
| Introduction | ix |
| Acknowledgment | x |
| List of diagnostic conditions: | |
| Abscess | 1 |
| Acanthosis nigricans | 5 |
| Acneiform lesions | 7 |
| Acral cyanosis | 12 |
| Acral erythema | 15 |
| Acral erythema and scale with or without a linear cutoff | 18 |
| Acral papules and nodules; knuckle papules; papules, digital | 19 |
| Acromegalic features | 26 |
| Acro-osteolysis | 26 |
| Ainhum | 27 |
| Alopecia | 28 |
| Alopecia, eyebrows | 39 |
| Alopecia in neonates, infants or toddlers | 41 |
| Angioedema | 42 |
| Angiokeratoma corporis diffusum | 43 |
| Annular lesions of the penis | 43 |
| Annular lesions with surface changes | 43 |
| Annular lesions without surface changes | 48 |
| Annular scars | 52 |
| Aphthous stomatitis | 53 |
| Arthritis and rash | 54 |
| Atrichia and nail abnormalities | 62 |
| Atrophic glossitis | 62 |
| Atrophic lesions | 63 |
| Basal cell carcinoma – syndromes | 73 |
| 'Black' dermatologic entities | 74 |
| Black oral lesions | 76 |
| Blaschko-esque entitites | 76 |
| Blue spots | 79 |
| Blueberry muffin lesions, neonate | 85 |
| Breast asymmetry | 85 |
| Breast lesions | 86 |
| Breast hypertrophy and breast masses | 87 |
| Buffalo hump | 89 |
| Bullae and/or vesicles | 89 |
| Bullae, hemorrhagic | 99 |
| Bullae, hemorrhagic, septic | 102 |
| Bullae in newborn | 103 |
| Bullae of infants and children | 103 |
| Bullae of the fingers or toes | 105 |
| Burning tongue | 108 |
| Butterfly rash | 108 |
| Café au lait macules, associations | 110 |
| Cellulitis in the immunocompromised host | 112 |
| Cerebriform lesions | 113 |
| Chalky material extruded from lesion | 115 |
| Cheilitis (crusted lips) | 115 |
| Chest wall tumors | 117 |
| Cleft lip/palate – associated skin disorders | 118 |
| Cobblestone appearance of the oral mucosa | 118 |
| Cobblestone appearance of skin | 120 |
| Conjunctivae, pigmented lesions | 123 |
| Cutaneous horns | 124 |
| Cutis laxa-like appearance | 125 |
| Cysts, with or without drainage | 127 |
| Dermatitis | 130 |
| Dermatitis, facial, pediatric | 136 |
| Dermatitis, periorbital | 138 |
| Dermatitis, periorificial | 140 |
| Dermatographism | 142 |
| Dimples | 143 |
| Dyschromatosis (hypo- and hyperpigmentation) | 144 |
| Dyshidrosis | 145 |
| Ear, hard (petrified auricles) | 147 |
| Ear lesions | 147 |
| Ears, red, with or without nodules | 155 |
| Edema | 157 |
| Edema, hands and/or feet | 162 |
| Edema, head | 165 |
| Edema, legs | 166 |
| Erosions (superficial ulcers) | 169 |
| Erythrodermas | 172 |
| Erythrodermic infant | 176 |
| Eschars | 177 |
| Exanthem | 177 |
| Exfoliation (desquamation) | 184 |
| Eyelid lesions | 186 |
| Eyes, red, and rash | 194 |
| Facial dermatitis, scaly | 201 |
| Facial edema | 203 |
| Facial papules | 205 |
| Facial papules and plaques | 212 |
| Facial plaques, scarring and non-scarring | 214 |
| Facial scars | 218 |
| Facial ulcers | 219 |
| Fibromatoses of children | 221 |
| Figurate erythemas | 221 |
| Fingertip lesions | 222 |
| Fingertip necrosis | 224 |
| Fingertip ulcers | 226 |
| Flushing disorders | 227 |
| Follicular plugging | 230 |
| Foot ulcers | 230 |
| Freckling of the hands | 231 |

Gingival hyperplasia 231
Gingivitis 234

Hair nodules or nits (particulate matter) 237
Hair, premature graying 237
Hemihypertrophy 239
Herpetiform lesions 239
Heterochromic irides 240
Hyperhidrosis 240
Hyperkeratotic lesions 245
Hyperkeratotic lesions of the feet 249
Hyperkeratotic lesions of the hands 252
Hyperkeratotic papules of the nipple 254
Hyperpigmentation in Blaschko's lines 254
Hyperpigmentation, diffuse 255
Hyperpigmentation, paronychial 258
Hyperpigmentation, patchy 258
Hyperpigmentation, segmental or zosteriform 265
Hyperpigmented lesions, discrete annular 266
Hypertrichosis, generalized 268
Hypertrichosis, localized 271
Hypohidrosis (anhidrosis) 277
Hypopigmented patches or plaques 280
Hypoplasia of distal phalanges 285

Ichthyosiform eruptions: acquired ichthyosis 285
Immune deficiency syndromes with pyodermas 290
Inguinal lymphadenitis 292
Intertrigo, including diaper dermatitis 292
Iris lesions, pigmented 296

Kaposi's sarcoma 297
Kinky hair 297
Knuckle papules 297
Knuckles, pebbly with scarring: 'Why do my hands look so old?' 299

Lacrimal gland, enlarged 300
Lentigines 300
Leonine facies 302
Leukoderma, guttate 303
Leukonychia 304
Leukoplakia 305
Linear hypopigmentation 307
Linear lesions 307
Linear lesions along veins 315
Lip lesions, pigmented 317
Lip papules 318
Lip pits 320
Lips, swollen 320
Livedo reticularis with or without necrosis 323

Macrodactyly (enlarged digit) 327
Marfanoid habitus 330
Masses of the head and neck 331
Melanoma – clinical simulators 334
Melanonychia 335
Micronychia and anonychia 336
Midline facial nodules of children 338
Midline nasal masses 338
Milia and milia-like lesions (fine white papules) 338
Mucinoses 340

Nasal infiltration or enlargement 341
Nasal septal ulcerations/perforations/rhinophagic ulceration 343
Neck lesions 345
Neck papules 350
Necrosis 353
Nevi: syndromes associated with nevi 361
Nipple dermatitis 363
Nipple lesions, including nipple with multiple papules 364
Nodules, congenital 366
Nodules, foot 367
Nodules, juxta-articular 370
Nodules, knee 372
Nodules, multilobulated 373
Nodules, multiple, subcutaneous 376
Nodules, red on the extremities 378
Nodules, red, face 385
Nodules, red, hand 387
Nodules, skin-colored 389
Nodules, ulcerated 397
Nodules, unspecified location 401
Nodules, red or violaceous, with vascular appearance 403
No fingerprint syndromes 410
Normal skin/barely perceptible plaque 411

Onycholysis 411
Oral mucosa, blue pigmentation 413
Oral mucosa, cysts 414
Oral mucosa, nodules 414
Oral mucosa, ulcerations 418
Oral mucosa, verrucous and vegetating lesions 423
Oral mucosal hyperpigmentation 424
Osteoma cutis 426

Painful tumors 426
Palatal necrosis 427
Palmar erythema 428
Palmar or plantar nodules 430
Palmar pits and punctate keratoses/dyshidrosis-like lesions 431
Palmoplantar keratodermas 433
Palmoplantar keratodermas – alternative classification 442
Palmoplantar pustules 443
Papules and nodules, hyperpigmented (with or without hyperkeratosis) 443
Papules, crusted 446
Papules, digital 449
Papules, dirty brown 452
Papules, distal, digital, white 453
Papules, facial, solitary 453
Papules, flat-topped 455
Papules, follicular, including folliculitis 458
Papules, hyperkeratotic 463
Papules, hyperpigmented with hypertrichosis 468
Papules, periorbital 468
Papules, red 470
Papules, skin-colored 477
Papulosquamous eruptions 480
Papulovesicular dermatitis in infants 481
Paraneoplastic dermatoses 481
Paraproteinemias, cutaneous manifestations 483
Paronychia 483
Parotid gland enlargement 485
Particulate matter/exfoliation 487
Pedunculated (polypoid) lesions 488
Penile lesions 490
Penile ulcers 496
Perianal dermatitis and hypertrophic plaques 498
Perianal ulcers, single or multiple 501
Periorbital edema/erythema/dermatitis 502
Photoeruption and/or seborrheic dermatitis-like eruption 508
Pityriasis rosea-like eruptions 518
Plantar erythema 519
Poikilodermas of childhood 521
Poikilodermas of adulthood 522
Poliosis – localized or generalized (canities) 523
Polydactyly 523

Pore 524
Port wine stain 524
Preauricular sinuses (ear pits) 525
Premature aging syndromes 525
Pruritic tumors 527
Pruritus, anal 527
Pruritus, erythematous papules 528
Pruritus, generalized (without primary skin lesions) 530
Pruritus vulvar 533
Pseudoxanthoma elasticum-like changes 533
Psoriasiform dermatitis 534
Psoriasiform plaque, focal or solitary 537
Pterygia 539
Pterygium of the nail 539
Puberty, delayed 540
Puberty, premature 542
Purpura 543
Purpura, neonatal 554
Purpuric rash and fever 554
Pustular and vesicopustular eruptions in newborn 557
Pustules and pustular eruptions 558

Red elbow 565
Red face 566
Red feet 569
Red nose 571
Red patch 573
Red plaques 579
Redundant skin 588
Reticulated eruptions 590
Reticulated hyperpigmentation 595
Rosette lesions 596

Scalp cysts 596
Scalp dermatitis 597
Scalp nodules 599
Scalp, red plaques 604
Scarring of neck 604
Scar and lesions in scars 605
Sclerodermoid changes 605
Scrotal nodules 610
Scrotal nodules with erosions 612
Scrotal ulcerations 612
Serpiginous lesions 614
Short stature 616
Sinus tracts 623
Spinal dysraphism, cutaneous stigmata 625
Splinter hemorrhages 625
Sporotrichoid lesions 626
Spotty pigmentation of the face 627
Striae distensae 627
Syndactyly 627

Tail 630
Target lesions 630
Tattoo, palpable: lesion in a tattoo 633
Teeth 633
Telangiectasias – congenitial disorders 636
Telangiectasias – acquired disorders 638
Tongue, enlarged (macroglossia) 640
Tongue, hyperpigmentation 642
Tongue, multilobulated 643
Tongue, red 644
Tongue, scrotal 645
Tongue, ulcer 646
Transient blisters in infants 648
Trichomegaly 648
Tropical fever and rash 648
Tumors, giant 650

Ulcers 652
Ulcers, leg 661
Ulcers of the leg in a young patient 666
Umbilical lesions 667
Umbilical nodules 670
Umbilicated lesions 671
Unilateral foot edema 674
Urticaria and urticaria-like lesions 674
Uvula, enlarged 679

Vasculitis, disease associations 680
Vasculitis, granulomatous 680
Vasculitis, leukocytoclastic 680
Vasculitis, thrombotic 681
Vasculitis, types 682
Vegetating lesions 683
Verrucous lesions of the legs 684
Verrucous lesions, periungual 685
Verrucous plaques 686
Vulva, hypertrophic and/or edematous lesions 691
Vulvar erythema/pruritus 693
Vulvar papules and nodules 694
Vulvar ulcers 697

White feet 699
White macules 700
White papules or nodules 706

Xanthomatous lesions 708
Xerosis – associations and causes 708

Yellow nail syndrome 711
Yellow to skin colored papules of the neck 711
Yellow papules and/or plaques 712
Yellow plaque 716
Yellow skin 717

Zebra stripes (zebra-like pigmentation) 718
Zosteriform lesions/segmental disorders 721

# Foreword

The specialty of dermatology has advanced over the past 35 years from one of clinical descriptions of cutaneous disorders to encompass the fields of clinical immunology and cellular and molecular biology with striking improvements in our ability to diagnose and treat many skin diseases which previously were only vaguely defined or untreatable.

However, even today, the cornerstone of clinical dermatology still requires a careful and perceptive physical exam with a detailed knowledge of the range of cutaneous clinical findings and their associated dermatologic and systemic disorders.

Paul Schneiderman and Marc Grossman, whom I have known professionally for a total of 63 years, are two of the finest teacher/clinician/academicians in our specialty and have assembled a comprehensive presentation of dermatologic entities in differential diagnostic format accompanied by 4000 clinical photographs which serve as "visual orientations" for the diagnostic lists.

This opus is a life's work in the field of clinical dermatologic teaching. The text and accompanying atlas can be perused for ideas when the confounding patient arrives at your institution or office, and thus, this tome will be useful for the academic dermatologist/clinician or the small town general practitioner. The two volumes light a pathway of approach to clinical dermatology and are the result of the combined 55 years of clinical instruction to which these two teachers of our specialty have devoted their professional lives.

I am thrilled that their contributions to our specialty can extend beyond the confines of New York and New Haven, and trust that all those first learning dermatology or those already well-versed in the specialty will derive as much pleasure and knowledge from this text as all the residents and colleagues who have been educated by these two clinician/scholars.

Richard L. Edelson, MD
*Chairman, Department of Dermatology*
*Yale-New Haven Medical Center*
*New Haven, Connecticut*

# Introduction

Dermatologic differential diagnosis represents a continuous challenge both to the new student and the most seasoned practitioner. This textbook is designed to assist in the diagnosis of skin disease by presenting a unique and comprehensive approach to differential diagnosis. We expect this book to function as a tool to improve our readers' skills in physical examination of the skin and sharpen their analytical thinking in dermatology.

Useful in the diagnosis of patients in emergency rooms, private offices, or hospital beds, this text is practical for a large group of motivated diagnosticians including academicians, private practitioners, residents in dermatology, internal medicine, or pediatrics, medical students and even self-diagnosing patients. For the resident and student, complete lists of differential diagnoses will expand their breadth of knowledge of human skin disease. For the experienced attending dermatologist caring for the patient with a difficult diagnostic enigma, this reference will aid in thinking beyond initial clinical impressions.

The concept of this textbook evolved from the two authors' team teaching of dermatology residents over the past 26 years. Whether through the intense scrutiny of Kodachrome color slides or examination of patients in the clinic, office, or hospital bedside, each week we presented our residents with clinical "unknowns." Provided with no histories or laboratory data, the residents were challenged to rely on their clinical examination skills to generate lists of possible diagnoses based solely on the morphology of the skin lesions and clinical settings. They quickly learned the critical importance of accurate morphologic recognition in order to direct them to the appropriate differential diagnostic category. The resident lists of diagnoses were then used to expand and update our original materials and to extend the scope and content of this work.

With this teaching model, students and residents learned the importance of thorough and precise observation as the cornerstone of dermatologic diagnosis. Hence the companion atlas with over 4000 color photographs will direct the reader to more precise pictorial descriptions paralleling the text.

The use of this book requires a fundamental knowledge of primary, secondary, and special skin lesions as well as their pattern and distribution. The table of contents is organized into sections based on the morphology of the skin lesions. Each section is subdivided into putative pathophysiologic mechanisms including

autoimmune,
congenital,
degenerative,
drug reactions,
exogenous agents,
infections and infestations,
infiltrative,
inflammatory,
metabolic,
neoplastic,
paraneoplastic,
primary cutaneous,
psychocutaneous,
syndromes,
trauma, and
vascular diseases.

Some diseases and conditions fall into multiple categories. We have included those to make them easier to find. Some entities have multiple names and have suffered from being named and renamed over time. An attempt has been made to eliminate outdated or confusing names and to use only one for consistency.

The content of this textbook includes rare clinical manifestations of common cutaneous conditions and common clinical manifestations of rare cutaneous conditions. In addition there are

new versions of old maladies and new diseases never learned or encountered and other conditions perhaps forgotten by the reader. The text delivers key references to the fingertips of community practitioners and academicians to start or accelerate their search engines. The diseases comprising each chapter may be used to develop a list of larger and broader differential diagnostic possibilities for the patient who otherwise might have appeared routine. More importantly, a new diagnosis may be offered which better fits the patient's clinical presentation and which better suits the practitioner's clinical impression. References are provided as starting points for further study.

This text is only a beginning for self-education. For the resident and student, extensive lists of differential diagnosis expand their portfolio of cutaneous pathology and give them fresh perspectives to contribute in the academic setting. The experienced attending dermatologist can then prioritize the differential diagnosis both by frequency and significance. We hope our book serves as a paradigm for the clinician as lifelong learner to be emulated by residents and students. Even those few patients with difficult diagnostic dilemmas may find insight in this text to share with their physicians.

We have not only included the rare and exotic diseases but the esoteric and unusual aspects of the common and mundane dermatologic conditions encountered in daily practice. Caution should be exercised when using this text so that every set of perceived hoofbeats does not herald a zebra instead of a horse. But be prepared to recognize either when they trot toward you. We acknowledge that the skills needed to know when to pursue the unusual and when to confirm the common are acquired with much experience and thoughtful practice. We hope these combined texts foster the development and refinement of these sophisticated specialized skills.

The literature changes rapidly. Unique case reports, new diseases and treatments with novel side effects and complications are reported daily. The authors and publishers welcome additions, deletions, substitutions and corrections for future editions and encourage the readers' participation in this process. We look forward to refining and extending this work.

It is our sincere hope as urban/suburban/community/academic dermatologists that these companion books will be as helpful to you and your patients as they have been to us and ours.

Paul I. Schneiderman
*Syosset, New York*

Marc E. Grossman
*Scarsdale, New York*

# *Acknowledgment*

Most of the photographs of the patients in these volumes are selected from the collections of the two authors, who have personally cared for these patients either in their private offices in Syosset, Manhattan, and White Plains, New York or at the outpatient Vanderbilt Clinic and the Inpatient Dermatology Consult Service at Columbia Presbyterian Hospital in New York City. The authors are grateful to our patients for permitting us to photograph them. Dr. Kenneth E. Greer, Professor and Chairman of the Department of Dermatology at the University of Virginia Medical Center has graciously and generously contributed numerous clinical slides from his personal collection. A few selected images were contributed by Dr. Robert Kalb, Dr. Gary Peck, and the Yale University Department of Dermatology.

David Bloomer, Robert Peden, and Martin Lister from Informa Healthcare have been instrumental in bringing this long term project to fruition. The authors are deeply indebted to these wonderful people for the faith they have had in this work and their great effort which made it a reality.

# ABSCESS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Agranulocytosis – infantile genetic agranulocytosis – subcutaneous abscesses *Acta Paediatr Scand 64: 362–368, 1975*

Chronic familial neutropenia

Chronic granulomatous disease – bacterial abscesses, perianal abscesses *JAAD 36:899–907, 1997; AD 130:105–110, 1994; AD 103:351–357, 1971;* gene carriers may develop abscesses, hidradenitis suppurativa and ulcerative stomatitis *Ped Derm 3:376–379, 1986*

Common variable immunodeficiency *BJD 147:364–367, 2002*

Complement deficiencies – C1q *Clin Exp Immunol 38:52–63, 1979*

Congenital neutropenia *Blood Rev 2:178–185, 1988; Am J Med 61:849–861, 1976*

Cyclic neutropenia *Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976*

Hyper-IgE syndrome, Job's, Buckley's, Quie–Hill syndromes (allergic rhinitis) – papular, pustular, excoriated dermatitis of scalp, buttocks, neck, axillae, groin; furunculosis; growth failure *Dermatol Therapy 18:176–183, 2005; AD 140:1119–1125, 2004; Pediatr 141:572–575, 2002; Curr Prob Derm 10:41–92, 1998; Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983*

Hyper-IgM immunodeficiency syndromes – X-linked recessive – perirectal abscesses *JAAD 38:191–196, 1998*

Lactoferrin-deficient neutrophils (neutrophil-specific granule deficiency) – autosomal recessive *Annu Rev Med 36:263–274, 1985; J Clin Immunol 4:23–30, 1984*

Leukocyte adhesion deficiency ($\beta_2$ integrin deficiency) – abscesses, cellulitis, skin ulcerations, pyoderma gangrenosum; ulcerative stomatitis *BJD 139:1064–1067, 1998; J Pediatr 119:343–354, 1991; Annu Rev Med 38:175–194, 1987; J Infect Dis 152:668–689, 1985;* congenital deficiency of leucocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18) – necrotic cutaneous abscesses, psoriasiform dermatitis, gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *BJD 123:395–401, 1990*

Leukocyte glucose-6-phosphatase deficiency *J Pediatr 87:1121–1124, 1975*

Transcobalamin II deficiency *Primary Immunodeficiencies. Amsterdam: Elsevier p.353–362, 1980*

Tuftsin deficiency *J Pediatr 111:852–854, 1987*

X-linked hypogammaglobulinemia

## CONGENITAL

Congenital agranulocytosis

Fetal scalp electrode placement *Eichenfeld 104, 2001; AD 135:697–203, 1999; JAAD 18:239–259, 1988;* scalp abscess of 3-day-old infant *Am J Obstet Gynecol 129:185–189, 1977*

First branchial cleft

Pre-auricular cyst with secondary infection (*Staphylococcus*, *Proteus, Streptococcus, Peptococcus) J Oral Maxillofac Surg 56:827–831, 1998*

## DRUGS

Calcium gluconate extravasation *AD 138:405–410, 2002; AD 134:97–102, 1998*

Interferon-β injection site *JAAD 34:365–367, 1996*

Iododerma – carbuncular lesions *Australas J Dermatol 28:119–122, 1987*

Zinc – furuncles at injection site *Bolognia p.1477, 2003*

Zyderm collagen implant (bovine collagen) *JAAD 25:319–326, 1991*

## EXOGENOUS AGENTS

Drug abuse *NEJM 277:473–475, 1967*

Foreign body, including foreign body granuloma

Hair sinus – of the hand *JAAD 47:S281–282, 2002;* barber's sinus and cyst *AD 112:523–524, 1976;* of the breast *Clin Exp Dermatol 7:445–447, 1982*

Milk injections – suppurative panniculitis *Rook p.2422, 1998, Sixth Edition*

Paraffin granuloma *Bolognia p.1477, 2003*

Pilonidal sinus *Rook p.924, 1998, Sixth Edition;* of umbilicus *Lancet 2:281–282, 1956;* of suprapubic region

Silicone granuloma *AD 141:13–15, 2005; Derm Surg 27:198–200, 2001*

## INFECTIONS OR INFESTATIONS

Abdominal–cutaneous fistulas *J Am Coll Surg 190:588–592, 2000*

Abdominal wall abscesses *AD 131:275–277, 1995*
- *Candida krusei*
- Crohn's disease
- Infected lipoma
- Postoperative wound infection

Actinomycosis, multiple species *Med J Aust 169:120, 1998; Clin Inf Dis 19:143–145,1994; AD 124:121–126, 1988; Ann Intern Med 132:328–332, 1981; JAMA 228:1397–1400, 1974; A. meyeri Clin Inf Dis 22:185–186, 1996*

African histoplasmosis (*Histoplasma duboisii*) *BJD 82:435–444, 1970*

Alternariosis *JAAD 52:653–659, 2005; Int J Derm 39:293–295, 2000*

Amebic abscess *Clin Inf Dis 20:1207–1216, 1995; Pediatrics 71:595–598, 1983; Acanthamoeba Clin Inf Dis 27:1547–1548, 1998; Clin Inf Dis 20:1207–1216, 1995*

Anal gland infection – perianal abscess

*Apophysomyces elegans*

Aspergillosis – abscess or kerion-like *JAAD 29:654–655, 1993; BJD 85 (Suppl):95–97, 1971; A. fumigatus East Afr Med J 75:436–438, 1998;* ulcers with satellite abscesses *Ped Derm 19:439–444, 2002*

Bacillary angiomatosis *AD 131:933–936, 1995*

Bacille Calmette-Guérin (BCG) cold abscesses – single or multiple *Ped Derm 208–212, 2000*; *Ped Derm 14:365–368, 1997*

Bacteroides – sepsis with abscesses *Rook p.1157, 1998, Sixth Edition*

*Bilophila wadsworthia J Clin Inf Dis 25 (Suppl 2): S88–93, 1997*

Botryomycosis – granulomatous reaction to bacteria with granule formation; single or multiple abscesses of skin and subcutaneous tissue breakdown to yield multiple sinus tracts; small papule; extremities, perianal sinus tracts, face *Int J Dermatol 22:455–459, 1983; AD 115:609–610, 1979*

Breast abscess
- *Brucella melitensis J Infect 33:219–220, 1996*
- *Escherichia coli*
- *Mycobacterium chelonei*
- Periareolar pilonidal abscesses
- Squamous metaplasia of lactiferous ducts
- *Staphylococcus aureus*
- Wegener's granulomatosis

Brucellosis (*Brucella melitensis*) – primary inoculation abscesses *Cutis 63:25–27, 1999; AD 117:40–42, 1981;* breast abscess *J Infect 33:219–220, 1996;* testicular abscess with *Brucella* epididymo-orchitis – scrotal swelling, pain, fever, diaphoresis *Clin Inf Dis 33:2017–2027, 2001*

*Campylobacter jejuni* – perirectal abscess

*Candida – Candida albicans Arch Dis Child 59:479–480, 1984;* abscess in heroin abusers *Dermatologica 177:115–119, 1988; JAAD 16:386–387, 1987; Candida tropicalis* – nodular subcutaneous abscesses *JAAD 16:623–624, 1987;* abscess or kerion-like carbuncle *JAAD 14:511–512,1986; Candida krusei AD 131:275–277, 1995*

Carbuncle *Rook p.1119, 1998, Sixth Edition*

Cat scratch disease (suppurative adenopathy) *Ped Derm 5:1–9, 1988*

Chancroid

*Clostridium botulinum* – wound botulism in drug addicts *Clin Inf Dis 31:1018–1024, 2000*

*Clostridium dificile Clin Inf Dis 20:1560–1562, 1995*

Coccidioidomycosis *JAAD 26:79–85, 1992;* primary cutaneous coccidioidomycosis *JAAD 49:944–949, 2003*

Cold abscess/Job's syndrome

*Corynebacterium pseudotuberculosis Aust NZ Med 15:85–86, 1985; C. xerosis* – abscess and sternal wound infection *J Clin Inf Dis 19:1171–1172, 1994*

Cryptococcosis *Pediatr Infect Dis J 19:85–86, 2000; JAAD 37:116–117, 1997*

Demodex folliculitis – facial abscesses *JAAD 49:S272–274, 2003*

Dental sinus *J Am Dent Assoc 130:832–836, 1999; Cutis 43:22–24, 1989; JAAD 2:521–524, 1980*

*Dermatophilus congolensis* – contact with infected animals *BJD 145:170–171, 2001*

Dermatophyte infections – pustules and abscesses *JAAD 30:1021–1022, 1994; Trichophyton rubrum*, invasive *Cutis 67:457–462, 2001*

Dracunculosis

*Edwardsiella tarda* – myonecrosis with cutaneous abscesses *Clin Inf Dis 32:1430–1433, 2001*

*Eikenella corrodens* – cheek abscess, forhead wound, scalp wound, neck wound, periorbital abscess *Clin Inf Dis 33:70–75, 2001;* submandibular and cervicofacial abscesses *Cutis 60:101–102, 1997;* thigh abscess *Diabetes Care 19:1011–1013, 1996*

*Enterobius vermicularis* – perianal abscesses *Cutis 71:268–270, 2003*

*Escherichia coli*

Eugonic fermenter (EF-4) – dog bites *J Clin Microbiol 8:667–672, 1978*

*Exophiala* species

*Exserohilum rostratum JAAD 28:340–344, 1993*

*Fasciola hepatica* (fluke parasite) *JAAD 42:900–902, 2000*

Filariasis – abscesses from reactions to adult filariae *Dermatol Clin 7:313–321, 1989*

Fournier's gangrene – may start as perirectal abscess *Surgery 91:49–51, 1982*

Frontal sinusitis with abscess

*Fusarium solani Cutis 63:267–270, 1999*

*Fusobacterium* – abscesses with necrosis *Rook p.1157, 1998, Sixth Edition*

*Gemella morbillorum Acta DV 79:398, 1999*

Glanders (melioidosis) – *Burkholderia (Pseudomonas) mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, septic arthritis, meningitis, pneumonia *Clin Inf Dis 31:981–986, 2000;* single or multiple abscesses *AD 135:311–322, 1999; Rook p.1146–1147, 1998, Sixth Edition*

Gnathostomiasis *JAAD 33:825–828, 1995*

Gram-negative enteric bacteria – perianal abscess

*Hafnei avlei Clin Inf Dis 20:1426, 1995*

*Hemophilus influenzae* – hand abscesses with otopharyngeal infection *J Hand Surg 11A:844–846, 1986*

Histoplasmosis *Diagnostic Challenges Vol V; 77–79, 1994; BJD 82:435–447, 1970*

Stye (hordeolum) – staphylococcal abscess of eyelid margin *Rook p.2984, 2992–2993, 1998, Sixth Edition*

Intersphincteric ulcers of homosexuals *Br J Surg 76:1064–1066, 1989*

Intravenous drug users *Clin Inf Dis 33:35–40, 2001*
- Anaerobes
  - *Fusobacterium nucleatum*
  - *Peptostreptococcus micros*
  - *Actinomyces odontolyticus*
  - Pigmented *Prevotella*
- Non-anaerobes
  - *Staphylococcus aureus*
  - *Streptococcus milleri* group, viridans group, group A
- Facultative Gram-negative bacteria

Abscesses in non-intravenous drug users
- Anaerobes
  - *Peptostreptococcus* (*P. magnus*, *P. micros*, *P. saccharolyticus*)
  - Pigmented *Prevotella*
  - *Actinomyces* species
  - *Fusobacterium nucleatum*
- Non-anaerobes
  - *Staphylococcus aureus*
  - *Streptococcus – S. milleri* group, *viridans* group, group A

Kerion

Kerion-like lesions *JAAD 29:654–655, 1993*
- *Aspergillus* and rhizopus infection in AIDS *JAAD 26:1017, 1991*
- Candidal carbuncles
- Metastatic adenocarcinoma to scalp *JAAD 29:654–655, 1993*

Lacrimal gland abscess – adjacent to medial canthus

Lactation mastitis (breast feeding) – cracked nipples; deep abscesses, mastitis *JAMA 289:1609–1612, 2003; Rook p.3158, 1998, Sixth Edition*

*Lagochilascaris minor* – subcutaneous abscesses; Surinam and Central America *Rook p.1395, 1998, Sixth Edition*

*Legionella micdadei Ann Intern Med 102:630–632, 1985*

Leishmaniasis (*Leishmania major*) – acute cutaneous form (wet, rural, zoonotic form); furuncle-like nodule *Rook p.1412–1414, 1998, Sixth Edition*

*Listeria monocytogenes J Clin Inf Dis 19:988–989, 1994*

Lymphogranuloma venereum – inguinal adenitis with abscess formation and draining chronic sinus tracts; rectal syndrome in women with pelvic adenopathy, periproctitis with rectal stricture and fistulae; esthiomene – scarring and fistulae of the buttocks and thighs with elephantiasic lymphedema of the vulva; lymphatics may develop abscesses which drain and form ulcers *Int J Dermatol 15:26–33, 1976*

Malacoplakia *AD 134:244–245, 1998; Am J Dermatopathol 20:185–188, 1998; JAAD 34:325–332, 1996*

Molluscum contagiosum *JAAD 43:409–432, 2000; Ped Derm 6:118–121, 1989*

Mucormycosis

Mycetoma *Hautarzt 45:402–405, 1994*

*Mycobacterium abscessus* – breast abscesses due to adulterated intramammary silicone injections *JAAD 50:450–454, 2004;* post-injection abscesses *Clin Inf Dis 24:1147–1153, 1997; Clin Inf Dis 19:263–273, 1994*

*Mycobacterium avium-intracellulare Tyring p.326, 2002; BJD 136:121–123, 1997; Clin Inf Dis 19:263–273, 1994; JAAD 27:1019, 1992; AD 124:1545–1549, 1988;* perianal abscess

*Mycobacterium chelonei-fortuitum JAAD 30:269–270, 1994; Clin Inf Dis 19:263–273, 1994; AD 122:695–697, 1986; Medicine 60:95–109, 1981;* facial abscess *Ped Inf Dis 3:335–340, 1984;* cold abscesses; breast abscess *Clin Inf Dis 26:760–761, 1998*

*Mycobacterium fortuitum* – injection abscesses *Lancet ii:691, 1969;* leg abscesses from foot bath in nail salon *NEJM 346:1366–1371, 2002*

*Mycobacterium haemophilum Ann Intern Med 97:723–724, 1982*

*Mycobacterium kansasii JAAD 41:854–856, 1999; JAAD 36:497–499, 1997; Clin Inf Dis 19:263–273, 1994*

*Mycobacterium leprae* – peripheral nerve abscess *Ind J Lepr 69:143–147, 1997; Acta Leprol 10:45–50, 1996;* suppuration of erythema nodosum leprosum *Rook p.1227, 1998, Sixth Edition*

*Mycobacterium marinum Clin Inf Dis 19:263–273, 1994*

*Mycobacterium peregrinum*

*Mycobacterium scrofulaceum AD 138:689–694, 2002; Clin Inf Dis 19:263–273, 1994; AD 123:369–370, 1987*

*Mycobacterium smegmatis*

*Mycobacterium szulgai* – carbuncle *Tubercle 66:65–67, 1985*

*Mycobacterium thermoresistible*

*Mycobacterium tuberculosis* – hot abscess; cold abscess (tuberculous gumma); tuberculous gumma (metastatic tuberculous ulcer) – firm subcutaneous nodule or fluctuant swelling breaks down to form undermined ulcer; bluish surrounding skin bound to the inflammatory mass; sporotrichoid lesions along draining lymphatics; extremities more than trunk *Tyring p.327, 2002; BJD 142:387–388, 2000; Scand J Infect Dis 32:37–40, 2000; Scand J Inf Dis 35:149–152, 1993; JAAD 19:1067–1072, 1988; JAAD 6:101–106, 1982; Semin Hosp Paris 43:868–888, 1967;* of the neck *BJD 142:387–388, 2000;* paradoxical subcutaneous tuberculous abscess *J Clin Inf Dis 26:231–232, 1998; J Clin Inf Dis 24:734, 1997;* cutaneous metastatic tuberculous abscess *Ped Derm 19:90–91, 2002; Cutis 66:277–279, 2000;* lupus vulgaris *Rook p.1196, 1998, Sixth Edition*

*Mycobacterium ulcerans Derm Clin 17:151–185, 1999*

*Myiasis, furuncular* – face, scalp, arms, legs; house fly *BJD 76:218–222, 1964;* New World screw worm (*Cochliomyia*), Old World screw worm (*Chrysomya*), Tumbu fly (*Cordyloba anthropophaga*) *Int J Derm 34:624–626, 1995; BJD 85:226–231, 1971;* black blowflies (*Phormia*) *J Med Entomol 23:578–579, 1986;* greenbottle (*Lucilia*), bluebottle (*Calliphora*), flesh flies (*Sarcophaga, Wohlfartia*) *Neurosurgery 18:361–362, 1986;* rodent botflies (*Cuterebra*) *JAAD 21:763–772, 1989;* human botflies (*Dermatobia hominis*) *AD 121:1195–1196, 1985;* sheep nostril fly (*Oestrus ovis*) *Ann Trop Med Parasitol 82:221–223, 1988;* warble flies (*Hypoderma*) – migratory myiasis *AD 90:180–184, 1964; AD 126:199–202, 1990;* myiasis – creeping eruption; horse botfly (*Gasterophilus*); Hypoderma *BJD 143:912–914, 2000*

Myositis – bacterial, filarial, post-traumatic

Necrotizing fasciitis *JAAD 20:774–781, 1989*

*Neisseria gonorrhoeae* – newborn with gonococcal scalp abscess *South Med J 73:396–397, 1980; Am J Obstet Gynecol 127:437–438, 1977;* foot abscess *Clin Orthop 234:209–210, 1988; Med J Aust 141:902, 1984;* gonococcal furunculoid lesions of penis and scrotum *Br J Inf Dis 49:364–367, 1973*

Nocardiosis *J Dermatol 26:829–833, 1999; AD 130:243–248, 1994; JAAD 21:137–139, 1989; JAAD 13:125–133, 1985; N. brasiliensis J Inf Dis 134:286–289, 1976; N. asteroides BJD 144:639–641, 2001; JAAD 39:793–794, 1998; J Clin Inf Dis 24:1154–1160, 1997; N. farcinica Ann Med Interne (Paris) 150:582–584, 1999; JAAD 38:874–876, 1998; N. otidiscaviarum Clin Inf Dis 20:1266–1270, 1995; J Trop Med Hyg 98:395–403, 1995*

North American blastomycosis (*Blastomyces dermatitidis*) *JAAD 21:1285–1293, 1989*

Orf *Ann Chir Main 5:129–132, 1986*

Osteomyelitis

Paracoccidioidomycosis – hematogenous or lymphatic spread *Rook p.1370, 1998, Sixth Edition*

Paragonimiasis – cold abscesses *Rev Ecuator Hig Med Trop 36:69–82, 1979*

*Pasteurella multocida* – periocular abscess and cellulitis; tenosynovitis, septic arthritis *Am J Ophthalmol 128:514–515, 1999; JAAD 33:1019–1029, 1995*

*Penicillium marneffei JAAD 37:450–472, 1997*

Perianal abscesses
- Anal gland infection
- *Campylobacter jejuni*
- *Enterobia vermicularis*
- Gram-negative enteric bacteria
- *Mycobacterium avium*

Perifolliculitis capitis

Perirectal abscess *NEJM 343:794–800, 2000*
- Actinomycosis
- Carcinoma
- Crohn's disease
- Cryptoglandular infection
- Foreign body
- Leukemia
- Lymphoma
- Lymphogranuloma venereum
- *Mycobacterium tuberculosis*
- Pelvic inflammation
- Radiation
- Trauma (operative, enema, impalement)

Phaeohyphomycosis *JAAD 19:478–481, 1988; AD 123:1346–1350, 1987*; subcutaneous phaeohyphomycosis *JAAD 36:863–866, 1997*

Phlegmon – perirectal abscess – *Pseudomonas Clin Inf Dis 20:302–308, 1995*

*Phialophora*

*Porphyromonas asaccharolytica* – abscesses below waistline *Rook p.1157, 1998, Sixth Edition*

*Prevotella* species – abscesses below waistline *J Clin Inf Dis 25 (Suppl 2):S88–93, 1997*

Protothecosis *AD 112:829–832, 1976*

*Pseudomonas* sepsis *Am J Med 80:525–529, 1986*

Pyomyositis *JAAD 51:308–314, 2004*

Rat bite fever (*Streptobacillus moniliformis*) – acral hemorrhagic pustules and abscesses *JAAD 38:330–332, 1998; BJD 129: 95–96, 1993*

*Rhizopus* in AIDS – kerion-like *JAAD 26:1017, 1992*

*Rhodococcus equi Clin Inf Dis 34:1379–1385, 2002; Clin Inf Dis 20:478–479, 1995*

*Salmonella – S. enteritidis J Infect 27:204–205, 1993; JR Soc Med 83:190, 1990;* neck abscess *Head Neck 13:153–155, 1991; S. typhimurium*

Scalp abscess – subgaleal abscess *JAAD 18:239–259, 1988;* posterior scalp abscess due to sinusitis-associated epidural abscess *Int J Pediatr Otorhinolaryngol 43:147–151, 1998;* neonatal abscess – coagulase-negative staphylococcus *Textbook of Neonatal Dermatology, p.190, 2001*

Scrotal abscess – bacterial, filariasis, Guinea worm, tumbu fly

*Serratia marcescens* – frontal sinusitis with abscess; cutaneous abscess *Cutis 66:461–463, 2000; JAAD 41:319–321, 1999*

Sparganosis

Sporotrichosis – hot and cold abscesses *Derm Clin 17:151–185, 1999;* perirectal abscess *Am Rev Respir Dis 112:119–123, 1975*

*Staphylococcus aureus* – abscess (furuncle) – face, neck, arms, wrists, fingers (including felon), buttocks, anogenital area *Rook p.1119, Sixth Edition;* carbuncle

*Staphylococcus aureus*, coagulase-negative (*Staphylococcus epidermidis*) – abscesses of scalp and breast in the neonate *Textbook of Neonatal Dermatology, p.190, 2001*

Sternoclavicular joint septic arthritis *J Clin Inf Dis 19:964–966, 1994*

*Streptococcus milleri* group (*S. intermedius*, *S. constellatus*, *S. anginosus*) *Clin Inf Dis 32:1511–1515, 2001*

*Streptococcus pneumoniae Clin Inf Dis 21:697–698, 1995;* neck *Clin Inf Dis 19:149–151, 1994*

Sweat gland periporitis *JAAD 38:1–17, 1998*

Sycosis – deep staphylococcal folliculitis *Dermatol Wochenschr 152:153–167, 1966*

Syphilis – syphilitic gumma

Tinea capitis (*T. verrucosum, T. mentagrophtes*) – kerion *AD 114:371–372, 1978*

Tinea corporis, invasive (*T. violaceum*) *BJD 101:177–183, 1979*

Tinea faciei *Clin Exp Dermatol 25:608–610, 2000*

Toxocariasis *JAAD 33:825–828, 1995*

*Trichomonas* – penile abscesses *Bull Soc Gr Dermatol Syphiligr 76:345, 1969*

Trypanosomiasis – trypanosomal chancre – red tender 2–5-cm nodule with blister on surface of forearm or leg *Bolognia p.1304, 2003; Rook p.1407, 1998, Sixth Edition*

*Tsukamurella paurometobolum J Clin Inf Dis 23:839–840, 1996*

Tularemia – bubo

Tungiasis – abscess-like lesion of sole or between toes *AD 141:389–394, 2005; JAAD 20:941–944, 1989; JAAD 15:117–119, 1986*

*Yersinia enterocolitica*

*Yersinia* species (plague) – near bubo *Clin Inf Dis 19:655–663, 1994; J Inf Dis 165:740–743, 1992*; *Yersinia pestis* – carbuncle *AD 135:311–322, 1999*

*Xylohypha emmonsii*

Zygomycosis – primary cutaneous – including *Apopysomyces elegans*, *Saksenaza vasiformis J Clin Inf Dis 24:580–583, 1997*

## INFLAMMATORY DISORDERS

Acute dacryocystitis – lacrimal gland inflammation *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.189, 1999*

Crohn's disease – metastatic *JAAD 36:697–704, 1997;* fistulae and abscesses *Int J Colorectal Dis 11:222–226, 1996; JAAD 10:33–38, 1984; BJD 80:1–8, 1968;* penile abscesses *Cutis 72:432–437, 2003*

Dissecting cellulitis of the scalp (perifolliculitis capitis abscedens et suffodiens) – painful, sterile abscesses with interconnecting sinus tracts; scarring; keloids *JAAD 23:752–753, 1990; Dermatol Clin 6:387–395, 1988; Ann Plast Surg 18:230–237, 1987; Cutis 32:378–380, 1983; Minn Med 34:319–325, 1951; AD 23:503–518, 1931*

Hidradenitis suppurativa *Derm Surg 26:638–643,3207, 2000; BJD 141:231–239, 1999; Rook p.1176–1179, 1998, Sixth Edition*

Mamillary fistula (periareolar abscess) *Br J Surg 73:367–368, 1986*

Panniculitis

Pyodermia chronica glutealis – hidradenitis suppurativa-like draining nodules in genitofemoral region and/or buttocks *J Dermatol 25:242–245, 1998*

Pyoderma fistulans sinifica (fox den disease) *Clin Inf Dis 21:162–170, 1995*

Subcutaneous fat necrosis of the newborn *Cutis 70:169–173, 2002*

Ulcerative colitis – sterile abscesses *JAAD 42:363–365, 2000*

## METABOLIC DISEASES

$\alpha_1$-Antitrypsin deficiency-associated panniculitis *JAAD 51:645–655, 2004; AD 123:1655–1661, 1987*

Niemann–Pick disease – suppurative lesions of the face *Rook p.2644, 1998, Sixth Edition*

Pancreatic panniculitis – cutaneous pseudoabscess *Rook p.2414, 1998, Sixth Edition; JAAD 34:362–364, 1996; Am J Gastroenterol 83:177–179, 1988; Arthritis Rheum 22:547–553, 1979*

## NEOPLASTIC DISORDERS

Anorectal carcinoma – ischiorectal abscess *Br J Med 285:1393, 1982;* anal squamous cell carcinoma *in situ J Clin Inf Dis 21:603–607, 1995*

Epidermoid cyst, inflamed (ruptured)/infected *Rook p.1667, 1998, Sixth Edition*

Extramammary Paget's disease – may resemble ischiorectal abscess *Rook p.3181, 1998, Sixth Edition*

Giant condylomata of Buschke and Lowenstein *AD 136:707–710, 2000*

Kaposi's sarcoma

Lipoma – inflamed/infected

Lymphoma – CTCL *JAAD 33:850–851, 1995;* $CD30^+$ large T-cell lymphoma of upper lip *Br J Oral Maxillofac Surg 35:193–195, 1997*

Metastases to scalp – kerion-like *JAAD 29:654–655, 1993*

Perforated intra-abdominal tumor – abdominal wall abscess *AD 131:275–277, 1995*

Squamous cell carcinoma – finger lesion mimicking abscess *Scand J Plast Reconstr Surg Hand Surg 34:91–92, 2000*

### PRIMARY CUTANEOUS DISEASE

Acne keloidalis nuchae *JAAD 39:661, 1998*

Cheilitis glandularis (Volkmann's cheilitis) – enlarged lip with crusts and scale; deep-seated abscesses and fistulae *J Derm Surg 1:372–375, 1985*

Pyoderma faciale (form of acne rosacea) – sudden onset of nodules, abscesses, sinuses *AD 128:1611–1617, 1992*

### PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis – fluctuant subcutaneous lesions *Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979;* factitial injection of hydrocarbons *AD 128:997–998, 1992*

### SYNDROMES

Antiphospholipid antibody syndrome – sterile abscesses *Cutis 283–286, 2001*

Behçet's syndrome *JAAD 40:1–18, 1999*

Chediak–Higashi syndrome

Down's syndrome – furunculosis *Ghatan p.242, 2002, Second Edition*

Griscelli syndrome *Am J Med 65:691–702, 1978*

Keratosis–ichthyosis–deafness (KID) syndrome – hidradenitis suppurativa-like abscesses; reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990; JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

PAPA syndrome – pyoderma gangrenosum, cystic acne, aseptic arthritis; sterile abscesses at injection sites; mutation in CD2 binding protein-1 *Ped Derm 22:262–265, 2005; Proc Natl Acad Sci USA 100:13501–13506, 2003; Mayo Clin Proc 72:611–615, 1997*

Papillon–Lefevre syndrome *Ped Derm 18:45–47, 2001; Curr Prob Derm VIII:41–96, 1996; Ped Derm 14:354–357, 1994*

Rosai–Dorfman disease – hidradenitis suppurativa-like lesions *Ped Derm 4:247–253, 1987*

SAPHO syndrome – palmoplantar pustulosis with sternoclavicular hyperostosis; acne fulminans, acne conglobata, hidradenitis suppurativa, psoriasis, multifocal osteitis *Cutis 71:63–67, 2003; Curr Opinion Rheumatol 15:61–69, 2003; Cutis 64:253–258, 1999; Cutis 62:75–76, 1998; Rev Rheum Mol Osteoarthritic 54:187–196, 1987; Ann Rev Rheum Dis 40: 547–553, 1981*

Steatocystoma multiplex *Rook p.1668–1669, 1998, Sixth Edition*

Sweet's syndrome – abscess-like lesions *J Dermatol 27:794–797, 2000; JAAD 31:535–556, 1994*

Wiskott–Aldrich syndrome *Rook p.2748, 1998, Sixth Edition; Int J Dermatol 24:77–81, 1985*

### TRAUMA

Body piercing *Ann Plast Surg 45:374–381, 2000*

Drug addiction – skin popping; abscesses with ulceration *BJD 150:1–10, 2004*

Injection of chemotherapy into intra-abdominal fat space – abdominal wall abscess

Complication of liposuction

### VASCULAR

Pseudo-Kaposi's sarcoma

Vascular anomaly

## ACANTHOSIS NIGRICANS

### AUTOIMMUNE DISEASES AND DISORDERS OF IMMUNE FUNCTION

Dermatomyositis – longstanding dermatomyositis with lipodystrophy-like appearance (hirsutism, loss of subcutaneous tissue, acanthosis nigricans) *J Rheumatol 23:1487–1488, 1996*

Lupus erythematosus *Lupus 6:275–278, 1997*

Pemphigus foliaceus – acanthosis nigricans-like changes

Pemphigus vulgaris *J Dermatol 8:550–552, 1998; Dermatology 185:309–310, 1992; AD 118:115–116, 1982*

Scleroderma – axillary verrucous pigmentation *Br Med J ii:1642–1645, 1966*

### DRUG-INDUCED

Birth control pills *AD 111:1069, 1975*

Corticosteroids

Diethylstilbestrol

Fusidic acid *JAAD 28:501–502, 1993*

Insulin reaction *AD 122:1054–1056, 1986*

Niacinamide *Ghatan p.227, 2002, Second Edition*

Nicotinic acid *Dermatology 189:203–206, 1994*

Somatotropin-induced acanthosis nigricans *BJD 141:390–391, 1999*

Triazinate *AD 121:232–235, 1985*

### INFECTIONS

Tinea corporis – acanthosis nigricans-like changes

### METABOLIC DISEASES

Acromegaly *JAMA 198:619–623, 1966*

Addison's disease

Cushing's syndrome

Encephalopathy

Endocrine associations of acanthosis nigricans
Acromegaly *JAMA 198:619–623, 1966*

Acral hypertrophy syndrome
Insulin-resistant states
Type A syndrome
Type B syndrome
Diabetes mellitus – sign of insulin resistance *Ped Derm 19:12–14, 2002; Dermatology 198:164–166, 1999; J Basic Clin Physiol Pharmacol 9:419–439, 1998*
Lipoatrophic diabetes
Familial lipodystrophy of the limbs and lower trunk (face-sparing lipodystrophy) (familial partial lipodystrophy) (Kobberling–Dunnigan syndrome, Dunnigan variety) – normal at birth with onset of lipoatrophy at puberty, extreme muscularity and lack of subcutaneous fat in all extremities, excess adipose tissue of face and neck, acanthosis nigricans, mild to moderate fasting or postprandial hyperinsulinemia, impaired glucose tolerance or diabetes mellitus after age 20 years, hypertriglyceridemia/low HDL-C levels and pancreatitis *J Clin Endocrinol Metab 85:1776–1782, 2000; Australas J Dermatol 39:100–105, 1998; QJM 90:27–36, 1997*
Lawrence–Seip syndrome *AD 91:326–334, 1965*
Lipodystrophy, total *AD 91:320–325, 1965*
Partial lipodystrophy *Pediatrics 33:593–612, 1964*
Leprechaunism *AD 117:531–535, 1981*
Pinealoma
Pineal hyperplasia syndrome (Rabson–Mendenhall syndrome) – autosomal recessive, insulin-resistant diabetes mellitus, coarse facies, hirsutism
Hyperandrogenic states
Types A and B syndromes
Polycystic ovarian disease (Stein–Leventhal syndrome) *Clin Endocrinol 30:459–464, 1989*
Ovarian stromal hyperthecosis and the hyperandrogenism, insulin resistance and acanthosis nigricans syndrome *J Reprod Med 40:491–494, 1995*
Stromal luteoma
Ovarian dermoid cysts
Cushing's disease
Hormone therapy – corticosteroids, oral contraceptives, estrogens, pituitary extract, insulin
Pituitary basophilism
Obesity
Hypothyroidism
Addison's disease
Hypogonadal syndrome with insulin resistance

Familial insulin resistance with acanthosis nigricans, acral hypertrophy, and muscle cramps

Hemochromatosis

Hyperinsulinemia *Ped Derm 12:323–326, 1995*

Hyperphosphatasemia (juvenile Paget's disease of bone) *Clin Exp Dermatol 7:605–609, 1982*

Hyperthyroidism *JAAD 21:461–469, 1989*

Hypothyroidism *JAAD 21:461–469, 1989*

Insulin resistance, type A – acanthosis nigricans, ovarian hyperandrogenism *Ped Derm 19:267–270, 2002*

Insulin-resistant acanthosis nigricans – Type B (autoantibodies); Type C (postreceptor level); obesity

Insulin-resistant diabetes mellitus with acanthosis nigricans and hypertension – autosomal recessive; severe hyperinsulinemia, amenorrhea, hirsutism; mutation in muscle-specific regulatory subunit of protein phosphatase 1 (PPAR-gamma and PP1R3A) *BJD 147:1096–1011, 2002*

Insulin-resistant diabetes mellitus with acanthosis nigricans – autosomal dominant, autosomal recessive; polycystic ovarian disease in some cases *BJD 147:1096–1011, 2002*

Lipodystrophic diabetes

Lupoid hepatitis

Lupoid nephritis *Ghatan p.121, 2002, Second Edition*

Obesity *Ghatan p.121, 2002, Second Edition*

Pellagra

Pregnancy *BJD 146:925–927, 2002*

Primary biliary cirrhosis *J Gastroenterol Hepatol 11:1021–1023, 1996*

Pseudo-acanthosis nigricans

Vulvar acanthosis nigricans – marker for insulin resistance in hirsute women *Fertil Steril 59:583–586, 1993*

Wilson's disease

## NEOPLASTIC DISEASES

Familial hyperplasia of the pineal body

Linear epidermal nevus *BJD 95:433–436, 1976*

Lymphoma – lesions of CTCL simulating acanthosis nigricans *Am J Dermatopath 7:367–371, 1985*

Melanocytic nevi – giant melanocytic lesions – acanthosis nigricans-like changes

Parapsoriasis en plaque *Ann Dermatol Venereol 118:23–26, 1991*

## PARANEOPLASTIC DISORDERS

Adenocarcinoma of breast, lung, colon, esophagus, gallbladder, kidney, liver, ovary, pancreas, prostate, rectum, uterus, gastrointestinal tract *Ghatan p.121, 2002, Second Edition*

APUDomas *Ghatan p.121 , 2002, Second Edition*

Leser–Trelat *JAAD 42:357–362, 2000*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, benign – sporadic, familial (autosomal dominant) *Int J Dermatol 35:126–127, 1996; J R Soc Med 87:169, 1994;* benign generalized *Ped Derm 21:277–279, 2004; Ped Derm 20:254–256, 2003;* malignant – gastrointestinal malignancies, especially gastric carcinoma; rarely lymphoma *JAAD 31:1–19, 1994*

Atopic dermatitis – acanthosis nigricans-like changes

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) – acanthosis nigricans-like changes

Confluent and reticulated papillomatosis *AD 129:961–963, 1993*

Granular parakeratosis *Ped Derm 20:215–220, 2003*

Ichthyosis hystrix – acanthosis nigricans-like changes

Unilateral acanthosis nigricans

## SYNDROMES

Acral hypertrophy syndrome

Adrenogenital syndrome

Alström's syndrome – retinitis pigmentosa, sensorineural deafness, obesity, diabetes mellitus *BJD 147:1096–1011, 2002; Acta Paediatr Taiwan 41:270–272, 2000; Hum Mol Genet 6:213–219, 1997*

Ataxia-telangiectasia *JAAD 10:431–438, 1984*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long

philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996*

Beare–Stevenson syndrome – autosomal dominant; acanthosis nigricans, cutis verticis gyrata (furrowed skin), craniosynostosis with other craniofacial anomalies; hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and anogenital anomalies, umbilical herniation with prominent umbilical stump; defect in FGFR 3 gene *Ped Derm 20:358–360, 2003; BJD 147:1096–1011, 2002; Am J Med Genet 44:82–89, 1992; AD 128:1379–1386, 1992*

Becker's nevus – acanthosis nigricans-like changes

Berardinelli's (Berardinelli–Seip) syndrome – congenital generalized (total) lipodystrophy; extreme muscularity and generalized loss of body fat from birth, acanthosis nigricans, acromegalic features, umbilical hernia, hirsutism and clitoromegaly, severe fasting and postprandial hyperinsulinemia, early onset diabetes mellitus, hypertriglyceridemia *J Clin Endocrinol Metab 85:1776–1782, 2000*

Bloom's syndrome

Capozucca syndrome

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) – autosomal dominant, acanthosis nigricans, xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair, eyebrows and lashes, hemangiomas, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Costello syndrome – acanthosis nigricans; palmar hyperkeratosis, warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands and feet, thick, redundant palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 11:453–457, 2001; Am J Med Genet 82:187–193, 1999; Eur J Dermatol 9:533–536, 1999; J Pediatr 133:441–448, 1998; J Med Genet 35:238–240, 1998; JAAD 32:904–907, 1995; Am J Med Genet 47:176–183, 1993; Aust Paediatr J 13:114–118, 1977*

Crouzon syndrome (craniofacial dysostosis) – autosomal dominant; craniosynostosis, hypertelorism, exophthalmos and external strabismus, parrot-beaked nose, short upper lip, hypoplastic maxilla, prognathism *BJD 147:1096–1011, 2002; Cleft Palate Craniofac J 37:78–82, 2000; J Med Genet 33:744–748, 1996;* acanthosis nigricans *AD 128:1378–1386, 1992; Ped Derm 13:18–21, 1996*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flextures *AD 114:1150–1157, 1978*

Down's syndrome *J Eur Acad Dermatol Venereol 15:325–327, 2001*

HAIR-AN syndrome – acne, muscular physique, alopecia (hyperandrogenism), hidradenitis suppurativa, insulin resistance, acanthosis nigricans *AD 133:431–433, 1997; J Reprod Med 39:327–336, 1994; JAAD 21:461–469, 1989*

Hermansky–Pudlak syndrome – hypertrichosis of the eyebrows, and trichomegaly of the arms and legs *AD 135:774–780, 1999*

Hirshowitz syndrome – nerve deafness, peripheral sensory demyelinization, loss of gastric motility, ileal and jejunal diverticulae with ulcers

Keratosis–ichthysosis–deafness syndrome (KID syndrome) – nipple lesions; flexural acanthosis nigricans-like lesions *JAAD 51:377–382, 2004*

Laurence–Moon–Bardet–Biedel syndrome *JAAD 21:461–469, 1989*

Leprechaunism – autosomal recessive; insulin resistance with extreme hyperinsulinemia, intrauterine growth retardation, elfin facies; abnormal skin with hypertrichosis; decreased subcutaneous fat, protuberant ears, distended abdomen, large hands, feet, genitalia, gonadal cystic and pancreatic islet cell hyperplasia *BJD 147:1096–1011, 2002*

Partial congenital lipodystrophy – adipose tissue depots variably affected by lipoatrophy or lipohypertrophy, hepatosplenomegaly, cardiomyopathy, features of acromegaly or hypertriglyceridemia *Ped Derm 19:267–270, 2002*

Miescher's syndrome – generalized lipodystrophy, acanthosis nigricans, hypertrichosis, insulin-resistant diabetes

Morfan – mental retardation, peculiar facies *Am J Med Genet 45:525–528, 1993*

Olmsted syndrome *Int J Derm 36:359–360, 1997; Sem Derm 14:145–151, 1995*

Prader–Willi syndrome *JAAD 21:461–469, 1989*

Pseudoacromegaly syndrome – type A insulin resistance syndrome with acral enlargement, muscle hypertrophy, widened teeth spacing, muscle cramps *Ped Derm 19:267–270, 2002*

Rabson–Mendenhall syndrome – autosomal recessive; insulin-resistant diabetes mellitus, growth retardation, fissured tongue, unusual facies (prominent jaw), dental precocity, hypertrichosis, acanthosis nigricans, onychauxis (thick fingernails), abdominal protuberance and phallic enlargement, mentally precocious, early dentition, premature sexual development, pineal hyperplasia, hyperplasia of the adrenal cortex *BJD 147:1096–1011, 2002; Ped Derm 19:267–270, 2002*

Rud's syndrome – ichthyosis, epilepsy, mental retardation, retinitis pigmentosa

SADDAN syndrome – autosomal dominant; short stature, severe tibial bowing, severe achondroplasia with profound developmental delay and acanthosis nigricans *BJD 147:1096–1011, 2002; Am J Med Genet 85:53–65, 1999*

Sjögren–Larsson syndrome – acanthosis nigricans-like lesions *Ped Derm 20:180–182, 2003*

Stein–Leventhal syndrome (polycystic ovarian syndrome)

Thanatophoric dysplasia – autosomal dominant; micromelic dwarfism; defect in FGFR3 *BJD 147:1096–1011, 2002*

Total congenital lipoatrophy – severe insulin resistance with Type A features, hepatosplenomegaly, cardiomyopathy, features of acromegaly, hypertriglyceridemia, or genital hypertrophy *Ped Derm 19:267–270, 2002*

# ACNEIFORM LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – severe acneform eruptions *JAAD 36:899–907, 1997;* X-linked chronic granulomatous disease – photosensitivity, rosacea-like lesions of the face *Ped Derm 3:376–379, 1986*

Dermatitis herpetiformis – vesiculopustular facial eruption *AD 140:353–358, 2004; Rook p.1952, 1998, Sixth Edition*

Hyper-IgE syndrome – neonatal acne-like eruption; resembles eosinophilic pustular folliculitis of infancy *AD 140:1119–1125, 2004; Ped Derm 1:202–206, 1984*

Lupus erythematosus – systemic, discoid lupus erythematosus (DLE) – follicular plugging within the ear resembling comedones *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* DLE resembling acne rosacea *Lupus 1:222–237, 1992;* umbilicated papular eruption of the back with acneform hypertrophic follicular scars *BJD 87:642–649, 1972*

Pemphigus vulgaris

## CONGENITAL LESIONS

Cephalic pustulosis (neonatal acne) *Eichenfeld p.94, 2001; Int J Derm 38:128–130, 1999; AD 134:995–998, 1998*

Toxic erythema of the newborn

Transient neonatal pustular melanosis

## DRUG-INDUCED

Drug-induced acne *Rook p.1974, 1998, Sixth Edition*
- Accutane – flare of pustules
- ACTH *JAAD 21:1179–1181, 1989*
- Actinomycin D – papulopustular sterile folliculitis *NEJM 281:1094–1096, 1969*
- Amineptiren *Eur J Dermatol 9:491–492, 1999; Arch Derm Research 282:103–107, 1990*
- Ampicillin – acneform pustular eruption of cheeks *Cutis 56:163–164, 1995*
- Anabolic steroids *Cutis 50:113–116, 1992; Cutis 44:30–35, 1989*
- Androgenic hormones
- Antiepidermal growth factor receptor antibody C225 *BJD 144:1169–1176, 2001*; others in this group of drugs *J Clin Oncol 20:2240–2250, 2002*
- Bromoderma *AD 115:1334–1335, 1979*
- Cetuximab *AD 141:1173–1174, 2005; J Clin Oncol 18:904–914, 2000*
- Chloral hydrate
- Chlorides
- Chlorinated hydrocarbons
- Corticosteroids – oral, inhaled, topical; acne rosacea – papules, pustules, atrophy, telangiectasia *Clin Exp Dermatol 18:148–150, 1993; JAAD 21:1179–1181, 1989; AD Forsch 247:29–52, 1973;* perianal comedones due to topical steroids *JAAD 7:407, 1982; Dermatologica 119:211–220, 1959*
- Cyclosporine *Dermatologica 172:24–31, 1986*
- Danazol *Cutis 24:431–432, 1979*
- Dantrolene *BJD 104:465–468, 1981*
- Dilantin *NEJM 287:148, 1972;* fetal hydantoin syndrome (childhood acne) *Ped Derm 14:17–21, 1997*
- Disulfiram
- Erbituximab
- Ethambutol *Ghatan p.227, 2002, Second Edition*
- Ethionamide
- Etretinate
- Gemzar – rosacea
- Gold *Acta DV 57:165, 1977*
- Gonadotropins
- Granulocyte colony-stimulating factor *JAAD 34:855–856, 1996*
- Haloperidol *Ghatan p.227, 2002, Second Edition*
- Halothane
- INH *AD 109:377–381, 1974*
- Iododerma *JAAD 36:1014–1016, 1997*
- IRESSA (inhibitor of epidermal growth factor receptor) – acneform eruption of face and chest *BJD 147:598–601, 2002*
- Levofloxacin – localized exanthematous pustulosis of forehead *BJD 152:1076–1077, 2005*
- Lithium *J Dermatol 18:481–483, 1991; BJD 106:107–109, 1982*
- Nardil
- Nystatin (oral)
- Olanzapine *Cutis 66:97–100, 2000*
- Oral contraceptives *Rook p.3384, 1998, Sixth Edition*
- Phenobarbital
- Prostacycline – rosacea
- Pustular drug eruption
- PUVA *Br Med J ii:866, 1977*
- Quinidine *AD 117:603–604, 1981*
- Quinine
- Rifampicin
- Sulfur
- Tacrolimus ointment – rosacea-like dermatosis with overgrowth of Demodex folliculorum *AD 140:457–460, 2004*
- Thiouracil
- Thiourea
- Traxidone
- Trimethadione
- Vitamin $B_{12}$ *Cutis 24:119–120, 1979*

## EXOGENOUS AGENTS

Acne cosmetica *AD 106:843–850, 1972*

Acne venenata (contact) – malar regions, angles of jaw, behind ears are involved; nose spared
- Chloracne – halogenated aromatic hydrocarbons – multiple comedones with infrequent inflammatory lesions; chloronaphthalenes, chlorobiphenyls, chlorobiphenyl oxides used as dielectrics in conductors and insulators, chlorophenols in insecticides, fungicides, herbicides, and wood preservatives *Int J Derm 35:643–645, 1996*
- Coal tars, pitch and creosote (coal tar distillates), crude coal tar (tar acne) *JAAD 39:712–720, 1998;* pitch tar – periorbital comedones *JAAD 42:624–627, 2000;* pitch or creosote *Rook p.1976, 1998, Sixth Edition*
- DDT *Rook p.1976, 1998, Sixth Edition*
- Petroleum products

Asbestos *Rook p.1976, 1998, Sixth Edition*

Bubble gum oil – granulomatous facial eruption *Acta DV (Stockh) 58:433–436, 1978*

Mallorca acne (tropical acne) *Rook p.1977, 1998, Sixth Edition*

Medicated oils – grouped comedones of infancy *Rook p.866, 1998, Sixth Edition*

Neat (insoluble) cutting oils – impure paraffin-oil mixtures *JAAD 30:491–492, 1994; Hautarzt 4:371, 1953*

Pesticides – weed sprayer with sclerodactyly of fingers and toes with hyperkeratosis of palms and chloracne *Clin Exp Dermatol 19:264–267, 1994*

Pomade acne *AD 110:465, 1974; AD 101:580–584, 1970*

Radiotherapy *AD 106:73–75, 1972*

Tar preparations

## INFECTIONS AND INFESTATIONS

Actinomycosis

AIDS – papular dermatitis of AIDS

Ascariasis

Aspergillosis

Bacterial cellulitis

*Candida* – *Candida* folliculitis; candidal sepsis in drug addicts – purulent nodules of scalp and follicular pustules of beard, axilla, and pubis *Br Med J 287:861–862, 1983; Candida parapsilosis*; congenital candidiasis

Coccidioidomycosis – acneform or rosacea-like papules *JAAD 46:743–747, 2002*

Cryptococcosis – acneform papules and pustules around nose and mouth *AD 112:1734–1740, 1976; BJD 74:43–49, 1962*

Demodicidosis – Demodex folliculitis *JAAD 49:S272–274, 2003; Tyring p.332, 2002; JAAD 41:775–777, 1999; JAAD 27:799–780, 1992;* rosacea-like papules – cheeks, periorally, nose *Ped Derm 20:28–30, 2003; BJD 144:139–142, 2001*

Gram-negative folliculitis – *Enterobacter aerogenes*, *Pseudomonas*, *Klebsiella pneumoniae*, *Proteus*, *Escherichia coli Cutis 69:261–264, 2002; AD 115:1203–1206, 1979; AD 98:349–353, 1968*

Herpes simplex, including herpetic folliculitis *AD 137:97–98, 2001*

Herpes zoster, including comedones status post-herpes zoster *AD 133:1316–1317, 1997*

Histoplasmosis in AIDS; disseminated histoplasmosis *BJD 144:205–207, 2001; AD 123:341–346, 1996; JAAD 22:1260–1269, 1990;* rosacea-like *Int J Derm 29:649–650, 1990*

HIV disease – acne rosacea with HIV disease *JAAD 30:139–140, 1994*

Leishmaniasis – disseminated cutaneous form *Ped Derm 13:455–463, 1996;* post-kala-azar dermal leishmaniasis – papules of cheeks, chin, ears, extensor forearms, buttocks, lower legs; in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

*Malassezia furfura* pustulosis (neonatal acne) *AD 132:190–193, 1996*

Maxillary sinusitis

Mucormycosis

Mycetoma

*Mycobacterium kansasii* – rhinophyma-like lesions *JAAD 41:854–856, 1999*

*Mycobacterium tuberculosis* – lupus vulgaris *Clin Exp Dermatol 2:235–242, 1977;* acne scrofulosorum – tuberculid tuberculous abscess, acute miliary tuberculosis

Nocardiosis *JAAD 20:889–892, 1989*

Paracoccidioidomycosis *JAAD 31:S91–S102, 1994*

*Penicillium marneffei Tyring p.345, 2002; JAAD 37:450–472, 1997*

Pityrosporum folliculitis *J Dermatol 27:49–51, 2000; Int J Dermatol 38:453–456, 1999; JAAD 234:693–696, 1991; Ann Intern Med 108:560–563, 1988; JAAD 12:56–61, 1985*

Rickettsial pox

Ruptured molluscum contagiosum

Sporotrichosis, fixed cutaneous; rosacea-like *Cutis 33:549–551, 1984*

Staphylococcal folliculitis or furunculosis

Sycosis barbae

Syphilis – secondary

Tinea barbae *Rook p.1306–1307, 1998, Sixth Edition*

Tinea faciei *AD 114:250–252, 1978*

*Trichosporon beigelii*

Varicella

Verrucae planae *Rook p.1952, 1998, Sixth Edition*

Virus-associated trichodysplasia *JAAD 50:318–322, 2004*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis *JAAD 16:385–386, 1987*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy – acneform lesions, conglobate acneform, or red plaques with pustules *JAAD 50:159–161, 2004; JAAD 41:335–337, 1999; J Cutan Pathol 20:368–374, 1993;* violaceous, red papules and nodules; cervical lymphadenopathy; also axillary, inguinal and mediastinal adenopathy *Am J Dermatopathol 17:384–388, 1995; Cancer 30:1174–1188, 1972*

## INFLAMMATORY DISEASES

Crohn's disease – rosacea-like eruption *JAAD 36:697–704, 1997;* metastatic Crohn's disease *Ped Derm 13:25–28, 1996*

Dental sinus – mimics acne cyst *Rook p.1953, 1998, Sixth Edition*

Dissecting cellulitis of the scalp

Eosinophilic folliculitis of AIDS *Ann DV 123:456–459, 1996*

Eosinophilic pustular folliculitis (Ofuji's disease) – face, trunk, upper arms; palmoplantar pustules, groups of papulopustules; annular plaques with central clearing *J Dermatol 25:178–184, 1998; AD 121:917–920, 1985;* eosinophilic pustular folliculitis of AIDS *AD 141:1227–1231, 2005; AD 141:1203–1208, 2005; Tyring p.353, 2002; JAAD 14:1020–1022, 1986*

Hidradenitis suppurativa – comedones, cystic nodules, bridged scarring *Derm Surg 26:638–643, 2000; BJD 141:231–239, 1999; Rook p.1176–1179, 1998, Sixth Edition*

Miliaria rubra

Necrotizing infundibular crystalline folliculitis *BJD 145:165–168, 2001*

Pyoderma gangrenosum *JAAD 32:912–914, 1995*

Sarcoidosis – rosacea-like lesions *JAAD 44:725–743, 2001*

## METABOLIC DISEASES

Acrodermatitis enteropathica

Acromegaly – increased susceptibility to acne *Rook p.2704, 1998, Sixth Edition*

Aspartylglucosaminuria – acne vulgaris *J Med Genet 36:398–404, 1999*

Carcinoid syndrome – rosacea-like appearance *BJD 152:71–75, 2005*

Congenital adrenal hyperplasia – 21-hydroxylase deficiency most common *J Clin Endocrinol Metab 63:418–423, 1986*

Cushing's syndrome – acne and hirsutism *Semin Dermatol 3:287–294, 1984*

HAIR-AN syndrome – acne, muscular physique, alopecia (hyperandrogenism), hidradenitis suppurativa, insulin resistance, acanthosis nigricans *AD 133:431–433, 1997*

Necrobiosis lipoidica diabeticorum, perforating – comedone-like lesions at periphery *BJD 96:83–86, 1977*

Polycystic ovarian disease *NEJM 352:1223–1236, 2005; Clin Endocrinol 30:459–464, 1989*

Pruritic folliculitis of pregnancy – limbs and abdomen; resembles steroid-induced acne *JAAD 43:132–134, 2000; Semin Derm 8:23–25, 1989; AD 117:20–22, 1981*

Scurvy – exacerbation of acne *JAAD 41:895–906, 1999*

Zinc deficiency – papulopustular acneform eruption *Rook p.1953, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Acne nevus *Clin Exp Dermatol 15:154–155, 1990*

Androluteoma of pregnancy – childhood acne *Ped Derm 14:17–21, 1997*

Angiosarcoma *J Eur Acad Dermatol Venereol 175:574–575, 2003*

Basal cell carcinoma – pore *JAAD 47:727–732, 2002*

Basal cell nevus (linear basal cell nevus) – resemble comedones; usually linear translucent telangiectatic papules, may ulcerate; macular hypopigmentation, alopecia, cysts, striae *Cutis 46:493–494, 1990; BJD 74:20–23, 1962;* follicular basal cell nevus – comedo-like lesions *Acta DV 63:77–79, 1983*

Becker's nevus – acneiform lesions within a Becker's nevus *JAAD 10:234–238, 1984*; *Cutis 21:617–619, 1978*

Dermoid cysts – multiple dermoid cysts of face presenting as closed comedones *BJD 152:1387–1389, 2005*

Dilated pore nevus – clinically resembles nevus comedonicus but has aggregated dilated follicular cysts *Am J Dermatopathol 15:169–171, 1993*

Eccrine nevus – dilated pore discharging mucoid secretion *Arch Klin Exp Dermatol 214:600–621, 1962*

Epidermal nevus

Epidermoid cyst, ruptured – mimics acne cyst *Rook p.1953, 1998, Sixth Edition*

Epstein–Barr virus-associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Eruptive vellus hair cysts

Familial comedones *Rook p.1978, 1998, Sixth Edition*

Fibrofolliculomas resembling comedones *JAAD 17:493–496, 1987*

Leukemia – chronic lymphocytic leukemia – transient annular erythema with pustular folliculitis *BJD 150:1129–1135, 2004*

Lymphoma – pilotropic (follicular) CTCL – comedo-like lesions or follicular papules *BJD 152:193–194, 2005; JAAD 48:448–452, 2003; AD 138:191–198, 2002; AD 137:657–662, 2001; Ann DV 126:243–246, 1999; AD 132:683–687, 1996;* cutaneous T-cell lymphoma – mimicking perioral dermatitis *Clin Exp Dermatol 17:132–134, 1992;* poorly differentiated lymphoma – granulomatous rosacea-like facial lesions *AD 122:1303–1305, 1986;* lymphoplasmacytoid lymphoma (B-cell lymphoma, immunocytoma) *JAAD 49:1159–1162, 2003;* nasal lymphoma – rosacea-like *JAAD 38:310–313, 1998*

Lymphocytoma cutis

Lymphomatoid papulosis *AD 140:306–312, 2004*

Melanocytic nevi

Metastases from gastric carcinoma *Cutis 52:173–176, 1993*; rhinophyma-like metastatic carcinoma *JAAD 34:33–36, 1996*

Multiple follicular hamartomas

Nasal septal carcinoma – mimicking rosacea *J Derm Surg 13:1021–1024, 1987*

Nevus comedonicus *AD 139:93–98, 2003; AD 116:1048–1050, 1980; Trans St John's Hosp Dermatol Soc Lond 59:45–51, 1973;* with well-differentiated follicular tumors *JAAD 15:1123–1127, 1986;* inflammatory nevus comedonicus *JAAD 38:834–836, 1998*

Nevus corniculatus – filiform keratoses, cutaneous horns, and giant comedones *BJD 122:107–112, 1990*

Nevus lipomatosis superficialis – comedo-like plugs *BJD 93:121–133, 1975*

Pilar cyst, ruptured – mimics acne cyst

Pilar sheath acanthoma – pore *JAAD 47:727–732, 2002*

Porokeratotic eccrine ostial and dermal duct nevus (linear eccrine nevus with comedones) *AD 138:1309–1314, 2002; JAAD 43:364–367, 2000; Ped Derm 15:140–142, 1998; JAAD 24:300–301, 1991; Cutis 46:495–497, 1990; BJD 101:717–722, 1979*

Sebaceous hyperplasia – pore *JAAD 47:727–732, 2002*

Syringomas

Trichilemmal cysts in a nevus comedonicus *BJD 96:545–548, 1977*

Trichodiscomas, multiple – flat-topped papules of central face *JAAD 15:603–607, 1986*

Trichoepitheliomas (Brooke's tumor) – multiple – cheeks, eyelids, nasolabial folds; yellow to pink, bluish, telangiectasias on surface *AD 126:953,956, 1990; J Cutan Pathol 13:111–117, 1986*

## PARANEOPLASTIC DISORDERS

Sterile suppurative folliculitis associated with acute myelogenous leukemia *BJD 146:904–907, 2002*

## PHOTODERMATOSES

Actinic comedonal plaque – red–blue nodular plaque with comedones *Cutis 60:145–146, 1997*

Actinic superficial folliculitis *BJD 139:359–360, 1998; BJD 138:1070–1074, 1998; Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

Favre–Racouchot syndrome – actinic comedones *Rook p.1978, 2028, 1998, Sixth Edition*; *Cutis 31:306–310, 1983; Cutis 31:296–303, 1983*

## PRIMARY CUTANEOUS DISEASES

Acne aestivalis

Acne conglobata *Hautarzt 46:417–420, 1995*

Acne excoriée des jeunes filles *Int J Derm 33:846–848, 1994; Clin Exp Dermatol 8:65–68, 1983*

Acne fulminans (acute febrile ulcerative conglobate acne) – with myositis, polyarthralgias, inflammatory bowel disease *JAAD 28:572–579, 1993; Clin Rheumatol 5:118–123, 1986; AD 104:182–187, 1971*

Acne keloidalis nuchae

Acne necrotica miliaris *AD 132:1365–1370, 1996*

Acne necrotica varioliformis *AD 132:1365–1370, 1996*

Acne neonatorum (neonatal cephalic pustulosis) *Int J Derm 38:128–130, 1999; AD 134:995–998, 1998;* due to *Malassezia sympodialis AD 138:215–218, 2002*

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998;* acne agminata (granulomatous rosacea) – monomorphic brown papules of chin, cheeks, eyelids *BJD 134:1098–1100, 1996;* lupoid rosacea

Acne tropicalis – pustules, cysts, and nodules of back and buttocks; sparing of face *Ghatan p.304, 2002, Second Edition*

Acne vulgaris *Rook p.1949–1951, 1998, Sixth Edition*

Alopecia mucinosa (follicular mucinosis) *JAAD 47:856–862, 2002; JAAD 38:849–851, 1998; JAAD 20:441–446, 1989*

Chronic acquired dyskeratotic papulosis of the face *Cutis 69:469–471, 2002*

Comedo-like acantholytic dyskeratosis of the face *BJD 142:1047–1048, 2000*

Darier's disease (keratosis follicularis) – early may be confused with acne vulgaris *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992; JAAD 27:40–50, 1992*

Explosive post-adolescent facial acne in women

Facial Afro-Caribbean childhood eruption (FACE) – resembles perioral dermatitis *Clin Exp Dermatol 15:163–166, 1990; BJD 91:435–438, 1976*

Giant pore of Winer (dilated pore of Winer) *JAAD 47:727–732, 2002; JID 23:181–188, 1954*

Infantile or juvenile acne (acne infantum) – comedones, papules, pustules, nodules, cysts, scarring *Ped Derm 22:357–359, 2005; Rook p.1977, 1998, Sixth Edition; Cutis 52:16, 1993*

Keratosis lichenoides chronica – rosacea-like *JAAD 38:306–309, 1998*

Keratosis pilaris rubra faciei

Lichen planopilaris with cysts and comedones *Clin Exp Dermatol 17:346–348, 1992*

Lupus miliaris disseminata faciei *Clin Exp Dermatol 16:295–296, 1991*

Miliaria pustulosa

Perioral dermatitis – idiopathic or topical corticosterioid-associated *Rook p.2110–2111, 1998, Sixth Edition;* granulomatous perioral dermatitis of infancy and childhood

Pili multigemini – along jawline; with inflammatory nodules; scars *Rook p.2958, 1998, Sixth Edition*

Pityriasis lichenoides et varioliformis acuta

Post-adolescent acne of the back

Premenstrual acne

Pseudofolliculitis barbae *Rook p.925, 1998, Sixth Edition*

Pyoderma faciale (form of acne rosacea) – sudden onset of nodules, abscesses, sinuses *BJD 151:917–919, 2004; AD 128:1611–1617, 1992*

Rosacea fulminans *Dermatology 188:251–254, 1994*

Transient acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996*

Trichostasis spinulosa *BJD 84:311–316, 1971*

## PSYCHOCUTANEOUS DISEASES

Anorexia nervosa – refeeding acne in anorexia nervosa *Aust J Derm 31:9, 1990*

## SYNDROMES

Acne conglobata, hidradenitis suppurativa, pili torti, and cataracts (familial) *JAAD 14:207, 1986*

Acne fulminans with myositis, inflammatory bowel disease, arthritis, or aseptic osteomyelitis

Apert's syndrome (acrocephalosyndactyly/ectrodactyly) – craniosynostosis, mid-facial malformations, symmetrical syndactyly; a hallmark of Apert's syndrome is an extensive often severe acneform eruption that typically appears on the arms, chest, and back, but is relatively absent from the face; hypopigmentation and hyperseborrhea; craniosynostosis, hypoplastic and retruded central face, proptosis, and short stature; mutation of fibroblast growth factor receptor-2 *JAAD 53:173–174, 2005; Rook p. 1966, 1998, Sixth Edition; Ped Derm 14:31–35, 1997; AD 128:1379–1386, 1992; Proc R Soc Med 69:517–518, 1976; AD 102:381–385, 1970; Ann Hum Genet 24:151–164, 1960; Bull Soc Med Hop(Paris) 23:1310–1330, 1906*

Basaloid follicular hamartoma syndrome – autosomal dominant; milia, comedone-like lesions, dermatosis papulosa nigra, skin tag-like lesions, hypotrichosis, multiple skin-colored, red and hyperpigmented papules of the face, neck, chest, back, proximal extremities and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits and parallel bands of papules of the neck (zebra stripes) *JAAD 45:644–645, 2001; JAAD 43:189–206, 2000*

Becker's nevus syndrome *Am J Med Genet 68:357–361, 1997*

Behçet's disease *BJD 147:331–336, 2002; JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997; JAAD 19:767–779, 1988;* Behçet's in children – erythema nodosum-like lesions, papulopustules, acneform, folliculitis lesions, erythema multiforme-like lesions, thrombophlebitis, ulcers, abscesses, pyoderma, bullous necrotizing vasculitis, Sweet's syndrome-like lesions *Ped Derm 11:95–101, 1994; JAAD 21:327–330, 1989*

Birt–Hogg–Dube syndrome – fibrofolliculomas – comedone-like lesions *AD 135:1195–1202, 1999*

Borrone dermatocardioskeletal syndrome – autosomal recessive or X-linked; gingival hypertrophy, coarse facies, late eruption of teeth, loss of teeth, thick skin, acne conglobata, osteolysis, large joint flexion contractuures, short stature, brachydactyly, camptodactyly, mitral valve prolapse, congestive heart failure *Ped Derm 18:534–536, 2001*

Branchio-skeleto-genital syndrome (Elsahy–Waters syndrome) *Plast Reconstr Surg 48:542–550, 1971*

Carcinoid syndrome – cyanotic nose and face, rosacea *Acta DV* (*Stockh*) *41:264–276, 1961*

Dowling–Degos syndrome mimicking chloracne *JAAD 37:884–886, 1997; JAAD 27:345–348, 1992;* comedone-like lesions on upper eyelids; comedones of neck and axilla *BJD 147:568–571, 2002; AD 114:1150–1157, 1978*

Ectrodactyly, ectodermal dysplasia, clefting (EEC) syndrome – nevus comedonicus *Dermatologica 169:80–85, 1984*

Familial comedones *Indian J Dermatol 20:6–7, 1974*

Familial diffuse comedone syndrome *Ped Derm 21:84–86, 2004; AD 114:1807–1809, 1978*

Familial dyskeratotic comedone syndrome – face, trunk, arms, legs, penis *Ped Derm 21:84–86, 2004; BJD 140:956–959, 1999; Eur J Dermatol 9:491–492, 1999; Arch Derm Res 282:103–107, 1990; JAAD 17:808–814, 1987; AD 105:249–251, 1972*

Haber's syndrome – rosacea-like acneform eruption with erythema, telangiectasia, prominent follicles, comedones, small papules, atrophic pitted scars; with keratotic plaques of the trunk and extremities *AD 103:452–455, 1971; BJD 77:1–8, 1965*

Job's syndrome

Keratosis–ichthyosis–deafness (KID) syndrome – acneiform lesions of trunk; follicular occlusion triad with KID syndrome – mutation of connexin 26 (Cx26); reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *JAAD 51:377–382, 2004; Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990; JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Am J Surg Pathol 14:872–876, 1990*

Masculinizing syndromes
- Adrenal cancer
- Choriocarcinoma
- Cushing's syndrome

Ovarian tumor
Stein–Leventhal syndrome

Nevoid basal cell carcinoma syndrome – comedones *JAAD 11:98–104, 1984; AD 114:95–97, 1978; Birth Defects 8:140–148, 1971*; linear nevoid basal cell carcinoma syndrome with overlying comedones *Ped Derm 21:84–86, 2004*

PAPA syndrome – pyoderma gangrenosum, cystic acne, aseptic arthritis; sterile abscesses at injection sites; mutation in CD2 binding protein-1 *Ped Derm 22:262–265, 2005; Proc Natl Acad Sci USA 100:13501–13506, 2003; Mayo Clin Proc 72:611–615, 1997*

Pili torti, acne conglobata, early onset cataracts *BJD 91 (Suppl 10):54–57, 1974*

Pseudohypoaldosteronism type I – pustular miliaria, acneform eruptions, extensive scaling of the scalp *Ped Derm 19:317–319, 2002*

Pseudoxanthoma elasticum – extensive comedo formation *Dermatologica 154:318–319, 1977*

SAPHO syndrome – palmoplantar pustulosis with sternoclavicular hyperostosis; acne fulminans, acne conglobata, hidradenitis suppurativa, psoriasis, multifocal osteitis *Cutis 71:63–67, 2003; Curr Opinion Rheumatol 15:61–69, 2003; Cutis 64:253–258, 1999; Cutis 62:75–76, 1998; Rev Rheum Mol Osteoarthritic 54:187–196, 1987; Ann Rev Rheum Dis 40:547–553, 1981*

Steatocystoma multiplex

Sweet's syndrome *JAAD 31:535–556, 1994*

Tuberous sclerosis *Rook p.2710, 1998, Sixth Edition*

47,XYY – acne conglobata *AD 105:913–919, 1972*

### TOXINS

Arsenic poisoning – at 3 months *BJD 149:757–762, 2003*

Chloracne – pale yellow keratin cysts and large prominent comedones on malar cheeks, post-auricular areas, ears, neck and scrotum *JAAD 13:539–558, 1985*

Dioxin – late sequela *JAAD 19:812–819, 1988*

Polychlorinated biphenyl poisoning – chloracne, goiter, arthritis and anemia *Environ Health Perspect 107:715–719, 1999*

### TRAUMA

Acne mechanica – fiddler's neck, headbands, turtle neck sweaters *Rook p.1976, 1998, Sixth Edition; AD 111:481–483, 1975*

Detergent acne – excessive washing *AD 11:65–68, 1975*

Radiation *Hautarzt 51:187–191, 2000;* radiation-induced Favre–Racouchot disease *JAAD 49:117–119, 2003*

Scar – pore *JAAD 47:727–732, 2002;* with comedones

Spinal cord injury – acne of back and buttocks *BJD 112:569–573, 1985*

Stump acne – a form of acne mechanica *BJD 144:647–648, 2001*

### VASCULAR DISORDERS

Angiosarcoma – rosacea-like *JAAD 38:837–840, 1998; Dermatologica 181:252–254, 1990*

Hemangioma – rhinophyma *J Derm Surg Oncol 19:206–212, 1993*

Wegener's granulomatosis *AD 136:171–172, 2000*

## ACRAL CYANOSIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis with Raynaud's phenomenon *Rook p.2558, 1998, Sixth Edition*

Hypersensitivity angiitis *AD 138:1296–1298, 2002*

Lupus erythematosus – systemic lupus erythematosus – Raynaud's phenomenon *BJD 135:355–362, 1996;* Raynaud's phenomenon with C1q deficiency *BJD 142:521–524, 2000;* lupus chilblains *AD 132:459–464, 1996*

Mixed connective tissue disease – vasculitis; Raynaud's phenomenon *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Rheumatoid arthritis, including rheumatoid vasculitis *AD 135:648–650, 1999*

Scleroderma, including CREST syndrome – Raynaud's phenomenon *Rook p.2527, 1998, Sixth Edition*

Sjögren's syndrome – Raynaud's phenomenon *JAAD 48:311–340, 2003*

### CONGENITAL DISORDERS

Neonatal vasomotor instability *Eichenfeld p.97, 2001*

Spinal dysraphism *Rook p.2778, 1998, Sixth Edition*

Umbilical artery catheterization – acrocyanosis, necrosis, livedo reticularis *Eichenfeld p.108, 2001*

### DEGENERATIVE DISEASES

Syringomyelia – skin of fingers and knuckles becomes cyanotic, thickened, edematous and keratotic *Rook p.2777, 1998, Sixth Edition*

### DRUGS

Blasticidin (fungicide) *Vet Hum Toxicol 38:107–112, 1996*

Bleomycin – Raynaud's phenomenon *Clin Rheumatol 18:422–424, 1999; JAAD 33:851–852, 1995; AD 107:553–555, 1973*

Buprenorphine – intra-arterial injection *AD 138:1296–1298, 2002*

Butyl nitrite abuse *AD 135:90–91, 1999*

Cisplatin – Raynaud's phenomenon *Eur Heart J 9:552–561, 1988*

Coumarin purple toe syndrome *Thromb Haemost 78:785–790, 1997; Ann Intern Med 113:893–895, 1990*

Crack inhalation – acrocyanosis, necrotizing livedo reticularis (livedo racemosa), and muscle infarction *Ann Intern Med 108:843, 1988*

Epinephrine *Am J Emerg Med 8:46–47, 1990*

Imipramine *Arch Dis Child 63:204–205, 1988*

Quinine sulfate *Hautarzt 51:332–335, 2000*

Oxymetazoline – intra-arterial injection *AD 138:1296–1298, 2002*

Vasculitis, drug-induced *AD 138:1296–1298, 2002*

### INFECTIONS AND INFESTATIONS

Endocarditis – subacute bacterial endocarditis

Erythema induratum

Hepatitis C – with cryoglobulins; thrombotic vasculitis *AD 131:1185–1193, 1995*

Infectious mononucleosis *Tyring p.149, 2002; Am J Med 134:159–160, 1980*

Meningococcemia

*Pneumocystis carinii* septicemia *Ann Intern Med 111:681–682, 1989*

Poliomyelitis

Rubella, congenital *JAAD 12:697–706, 1985*

Sepsis

*Streptococcus pneumoniae* – with disseminated intravascular coagulation (DIC) after splenectomy

Syphilis – secondary syphilis

## METABOLIC DISEASES

Antithrombin III deficiency

Bisalbuminemia – cold, blue hands; inability to extend fingers *BJD 95 (Suppl 14):54–55, 1977*

Cold agglutinin disease – acrocyanosis and Raynaud's phenomenon *Postgrad Med 60:89–94, 1976*

Cryofibrinogenemia – hands, feet, ears, nose, buttocks *Am J Med 116:332–337, 2004*

Cryoglobulinemia – Raynaud's phenomenon; acrocyanosis *JAAD 48:311–340, 2003; Rook p.2714, 1998, Sixth Edition*

Disseminated intravascular coagulation – obstetric complications, extensive tissue damage, Gram-negative septicemias, immune reactions, malignancy, snake bites, angiomas, protein S or protein C deficiency *Br Med J 312:683–687, 1996; BJD 88:221–229, 1973*; symmetrical peripheral gangrene (DIC) *AD 121:1057–1061, 1985*

Ethylmalonic aciduria and normal fatty acid oxidation *J Pediatr 124:79–86, 1994; J Pediatr 125:843–844, 1994*

Functionally abnormal plasminogen

Hyperleukocytosis – acral livedo *AD 123:921–924, 1987*

Hyperparathyroidism

Hyperviscosity

Mitochondrial disorders – acrocyanosis; hypertrichosis of the back or diffusely on the back, forearms and forehead; erythematous photodistributed eruptions followed by mottled or reticulated hyperpigmentation; alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Oxaluria – primary hyperoxaluria *JAAD 49:725–728, 2003; AD 131:821–823, 1995*

Paraproteinemia *Ghatan p.99, 2002, Second Edition*

Paroxysmal nocturnal hemoglobinuria

Platelet aggregation

Protein C deficiency

Protein S deficiency

## NEOPLASTIC DISEASES

Aortic tumors, primary *Oncology 39:167–172, 1982*

Atrial myxoma *Cutis 62:275–280, 1998; JAAD 32:881–883, 1995; JAAD 21:1080–1084, 1989*

Fibroma with pressure and occlusion *Ghatan p.99, 2002, Second Edition*

Lymphoma – CTCL with ischemic foot *JAAD 47:914–918, 2002;* angiocentric lymphoma – Raynaud's phenomenon *BJD 142:1013–1016, 2000*

Myeloma *Ghatan p.97, 2002, Second Edition*

Myeloproliferative diseases – chronic myelogenous leukemia with leukostasis; acrocyanosis as a sign *Bolognia, p.1947, 2003; AD 123:921–924, 1987*

Pheochromocytoma

Polycythemia vera *Rook p.2714, 1998, Sixth Edition*

Thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

Tumor emboli – melanoma *AD 129:1205–1207, 1993;* aortic angiosarcoma with cutaneous metastases *JAAD 43:930–933, 2000*

Waldenström's macroglobulinemia – cryoglobulin-associated acrocyanosis, Raynaud's phenomenon *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Digital ischemia *Br Med J iii:208–212, 1967*

Paraneoplastic acral vascular syndrome – acral cyanosis and gangrene *JAAD 47:47–52, 2002; AD 138:1296–1298, 2002*

Robboy's acral cyanosis – associated with gastric adenocarcinoma *Rev Esp Enferm Apar Dig 74:562–564, 1988*

## PRIMARY CUTANEOUS DISEASES

Erythromelalgia *AD 139:1337–1343, 2003; JAAD 43:841–847, 2000; AD 136:330–336, 2000*

Nodular erythrocyanosis *Rook p.2204, 1998, Sixth Edition*

Palmoplantar keratoderma *Acta DV 75:331, 1995*

Symmetrical lividity of the soles (hyperhidrosis)

## PSYCHOCUTANEOUS DISEASES

Anorexia nervosa *Postgrad Med J 67:33–35, 1991*

## SYNDROMES

Acrocyanosis – hands, feet, nose, ears, lips, nipples *JAAD S207–208, 2001; Rook p.962, 1998, Sixth Edition*

Acrocyanosis of infancy *JAAD S207–208, 2001*

Angiokeratoma corporis diffusum – (Fabry's disease) ($\alpha$-galactosidase A deficiency) – X-linked recessive; acral areas cyanotic or blanched due to autonomic dysfunction *NEJM 276:1163–1167, 1967*

Antiphospholipid antibody syndrome – Raynaud's phenomenon, acral cyanosis *NEJM 346:752–763, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989*

Bazex syndrome – bulbous/violaceous fingertips; club-like

Carcinoid syndrome – cyanotic nose and face, rosacea *Acta DV (Stockh) 41:264–276, 1961*

Carpal tunnel syndrome *AD 120:517–519, 1984*

Cockayne's syndrome

Coffin–Lowry syndrome – loose easily stretched skin and acrocyanosis

Compartment syndrome – crush injury of thorax *AD 138:1296–1298, 2002*

DaCosta's syndrome *Acta DV 18:265–283, 1937*

Down's syndrome – short stature, cutis marmorata, acrocyanosis, low-set, small ears *JAAD 46:161–183, 2002; Rook p.3015–3016, 1998, Sixth Edition*

Dyskeratosis congenita

Fibroblastic rheumatism – symmetrical polyarthritis; nodules over joints and on palms, elbows, knees, ears, neck; Raynaud's phenomenon; sclerodactyly; skin lesions resolve spontaneously *Ped Derm 19:532–535, 2002; AD 131:710–712, 1995*

Hereditary acrolabial telangiectasia – telangiectasias, blue lips, nipples, hands, feet, elbows, knees *AD 115:474–478, 1979*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) – pulmonary arteriovenous fistulae *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Hypereosinophilic syndrome – Raynaud's phenomenon *BJD 143:641–644, 2000*

Kawasaki's disease

Mitochondrial DNA syndrome *Pediatrics 103:428–433, 1999; JAAD 39:819–823, 1998*

POEMS syndrome – Raynaud's phenomenon *Cutis 61:329–334, 1998*

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996; JAAD 22:513–520, 1990; Arch Neurol 44:555–561, 1987*

ROMBO syndrome – peripheral vasodilatation and cyanosis *BJD 144:1215–1218, 2001; Acta DV 61:497–503, 1981*

Rowell's syndrome – chilblains *JAAD 21:374–377, 1989*

Thoracic outlet obstruction *AD 138:1296–1298, 2002*

XXYY syndrome – features of Klinefelter's; sparse body hair; also multiple angiomas, acrocyanosis, and premature peripheral vascular disease *AD 94:695–698, 1966*

## TOXINS

Heavy metal intoxication

Methemoglobinemia

Perchlorethylene (dry-cleaning) – Raynaud's phenomenon

Polyvinyl chloride exposure – Raynaud's phenomenon *Ghatan p.202, 2002, Second Edition*

Toxic oil syndrome, acute phase *JAAD 18:313–324, 1988*

## TRAUMA

Blunt trauma – repetitive blunt trauma *AD 138:1296–1298, 2002*

Chilblains (chronic pernio) *JAAD 23:257–262, 1990;* chilblains in patients with anorexia nervosa or bulimia *Ped Derm 11:1–5, 1994*

Cold weather immersion foot *Dermatol Clin 17:1–17, 1999*

Crush injury *AD 138:1296–1298, 2002*

Electric shock *AD 138:1296–1298, 2002*

Frostbite *Rook p.958–959, 1998, Sixth Edition*

Hypothenar hammer syndrome *AD 138:1296–1298, 2002*

Invasive angiography

Neonatal cold injury – facial erythema or cyanosis; firm pitting edema of extremities spreads centrally; cold skin; mortality of 25% *Rook p.482, 1998, Sixth Edition; Br Med J 1:303–309, 1960*

Radial or ulnar artery cannulation *AD 138:1296–1298, 2002; NY State J Med 90:375–376, 1990;* radial or ulnar artery catherization *Hand Surg 4:151–157, 1999*

Spinal cord injury *Phys Ther 70:45–49, 1990*

Vibration – tools, pneumatic, typing, piano – erythrocyanosis, pain and swelling *Occup Med 1:515–550, 1946*

## VASCULAR DISEASES

Acrocyanosis of newborn – of perioral region and palms and soles *Rook p.451, 1998, Sixth Edition*

Aneurysmal disease – femoropopliteal arteries

Arterial fibromuscular dysplasia *AD 138:1296–1298, 2002*

Arteriovenous fistulae – vascular steal syndrome in hemodialysis patients with arteriovenous fistulae *AD 138:1296–1298, 2002; Rook p.2731, 1998, Sixth Edition;* acrocyanosis and/or Raynaud's phenomenon *Ghatan p.263, 2002, Second Edition*

Atherosclerosis *AD 138:1296–1298, 2002; Caputo p.186, 2000; Rook p.2231, 1998, Sixth Edition*

Buerger's disease (thromboangiitis obliterans) – acrocyanosis and/or Raynaud's phenomenon *Ghatan p.263, 2002, Second Edition*

Embolic arterial occlusion – acrocyanosis and/or Raynaud's phenomenon *Ghatan p.263, 2002, Second Edition*
- Atrial myxoma – Raynaud's phenomenon, digital cyanosis *BJD 147:379–382, 2002*
- Cholesterol emboli *BJD 146:1107–1108, 2002; BJD 146:511–517, 2002; Medicine 74:350–358, 1995; Angiology 38:769–784, 1987; AD 122:1194–1198, 1986*
- Mural thrombus
- Paradoxic emboli
- Subacute bacterial endocarditis

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Erythrocyanosis with nodules (nodular vasculitis)

Glomus tumor with pressure and occlusion *Ghatan p.99, 2002, Second Edition*

Henoch–Schönlein purpura – with antiphospholipid antibodies *Arch Dis Child 86:132–133, 2002*

Hypertensive ulcer (Martorell's ulcer) – starts as area of cyanosis with progression to ulcer of lower lateral leg with livedo at edges *Phlebology 3:139–142, 1988*

Peripheral digital ischemia – thrombotic microangiopathy (thrombotic thrombocytopenic purpura, hemolytic uremic syndrome) *J Invest Med 50:201–206, 2002*

Polyarteritis nodosa – acrocyanosis and/or Raynaud's phenomenon *Ghatan p.263, 2002, Second Edition*

Pseudo-Kaposi's sarcoma due to arteriovenous fistula *AD 121:1038–1040, 1985*

Radial artery removal for coronary bypass grafting *AD 138:1296–1298, 2002*

Raynaud's disease or phenomenon – primary or secondary *NEJM 347:1001–1008, 2002; Rook p.969, 1998, Sixth Edition*
- Trauma or vibration
  - Arteriovenous fistula
  - Hypothenar hammer syndrome (ulnar artery thrombosis)
  - Intra-arterial drug administration
  - Jackhammering *Ghatan p.263, 2002, Second Edition*
  - Meat cutting *Ghatan p.263, 2002, Second Edition*
  - Piano playing *Ghatan p.263, 2002, Second Edition*
  - Post-surgical
  - Post-traumatic with or without Sudeck's atrophy (post-trauma osteoporosis) *Ghatan p.263, 2002, Second Edition*
  - Reflex sympathetic dystrophy
  - Typewriting *Ghatan p.263, 2002, Second Edition*
  - Vibratory tools *Ghatan p.263, 2002, Second Edition*
- Collagen vascular diseases
  - Dermatomyositis
  - Hepatitis B antigen vasculitis
  - Lupus erythematosus, systemic
  - Mixed connective tissue disease
  - Polyarteritis nodosa *Ghatan p.263, 2002, Second Edition*
  - Rheumatoid arthritis *Ghatan p.264, 2002, Second Edition*
  - Scleroderma
  - Sjögren's syndrome
  - Temporal arteritis
  - Wegener's granulomatosis *Ghatan p.263, 2002, Second Edition*
- Obstructive arterial disease
  - Arterial embolism
  - Atherosclerosis
  - Hypothenar hammer syndrome (ulnar artery thrombosis)

Subacute bacterial endocarditis *Ghatan p.263, 2002, Second Edition*
Thromboangiitis obliterans (Buerger's disease)
Neurological disease
Carpal tunnel syndrome *Ghatan p.264, 2002, Second Edition*
Cervical rib syndrome (thoracic outlet syndrome) *Ghatan p.264, 2002, Second Edition*
Hypothenar hammer syndrome (ulnar artery thrombosis)
Poliomyelitis *Ghatan p.264, 2002, Second Edition*
Reflex sympathetic dystrophy
Syringomyelia *Ghatan p.264, 2002, Second Edition*
Thoracic outlet syndrome *JAAD 50:456–460, 2004*
Hematologic disease
Cold agglutinins
Cryofibrinogenemia
Cryoglobulinemia
Paroxysmal nocturnal hemoglobinuria
Waldenström's macroglobulinemia
Drugs and toxins
Amphetamines
Arsenic *Ghatan p.263, 2002, Second Edition*
Beta-blockers *JAAD 50:456–460, 2004*
Bleomycin
Bromocriptine
Clonidine
Cyanamide *Ghatan p.263, 2002, Second Edition*
Cyclosporine
Ergot *JAAD 50:456–460, 2004*
Heavy metals
Imipramine
Methysergide
Nitroglycerin withdrawal
Oral contraceptives
Polyvinyl chloride *JAAD 50:456–460, 2004*
Vinblastine *Ghatan p.263, 2002, Second Edition*
Miscellaneous
Alcohol *Ghatan p.263, 2002, Second Edition*
Anorexia nervosa
Chronic renal failure
Cirrhosis *Ghatan p.263, 2002, Second Edition*
Frozen foods *JAAD 50:456–460, 2004*
Hemiplegia *Ghatan p.264, 2002, Second Edition*
Hypothyroidism *JAAD 50:456–460, 2004*
Kala-azar *Ghatan p.263, 2002, Second Edition*
Malaria *Ghatan p.263, 2002, Second Edition*
Multiple sclerosis *Ghatan p.264, 2002, Second Edition*
Paraneoplastic syndrome *JAAD 50:456–460, 2004*
Primary pulmonary hypertension
Tobacco *Ghatan p.263, 2002, Second Edition*
Vasculitis *Ghatan p.264, 2002, Second Edition*
Viral syndrome *Ghatan p.263, 2002, Second Edition*

Sneddon's syndrome

Subclavian occlusive disease *JAAD 10:523–525, 1984*

Takayasu's arteritis – Raynaud's phenomenon

Thromboembolic phenomena – cardiac source, arterial source, aneurysm (subclavian or axillary arteries), infection, hypercoagulable state *AD 138:1296–1298, 2002*

Thrombotic arterial occlusion

Thrombotic thrombocytopenic purpura (TTP)

Vascular malformation

Vasculitis – small, medium and large vessel; leukocytoclastic, thrombotic, granulomatous

Vasospasm
Carpal tunnel syndrome
Cold
Fear
Shoulder girdle compression
Syringomyelia
Vasocontrictors – nicotine, ergot, beta-blockers

Venous gangrene *AD 139:1126–128, 2003;* reported with heparin-induced thrombocytopenia or as paraneoplastic phenomenon

Venous thrombosis

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenita, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wegener's granulomatosis

# ACRAL ERYTHEMA

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – red hands

Bullous pemphigoid

Dermatomyositis – periungual erythema *JAAD 46:S159–160, 2002*

Graft vs. host disease, acute – red palms and soles *AD 134:602–612, 1998*

Juvenile rheumatoid arthritis (Still's disease) *The Clinical Management of Itching; Parthenon Publishing p.x, 2000*

Lupus erythematosus (LE) – systemic lupus – characteristic erythema of dorsum of hands between knuckles *Rook p.2474, 1998, Sixth Edition;* systemic lupus with erythromelalgia *AD 112:688–692, 1963;* subacute cutaneous LE; tumid lupus (lupus erythematosus telangiectoides) – reticulate telangiectasias of face, neck, ears, hands, breasts, heels, sides of feet; punctate atrophy *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition;* periungual erythema *JAAD 46:S159–160, 2002;* red lunulae *Ghatan p.79, 2002, Second Edition*

Mixed connective tissue disease

Morphea

Pemphigus erythematosus

Rheumatoid arthritis – red lunulae *Ghatan p.79, 2002, Second Edition;* palmar erythema

Scleroderma – periungual erythema *JAAD 46:S159–160, 2002*

Serum sickness *Tyring p.369, 2002*

Still's disease (juvenile rheumatoid arthritis)

Urticaria

## DEGENERATIVE DISEASES

Peripheral neuropathy *JAAD 50:456–460, 2004*

Thermally induced cutaneous vasodilatation in aging *J Gerontol 48:M53–57, 1993*

## DRUG-INDUCED

Acral dysesthesia syndrome (chemotherapy-induced acral erythema) – multiple chemotherapeutic *agents AD 133:499–504, 1997; JAAD 40:367–398, 1999; Dermatologica 148:90–92, 1974;* methotrexate *Ped Derm 16:398–400, 2000;*

polyethylene glycol-coated liposomal doxorubicin *AD 136:1475–1480, 2000;* docetaxel *BJD 142:808–811, 2000;* cisplatin *BJD 139:750–751, 1998;* etoposide *Cancer Chemother Pharmacol 34:181, 1994;* cytarabine *JAAD 24:1023–1025, 1991;* tegafur *Acta DV 77:80–81, 1997; AD 131:364–365, 1995; 5-fluorouracil; capecytabine (Xeloda)*

Calcitonin

Docataxel extravasation *AD 141:1326–1327, 2005*

Doxycycline phototoxicity; photo-onycholysis

Drug-induced erythema of proximal nail fold and onychodermal band due to cyclophosphamide and vincristine *Cutis 52:43–44, 1993*

Drug rash

Eccrine squamous syringometaplasia – secondary to chemotherapy *AD 133:873–878, 1997; JAAD 26:284, 1992*

Erythromelalgia – calcium channel blockers (felodipine, nifedipine, amlodipine, diltiazem) *JAAD 45:323–324, 2001; BJD 136:974–975, 1997*

Fixed drug eruption

Hydroxyurea *AD 135:818–820, 1999; AD 111:183–187, 1975;* dermatomyositis-like rash *JAAD 49:339–341, 2003*

Methotrexate photorecall

Nifedipine – erythromelalgia-like erythema *Br Med J 298:1252–1253, 1989*

Piroxicam photodermatitis

Prostacycline – continuous infusion

Quinolones *Therapie 51:601–602, 1996*

Tetracycline-induced porphyria cutanea tarda-like syndrome

## EXOGENOUS AGENTS

Contact dermatitis – capsicum (red peppers); red hands and red lips *Cutis 72:21–23, 2003*

## INFECTIONS AND INFESTATIONS

Cellulitis/erysipelas

Erysipeloid

Erythrasma

Felon

*Fusarium solani* – digital cellulitis *Rook p.1375, 1998, Sixth Edition*

Hepatitis C – periungual erythema *JAAD 46:S159–160, 2002*

Acute HIV infection *Cutis 40:171–175, 1987*

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthem of hands, wrists, and elbows *NEJM 353:156–163, 2005*

Infectious eczematoid dermatitis

Janeway lesion – faint red macular lesions of thenar and hypothenar eminences *NEJM 295:1500–1505, 1976*

Lepromatous leprosy

Lymphogranuloma venereum – red nails, red lunulae *Ghatan p.79,80, 2002, Second Edition*

Majocchi's granuloma

Measles, atypical *Tyring p.410, 2002*

Parvovirus B19 (erythema infectiosum) *Hum Pathol 31:488–497, 2000;* including papular pruritic petechial gloves and socks syndrome – hands, wrists, feet, and ankles; acral edema and erythema as initial signs *BJD 151:201–206, 2004; Tyring p.300–301, 2002; Cutis 54:335–340, 1994*; oral ulceration *AD 120:891–896, 1984*

Scarlet fever

Seal finger – painful, swollen red finger; synovitis *J Rheumatol 13:647–648, 1986*

Syphilis – primary or secondary

Tinea manuum

Tinea versicolor

Toxic shock syndrome, either staphylococcal or streptococcal – erythema and edema of the palms and soles *JAAD 39:383–398, 1998*

Viral exanthem

## INFILTRATIVE DISEASES

Mastocytosis

## INFLAMMATORY DISEASES

Erythema multiforme; Stevens–Johnson syndrome

Panniculitis

Toxic epidermal necrolysis

## METABOLIC DISORDERS

Acrodermatitis enteropathica; acquired zinc deficiency

Chronic obstructive pulmonary disease (COPD) – red lunulae *Ghatan p.80, 2002, Second Edition*

Congestive heart failure – red nails, lunulae *Ghatan p.79, 2002, Second Edition*

Hyperthyroidism

Myxedema

Liver disease, chronic – palmar erythema

Neuropathic – alcoholic, diabetic, lepromatous.

Pellagra

Polycythemia vera – red lunulae *Ghatan p.79, 2002, Second Edition*

Porphyria – congenital erythropoietic porphyria *Semin Liver Dis 2:154–63, 1982*

Thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Leuk Lymphoma 22 (Suppl 1):47–56, 1996; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

Vitamin $B_6$ (pyridoxine) deficiency – acrodynia *Rook p.2658, 1998, Sixth Edition; J Lab Clin Med 42:335–337, 1953*

## NEOPLASTIC DISORDERS

Atrial myxoma

Enchondromas – red nails *Ghatan p.79, 2002, Second Edition*

Hodgkin's disease – periungual erythema *JAAD 46:S159–160, 2002*

Kaposi's sarcoma – classical or HIV-associated

Metastatic gastric carcinoma *JAAD 27:117–118, 1992;* also breast, lung, kidney, colon (mimic felon, whitlow, paronychia)

## PARANEOPLASTIC DISEASES

Bazex syndrome

## PHOTODERMATOSES

Creosote phototoxicity

Drug-induced phototoxicity

## PRIMARY CUTANEOUS DISEASES

Alopecia areata – red lunulae *Ghatan p.80, 2002, Second Edition*

Circumscribed palmar or plantar hypokeratosis – red atrophic patch *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Darier's disease – red lunulae *Ghatan p.80, 2002, Second Edition*

Epidermolysis bullosa dystrophica

Erythema elevatum diutinum

Erythrokeratolysis hiemalis (Oudtshoorn disease) (keratolytic winter erythema) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Familial acral erythema *AD 95:483–486, 1967*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – red hands and feet; hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *Ped Derm 20:272–275, 2003; Cutis 65:141–145, 2000*

Hand dermatitis

Juvenile plantar dermatosis

Lamellar ichthyosis

Lichen planus

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Pityriasis rubra pilaris

Progressive symmetric erythrokeratoderma

Psoriasis, including pustular psoriasis

Symmetrical lividity of the soles (hyperhidrosis) *BJD 37:123–125, 1925*

Tennis shoe dermatitis

Vernix caseosa

## PSYCHOCUTANEOUS DISEASES

Anorexia nervosa *Schweiz Med Wochenschr 22:565–575, 2000*

## SYNDROMES

Cockayne syndrome – erythema of hands

Fabry's disease *JAAD 50:456–460, 2004*

Familial Mediterranean fever – erythema and edema of the foot *AD 134:929–931, 1998*

Hereditary lactate dehydrogenase M-subunit deficiency – annually recurring acroerythema *JAAD 27:262–263, 1992*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – palmoplantar erythema; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Kawasaki's disease *JAAD 39:383–398, 1998*

Kindler's syndrome

Necrolytic migratory erythema (glucagonoma syndrome)

Netherton's syndrome

Reflex sympathetic dystrophy *JAAD 50:456–460, 2004; JAAD 22:513–520, 1990*

Reiter's syndrome

Rombo syndrome – acral erythema, cyanotic redness, follicular atrophy (atrophoderma vermiculata), milia-like papules, telangiectasias, red ears with telangiectasia, thin eyebrows, sparse beard hair, basal cell carcinomas, short stature *BJD 144:1215–1218, 2001*

Schopf–Schulz–Passarge syndrome – psoriasiform plantar dermatitis (palmoplantar keratoderma); eyelid cysts (apocrine hidrocystomas), hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Scleroatrophic syndrome of Huriez – red hands and feet early in disease *Ped Derm 15:207–209, 1998*

Sweet's syndrome

Wells' syndrome – red plaques of soles *Cutis 72:209–212, 2003*

Wiskott–Aldrich syndrome

## TOXINS

Acrodynia (pink disease) – mercury poisoning *Ped Derm 21:254–259, 2004; Ann DV 121:309–314, 1994*

Carbon monoxide – red lunulae *Ghatan p.79,80, 2002, Second Edition*

## TRAUMA

Cold erythema *JAMA 180:639–42, 1962*

Hair/thread tourniquet syndrome *Ped Derm 19:555–556, 1988*

Nerve injury, traumatic – *Rook p.2776, 1998, Sixth Edition;* nerve compression *JAAD 50:456–460, 2004*

Radiodermatitis – acute or chronic

## VASCULAR DISORDERS

Acquired progressive lymphangioma – brown, red, violaceous, yellow, or apple-jelly plaque; plantar red plaques *JAAD 49:S250–251, 2003*

Angiodyskinesia – dependent erythema after prolonged exercise or idiopathic *Surgery 61:880–890, 1967*

Arteriovenous malformation, subungual – red lunulae *Ghatan p.80, 2002, Second Edition*

Atherosclerosis – dependent erythema of the dorsum of the foot (Buerger's sign) *Caputo p.186, 2000; Rook p.2231, 1998, Sixth Edition;* peripheral vascular disease *JAAD 50:456–460, 2004*

Chilblains

Erythromelalgia – associations include essential thrombocythemia, polycythermia vera, diabetes mellitus, peripheral neuropathy, systemic lupus erythematosus, rheumatoid arthritis, hypertension, frostbite, colon cancer, gout, calcium channel blockers, bromocriptine *BJD 153:174–177, 2005; JAAD 50:456–460, 2004;* all types exacerbated by warmth; may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130, 1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000*

Glomus tumors – red nails, lunulae *Ghatan p.79,80, 2002, Second Edition*

Hemangioma, proliferating – including red nails *Ghatan p.79, 2002, Second Edition*

Lipodermatosclerosis (hypodermatitis sclerodermiformis; sclerosing panniculitis) – chronic venous insufficiency with hyperpigmentation, induration, inflammation; champagne bottle legs *Rook p.2256, 1998, Sixth Edition; Lancet ii:243–245, 1982*

Pigmented purpuric eruptions

Polyarteritis nodosa – cutaneous or systemic

Port wine stain

Primary pulmonary hypertension

Thromboangiitis obliterans *JAAD 50:456–460, 2004*

Vascular malformation

Vasculitis – leukocytoclastic, other

Venous insufficiency – stasis, acute or chronic *Rook p.2240, 1998, Sixth Edition*

# ACRAL ERYTHEMA AND SCALE WITH OR WITHOUT A LINEAR CUTOFF

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Caputo p.7, 2000*

Atopic dermatitis

Dermatomyositis

Lupus erythematosus – systemic, discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

## CONGENITAL LESIONS

Vernix caseosa; normal infant

## DRUG-INDUCED

*Acral dysesthesia* syndrome, chemotherapy-induced

Dilantin

Drug-induced photosensitivity – doxycycline

Etretinate

Methotrexate photorecall reaction

## EXOGENOUS AGENTS

Irritant contact dermatitis *Rook p.721, 1998, Sixth Edition*

## INFECTIONS AND INFESTATIONS

*Candida albicans* – chronic mucocutaneous candidiasis

Erythrasma

Hepatitis C infection – necrolytic acral erythema; red to hyperpigmented psoriasiform plaques of feet and shins with variable scale or erosions *JAAD 53:247–251, 2005; Int J Derm 35:252–256, 1996*

Lymphogranuloma venereum

Scarlet fever

Syphilis – primary or secondary

Tinea manuum

Tinea pedis *Caputo p.148, 2000*

## INFLAMMATORY DISEASES

Erythema multiforme

## METABOLIC

Acrodermatitis enteropathica *Ped Derm 16:95–102, 1999*

Carcinoid syndrome – pellagrous dermatitis (skin fragility, erythema, and hyperpigmentation over knuckles), flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *BJD 152:71–75, 2005; AD 77:86–90, 1958*

Citrullinemia *Ghatan p.107, 2002, Second Edition*

Cystic fibrosis – acrodermatitis enteropathica-like changes *JAAD 25:896–897, 1991; AD 119:51–55, 1983*

Essential fatty acid deficiency *Ghatan p.107, 2002, Second Edition*

Hartnup's disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999;* presenting in adulthood *Clin Exp Dermatol 19:407–408, 1994*

Maple syrup urine disease *Ghatan p.107, 2002, Second Edition*

Multiple carboxylase deficiency *Ghatan p.107, 2002, Second Edition*

Pellagra *AD 121:255–257, 1985*

Porphyrias

Propionic and methylmalonic acidemia *Ghatan p.107, 2002, Second Edition*

## NEOPLASTIC

Lymphoma – cutaneous T-cell lymphoma

## PARANEOPLASTIC DISEASES

Bazex syndrome (acrokeratosis paraneoplastica) – paronychia; acral psoriasiform dermatitis with linear cutoff *AD 141:389–394, 2005; Bull Soc Fr Dermatol Syphilol 72:182, 1965*

Glucagonoma syndrome – necrolytic migratory erythema

## PHOTODERMATITIS

Hydroa aestivale

Lime phototoxicity

Photocontact dermatitis

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASE

Apron dermatitis

Atopic dermatitis, including photoaggravated atopic dermatitis

Chronic acral dermatitis

Erythema annulare centrifugum

Fingertip dermatitis

Housewives' dermatitis (hand dermatitis)

Hyperkeratotic dermatitis of the palms *BJD 109:205–208, 1983; BJD 107:195–202, 1982*

Juvenile plantar dermatosis *Clin Exp Dermatol 11:529–534, 1986; Semin Dermatol 1:67–75, 1982; Clin Exp Dermatol 1:253–260, 1976*

Lichen planus

Necrolytic acral erythema *AD 141:85–87, 2005;* hepatitis C-associated necrolytic acral erythema – hyperkeratotic plaques with rim of dusky erythema *AD 136:755–757, 2000; Int J Derm 35:252–256, 1996*

Necrolytic migratory erythema without glucagonoma *JAAD 32:604–609, 1995*

Nummular dermatitis *Rook p.815, 1998, Sixth Edition*

Pityriasis rubra pilaris

Progressive symmetric erythrokeratoderma

Psoriasis *Caputo p.11, 2000;* pustular psoriasis; acral pustular psoriasis associated with SLE, Sjögren's syndrome, and Hashimoto's thyroiditis *J Dermatol 22:125–128, 1995*

Slaughterhouse dermatitis

### SYNDROMES

Bloom's syndrome

Kawasaki's disease

Kindler's syndrome

Wiskott–Aldrich syndrome

### TRAUMA

Chilblains

Sunburn

### VASCULAR DISEASES

Pigmented purpuric eruptions

## ACRAL PAPULES AND NODULES; KNUCKLE PAPULES; PAPULES, DIGITAL

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – chilblains *JAAD 36:899–907, 1997;* X-linked chronic granulomatous disease – photosensitivity, chilblain lupus of fingertips and toes *Ped Derm 3:376–379, 1986*

Common variable immunodeficiency (Gottron-like papules) – granulomas presenting as acral red papules and plaques with central scaling, scarring, atrophy, ulceration *Cutis 52:221–222, 1993*

Cutaneous extravascular necrotizing granuloma (and elbow papules) *JAAD 34:753–759, 1996*

Dermatitis herpetiformis

Dermatomyositis *Curr Opin Rheum 11:475–482, 1999*

Epidermolysis bullosa acquisita – hypertrophic scars of childhood EBA *JAAD 24:706–714, 1991*

Graft vs. host disease, chronic *JAAD 38:369–392, 1998*

Lupus erythematosus – acral papulonodular dermal mucinosis *JAAD 27:312–315, 1992;* chilblain lupus – fingers, toes, elbows, knees, calves, knuckles, nose, ears *BJD 143:1050–1054, 2000; Lupus 6:122–131, 1997; BJD 98:497–506, 1978;* systemic lupus – recurrent Osler's nodes *Angiology 20:33–37, 1969;* antiphospholipid antibodies with thrombotic vasculopathy

Pemphigoid nodularis *BJD 142:143–147, 2000*

Rheumatoid arthritis – rheumatoid nodule (digital papule) *JAAD 11:713–723, 1984;* rheumatoid papules (rheumatoid neutrophilic dermatitis) *JAAD 20:348–352, 1988;* rheumatoid neutrophilic dermatitis – nodules over joints *AD 133:757–760, 1997; AD 125:1105–1108, 1989*

Rheumatoid vasculitis – Bywater's lesions; purpuric papules *Cutis 71:462, 464, 2003; Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965*

Scleroderma – CREST syndrome with calcinosis cutis – digital papule; knuckle hyperkeratosis in systemic scleroderma

### CONGENITAL ANOMALIES

Congenital infantile digital fibromatosis *Ped Derm 19:370–371, 2002*

Congenital (infantile) pedal papules *JAAD 53:333–334, 2005; Textbook of Neonatal Dermatology p.429, 2001*

Supernumerary digit – digital papule *Ped Derm 20:108–112, 2003*

### DEGENERATIVE

Carpal tunnel syndrome – chilblain-like lesions with necrosis

Heberden's nodes of knuckles – degenerative joint disease *JAAD 43:892, 2000*

### DRUGS

Acral dysesthesia syndrome

BCG vaccination *Ped Derm 13:451–454, 1996*

Bleomycin *JAAD 33:851–852, 1995*

Dilantin – thickening of the heel pad due to long-term dilantin therapy *Am J Roentgenol Radium Ther Nucl Med 124:52–56, 1975*

Imatinib-associated Sweet's syndrome *AD 141:368–370, 2005*

Lichen planus-like drug reactions

Phenytoin reaction – keratotic finger papules *Cutis 61:101–102, 1998*

Ranitidine (Zantac)

### EXOGENOUS AGENTS

Barber's sinus

Catheter-related thrombus (sterile) – Janeway lesions and Osler's nodes *AD 141:1049, 2005*

Foreign body granuloma – digital papule; cactus spine (*Opuntia* cactus) granulomas *Cutis 65:290–292, 2000;* sea urchin granulomas

Paraffinoma – grease gun injury; nodule, plaque, sinus of hand *BJD 115:379–381, 1986*

Sea urchin spine – plantar nodule

### INFECTIONS AND INFESTATIONS

Abscesses

AIDS – papular mucinosis of AIDS

Alternariosis – red nodule of foot *Clin Inf Dis 30:13,174–175, 2000*

Aspergillosis

Bartonellosis – 2–3-mm papules of the dorsum of the foot *Clin Inf Dis 33:772–779, 2001*

Bovine papular stomatitis

*Candida* – candidal sepsis, congenital candidiasis

Cat scratch disease, inoculation papule *Ped Derm 5:1–9, 1988;* multiple leg papules *Cutis 49:318–320, 1992*

Caterpillar dermatitis – puss caterpillar (larval stage of flannel moth, *Megalopyge opercularis*) *Cutis 71:445–448, 2003;* Gypsy moth caterpillar vibrissae of soles

Cellulitis – plantar nodule *Ped Derm 15:97–102, 1998*

Chromomycosis *Caputo p.148, 2000*

Coccidioidomycosis – granuloma of foot *Ghatan p.62; 2002, Second Edition,* primary cutaneous coccidioidomycosis *JAAD 49:944–949, 2003*

Cowpox

Coxsackie $A_{16}$ – Gianotti–Crosti-like rash *JAAD 6:862–866, 1982*

Cryptococcosis (nodule) *JAAD 21:167–179, 1989*

Cytomegalovirus *Tyring p.185, 2002*

Dermatophytosis, generalized

Dirofilaria – hand nodule *Cutis 72:269–272, 2003*

Endocarditis – acute bacterial endocarditis; subacute bacterial endocarditis with Janeway lesion – faint red macular lesions of thenar and hypothenar eminences *Clin Inf Dis 32:63,149, 2001; NEJM 295:1500–1505, 1976;* hemorrhagic lesions *Med News 75:257–262, 1899;* Osler's node (subacute bacterial endocarditis) – small, red papules on distal finger and toe pads *Clin Inf Dis 32:63,149, 2001; NEJM 295:1500–1505, 1976*

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Furuncle

Gianott–Crosti syndrome *Ped Derm 21:542–547, 2004; JAAD 18:239–259, 1988; G Ital Dermatol 96:678, 1955;* due to Epstein–Barr virus *Tyring p.149, 2002*

Gonococcemia

Hepatitis B – papular acrodermatitis *Ghatan p.246, 2002, Second Edition*

Insect bites – fleas *Caputo p.163, 2000;* plantar nodule *Ped Derm 15:97–102, 1998*

Leishmaniasis – acute *L. major*; crusted papules *JAAD 51:S125–128, 2004; Rook p.1413, 1998, Sixth Edition; AD 125:1540–1542, 1989;* post kala-azar dermal leishmaniasis – digital papule

Leprosy, lepromatous – digital papule *JAAD 11:713–723, 1984*

Madura foot (mycetoma) *Ghatan p.62, 2002, Second Edition*

Milker's nodules *JAAD 49:910–911, 2003; Tyring p.57, 2002;* digital papule *Rook p.998, 1998, Sixth Edition*

Molluscum contagiosum *Tyring p.63, 2002*

Mycetoma – eumycetoma *AD 141:793–794, 2005; Caputo p.153, 2000*

*Mycobacterium chelonae* and *fortuitum BJD 147:781–784, 2002*

*Mycobacterium marinum* – digital papule *Clin Inf Dis 31:439–443, 2000*

*Mycobacterium scrofulaceum* – palmar nodule *AD 138:689–694, 2002*

*Mycobacterium tuberculosis* – papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops on elbows, hands, feet, knees, legs; also ears, face, buttock, and penis *Cutis 75:341–346, 2005; Ped Derm 15:450–455, 1998; Int J Dermatol 30:487–490, 1991; Ped Derm 7:191–195, 1990;* tuberculosis verrucosa cutis *Caputo p.143, 2000*

*Mycobacterium xenopi Cutis 67:81–82, 2001*

Orf – Parapoxvirus (genus); Family Poxviridae *Cutis 71:288–290, 2003; AD 126:235–240, 1990*

Papular urticaria

Parapoxvirus from deer *AD 127:79–82, 1991*

Parvovirus B19 – dermatomyositis-like Gottron's papules *Hum Pathol 31:488–497, 2000*

*Penicillium marneffei* – brown papules of fingers *JAAD 49:344–346, 2003*

Phaeohyphomycosis (phaeohyphomycotic cyst) – subcutaneous phaeomycotic cyst – *Exophiala jeanselmei Cutis 56:41–43, 1995*

Protothecosis

Rat bite fever

Rickettsial pox

Rocky Mountain spotted fever

Scabies *Rook p.1460, 1998, Sixth Edition;* crusted (Norwegian) scabies presenting with hyperkeratotic nodules of the soles *AD 134:1019–1024, 1998*

Sealpox (parapoxvirus) – gray concentric nodules with superimposed bullae *BJD 152:791–793, 2005*

Septic emboli *JAAD 47:S263–265, 2002*

Sporotrichosis *Caputo p.150, 2000*

Staphylococcal sepsis *JAAD 47:S263–265, 2002*

Syphilis – primary chancre; secondary *Caputo p.146, 2000;* condyloma lata of toe webs *Cutis 57:38–40, 1996*

Tinea pedis, manuum – *Trichophyton rubrum*, invasive; tinea incognito; Majocchi's granuloma

Tularemia – digital papule

Tungiasis (*Tunga penetrans*) (toe-tip or subungual nodule) – crusted or ulcerated *Caputo p.164, 2000; Acta Dermatovenerol* (*Stockh*) *76:495, 1996; JAAD 20:941–944, 1989; AD 124:429–434, 1988*

Verruca vulgaris – digital papule, knuckle pads *Derm Surg 27:591–593, 2001;* flat warts; plantar warts; myrmecia (deep periungual or plantar warts) *BMJ 1:912–915, 1951;* subungual papule *JAAD 50:S45–52, 2004*

Viral exanthem

## INFILTRATIVE DISEASES

Acral persistent papular mucinosis *JAAD 51:982–988, 2004; AD 122:1237–1239, 1986;* mimicking knuckle pads *AD 140:121–126, 2004; JAAD 27:1026–1029, 1992*

Amyloidosis – plantar papules or plaque (nodular amyloid) *Cutis 59:142–144, 1997;* nodular amyloidoisis of the toe *AD 139:1157–1159, 2003;* primary systemic amyloidosis associated with myeloma *BJD 147:602, 2002*

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991*

Cutaneous mucinosis of infancy – grouped skin-colored papules – resembles connective tissue nevus *BJD 144:590–593, 2001; Ped Derm 18:159–161, 2001; AD 116:198–200, 1980*

Diffuse cutaneous histiocytosis

Fibroxanthoma

Juvenile xanthogranuloma of palm *Ped Derm 13:146–147, 1996;* of sole *Ped Derm 15:203–206, 1998*

Langerhans cell histiocytosis *Caputo p.98, 2000*

Lichen myxedematosis – resembling acral persistent papular mucinosis *BJD 144:594–596, 2001; Dermatology 185:81, 1992;* mimicking knuckle pads; scleromyxedema *JAAD 33:37–43, 1995*

Mastocytoma *Caputo p.100, 2000; Ped Derm 15:386–387, 1998;* knuckle pads

Myxedema – palmar myxedema *AD 140:121–126, 2004*

Myxoma *JAAD 22:343–345, 1990*

Myxoid cyst *JAAD 50:134–136, 2004*

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

Self-healing juvenile cutaneous mucinosis – knuckle nodules *JAAD 11:327–332, 1984; JAAD 31:815–816, 1994; Dermatology 189:93–94, 1994*

Verruciform xanthoma of toes in patient with Milroy's disease due to persistent leg edema *Ped Derm 20:44–47, 2003; JAAD 20:313–317, 1989*

Xanthogranulomas

Xanthoma disseminatum *JAAD 20:313–317, 1989*

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis of infancy – plantar papules *Ped Derm 21:615–616, 2004*

Erythema elevatum diutinum – erythema elevatum diutinum in AIDS *JAAD 28:919–922, 1993, JAAD 26:38–44, 1992*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* plantar nodules *Ped Derm 15:97–102, 1998*

Erythema nodosum – nodules of ankles *Rook p.2200, 1998, Sixth Edition*; plantar erythema nodosum *JAAD 26:259–260, 1992; JAAD 20:701–702, 1989*

Nodular fasciitis

Palmoplantar eccrine neutrophilic hidradenitis (idiopathic recurrent palmoplantar hidradenitis) (idiopathic plantar hidradenitis) *Ped Derm 21:30–32, 2004; JAAD 47:S263–265, 2002; J Pediatr 160:189–191, 2001; J Pediatr 160:189–191, 2001; AD 134:76–79, 1998; Ped Derm 15:97–102, 1998; J Eur Acad Dermatovenereol 10:257–261, 1998; AD 131:817–820, 1995*

Pancreatitis with subcutaneous fat necrosis *JAAD 17:359–366, 1987*

Panniculitis – plantar nodule *Ped Derm 15:97–102, 1998*

Pyoderma gangrenosum

Sarcoid – fingertip nodules *JAAD 44:725–743, 2001; JAAD 11:713–723, 1984;* on palmar aspects of fingers *AD 132:459–464, 1996;* lupus pernio *JAAD 16:534–540, 1987; BJD 112:315–322, 1985*

## METABOLIC DISEASES

Calcinosis cutis – digital papules *Cutis 66:465–467, 2000;* milia-like calcinosis cutis on dorsum of hands in Down's syndrome *Ped Derm 19:271–273, 2002;* tumoral calcinosis – acral papules and nodules

Calcium oxalate *Am J Kid Dis 25:492–497, 1995;* secondary oxalosis – papules on palmar skin of fingers *JAAD 31:368–372, 1994*; cutaneous oxalate granuloma *JAAD 22:316–318, 1990*

Cerebrotendinous xanthomatosis

Cholesterol crystals (subcutaneous) *J Rheumatol 18:743–745, 1991*

Erythropoietic protoporphyria (EPP) in the adult – plaques on dorsum of hand *AD 121:1309–1312, 1985*

Gout – tophus – digital papule (s) *Cutis 64:233–236, 1999; AD 134:499–504, 1998*

Pretibial myxedema (thyroid acropachy)

Pseudohypoparathyroidism – periarticular calcified nodules *JAAD 15:353–356, 1986*

Sitosterolemia and xanthomatosis

Verruciform xanthoma, disseminated *BJD 151:717–719, 2004*

Xanthomas – xanthomas with lymphedema – acral plaques *JAAD 36:631–633, 1997;* tendinous xanthomas *JAAD 13:1–30, 1985;* tuberous xanthomas *JAAD 11:713–723, 1984*

## NEOPLASTIC DISEASE

Acquired digital fibrokeratoma – digital papule *AD 124:1559–1564, 1988; JAAD 12:816–821, 1985;* of the nail bed *Dermatology 190:169–171, 1995*

Acral mucinous fibrokeratoma *JAAD 50:134–136, 2004*

Actinic keratoses *Rook p.1671, 1998, Sixth Edition;* in transplant patients *JAAD 47:1–17, 2002*

Aggressive digital papillary adenocarcinoma – occurs on fingers and toes *Cutis 72:145–147, 2003; Dermatol Surg 26:580–583, 2000; JAAD 23:331–334, 1990*

Aggressive digital papillary adenoma *Cutis 69:179–182, 2002; AD 120:1612, 1984*

Aggressive infantile fibromatosis *AD 107:574–579, 1973*

Alveolar rhabdomyosarcoma *Ped Derm 12:343–347, 1995*

Angiolipoleiomyoma *JAAD 23:1093–1098, 1990*; ears, fingers, and toes *JAAD 38:147–175, 1998*

Apocrine hidrocystoma of fingertip *BJD 152:379–380, 2005*

Aponeurotic fibroma *AD 107:574–579, 1973*

Atrial myxoma – acral red papules with claudication *JAAD 32:881–883, 1995;* tender red fingertip papule *JAAD 21:1080–1084, 1989*

Atypical fibroxanthoma *Cancer 31:1541–1552, 1973*

Basal cell carcinoma – including palmar basal cell carcinoma *JAAD 33:823–824, 1995;* periungual – basal cell carcinoma of toenail unit *JAAD 48:277–278, 2003*

Blue nevus *Rook p.1731, 1998, Sixth Edition;* hypopigmented blue nevus of dorsum of foot; pink papule *AD 138:1091–1096, 2002; J Cutan Pathol 24:494–498, 1997;* of nail fold *Ghatan p.115, 2002, Second Edition*

Bowen's disease *AD 129:1045–1048, 1995;* brown hyperkeratotic papule of sole *BJD 152:120–123, 2005*

Calcifying aponeurotic fibroma *Cancer 26:857, 1970*

Chondroblastoma, subungual – toe tip *Ped Derm 21:452–453, 2004*

Clear cell syringofibroadenoma of Mascaro – subungual papule *BJD 144:625–627, 2001*

Collagenoma; acquired collagenoma

Congenital self-healing reticulohistiocytosis

Dermatofibroma – digital papule; papule of foot *Caputo p.57, 2000*

Dermatofibrosarcoma protuberans – of the sole *Dermatology 192:280–282, 1996*

Digital fibrous tumor of childhood – toe nodule *AD 131:1195–1198, 1995*

Digital myxoid cyst *Derm Surg 27:591–593, 2001*; *JAAD 43:892, 2000; Rook p.2849, 1998, Sixth Edition*

Digital neurofibrosarcoma *J Pediatr 51:566–70, 1957*

Dupuytren's contracture (palmar fibromatosis) – starts as palmar nodule *Am J Surg Pathol 1:255–270, 1977*

Eccrine angiomatous hamartoma – toes, fingers, palms and soles – skin-colored to blue *Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 18:117–119, 2001; Ped Derm 14:401–402, 1997;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine poroma – plantar red nodule *Caputo p.72–73, 2000; Rook p.1706–1707, 1998, Sixth Edition; AD 74:511–521, 1956;* digital papule *AD 74:511–512, 1956*

Eccrine spiradenoma – papule of proximal nail fold *AD 140:1003–1008, 2004*

Eccrine syringofibroadenomatosis *JAAD 39:356–358, 1998*

Elastofibromas *JAAD 50:126–129, 2004; South Med J 77:1194–1196, 1984; J Bone Joint Surg Br 69:468–469, 1987*

Enchondroma *Derm Surg 27:591–593, 2001;* may be subungual

Epidermal nevus – digital papule

Epidermoid cyst – digital papule *JAAD 43:892, 2000;* palmar nodule *Rook p.1668, 1998, Sixth Edition;* subungual tumor

Epithelioid sarcoma – nodule of flexor finger or palm *JAAD 14:893–898, 1986; AD 121:389–393, 1985;* of sole *Caputo p.103, 2000*

Exostosis, subungual (variant of osteochondroma) *JAAD 45:S200–201, 2001; Derm Surg 27:591–593, 2001; Cutis 68:57–58, 2001; Rook p.2846, 1998, Sixth Edition; AD 128:847–852, 1992; JAAD 26:295–298, 1992*; differentiate from carcinoma of the nailbed, Koenen's tumor, pyogenic granuloma, verruca, glomus tumor, melanoma

Fibroma – digital papule or subungual fibroma *Derm Surg 27:591–593, 2001*

Fibroma of the tendon sheath *JAAD 11:625–628, 1984*

Fibrosarcoma; congenital fibrosarcoma *JAAD 50:S23–25, 2004*; *Ped Derm 14:241–243, 1997*

Fibrous dermatofibroma – periungual fibroma *Rook p.2846, 1998, Sixth Edition*

Fibrous hamartoma of infancy – congenital plantar nodule *Ped Derm 21:506–507, 2004*

Fibrous histiocytoma *JAAD 50:134–136, 2004*

Fibrous papule of the finger

Ganglion cyst of ankle (retinacular ganglion) *JAAD 13:873–837, 1985*

Garlic clove tumor (fibroma) (acquired periungual fibrokeratoma) *Rook p.2846, 1998, Sixth Edition; AD 97:120–129, 1968*

Generalized eruptive histiocytoma

Giant cell tumor of the tendon sheath – single or multiple *BJD 147:403–405, 2002; JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996;* overlying dorsal digital interphalangeal crease *J Hand Surg 5:39–50, 1980;* subungual giant cell tumor of the tendon sheath *Cutis 58:273–275, 1996* (nail dystrophy and swelling)

Granular cell tumor – digital papule, paronychial nodule *Cutis 35:355–356, 1985; Cutis 62:147–148, 1998*

Infantile digital fibromatosis – multiple soft fibromas on dorsal digits *AD 138:1245–1251, 2002; BJD 143:1107–1108, 2000; Ped Derm 8:137–139, 1991; J Cut Pathol 5:339–346, 1978;* on lateral fifth finger *AD 141:549–550, 2005*

Infantile myofibromatosis – skin-colored to purple-red multiple nodules or papules *Cutis 73:229–231, 2004; Cancer 7:953–978, 1954*

Infundibular follicular cyst – digital papule

Intraosseous epidermoid cysts *JAAD 27:454–455, 1992*

Juvenile elastoma

Juvenile digital fibromatosis (inclusion body fibromatosis)

Kaposi's sarcoma *Caputo p.67, 2000;* digital papules *JAAD 47:641–655, 2002*

Keloid *Caputo p.51, 2000*

Keratoacanthoma – backs of hands; digital papule *AD 120:736–740, 1984;* subungual *AD 124:1074–1076, 1990; Cutis 46:26–28, 1990;* of ankle *Caputo p.75, 2000*

Leiomyosarcoma *Ped Derm 14:241–243, 1997*

Leukemia cutis – digital papule; preleukemic state of monocytosis and neutropenia – perniotic lesions *BJD 81:327–332, 1969;* chronic myelomonocytic leukemia – chilblain-like lesions *BJD 115:607–609, 1986; AD 121:1048–1052, 1985; JAAD 50:S42–44, 2004*

Lipoma – periungual lipoma *JAAD 51:S91–93, 2004;* subungual lipoma *BJD 149:418, 2003;* adipose plantar nodules (congenital) *BJD 142:1262–1264, 2000;* palmar subcutaneous lipoma *Cutis 40:29–32, 1987*

Liposarcoma, myxoid variant *JAAD 43:892, 2000*

Lymphoma, including cutaneous T-cell lymphoma (CTCL); Woringer–Kolopp disease *Rook p.2376–2378, 1998, Sixth Edition;* B-cell lymphoma overlying acrodermatitis chronica atrophicans associated with *Borrelia burgdorferi* infection *JAAD 24:584–590, 1991*; histiocytic lymphoma (true histiocytic lymphoma) *JAAD 50:S9–10, 2004*

Lymphocytoma cutis

Lymphomatoid papulosis *Ped Derm 15:146–147, 1998*

Malignant fibrous histiocytoma, myxoid variant – papule or nodule of ankle *JAAD 48:S39–40, 2003; JAAD 43:892, 2000; Caputo p.103, 2000*

Malignant proliferating onycholemmal cyst *J Cut Pathol 21:183, 1994*

Melanocytic nevus *Caputo p.79–84, 2000; Rook p.1722–1723, 1998, Sixth Edition*

Melanoma *Derm Surg 27:591–593, 2001;* acral lentiginous melanoma *Caputo p.91, 2000;* subungual melanoma *Bolognia p.1797, 2003*

Melanoma of the soft parts (clear cell sarcoma) – foot, ankle, hand, wrist *JAAD 38:815–819, 1998;* plantar nodule *Cutis 68:219–222, 2001;* nodule of tendons of foot *Cancer 65:367–374, 1990;* subungual red papule *AD 141:398–399, 2005*

Merkel cell tumor *Bolognia p.1855, 2003*

Metastatic tumors – plantar nodule of toe; pancreatic carcinoma *AD 139:1497–1502, 2003;* bronchogenic carcinoma – subungual papule *Cutis 35:121–124, 1985;* squamous cell carcinoma – palmar nodule

Milia including multiple eruptive milia *Rook p.1669, 1998, Sixth Edition*

Mucinous carcinoma of skin *JAAD 36:323–326, 1997*

Multinucleate cell angiohistiocytoma – hands and wrists with grouped dome shaped 2–15 mm red to purple papules *JAAD 38:143–175, 1998; AD 132:703–708, 1996; BJD 121:113–121, 1989*

Myofibroma – skin-colored to hyperpigmented nodules of hand, mouth, genitals, shoulders *JAAD 46:953–956, 2002; JAAD 46:477–490, 2002*

Myxoid neurofibroma, periungual *Cutis 69:54–56, 2002*

Neural fibrolipoma (neurolipomatosis, lipofibromatous hamartoma of nerves, macrodystrophia lipomatosa) *AD 135:707–712, 1999*; palmar nodule *JAAD 53:528–529, 2005*

Neurofibroma – digital papule *AD 124:1185–1186, 1988;* of nail fold *Ghatan p.115, 2002, Second Edition*

Neuroma, traumatic – digital papule; palisaded encapsulated neuroma *AD 140:1003–1008, 2004;* interdigital neuroma *JAAD 38:815–819, 1998*

Neurothekoma, subungual *JAAD 52:159–162, 2005*

Nevus sebaceus

Nodular fibromatosis

Osteochondroma, subungual *Derm Surg 27:591–593, 2001*

Osteoma cutis *JAAD 39:527–544, 1998; JAAD 20:973–978, 1989*

Osteosarcoma *Derm Surg 27:591–593, 2001*

Perineurioma – soft tissue perineurioma; finger papule *Cutis 75:233–237, 2005*

Peripheral nerve sheath tumor *Ped Derm 14:241–243, 1997*

Plantar fibromatosis (Ledderhose's disease) – red plantar nodule; painful; may ulcerate *Cutis 68:219–222, 2001; Curr Prob Derm 8:137–188, 1996*

Porokeratosis – punctate and palmoplantar porokeratosis

Porokeratotic eccrine ostial and dermal duct nevus

Precalcaneal congenital fibrolipomatous hamartoma (bilateral pedal papules of the newborn) – plantar nodules over medial plantar heel *AD 141:1161–1166, 2005; Ped Derm 22:355–356, 2005; Ped Derm 21:655–656, 2004; Med Cut Ibero Lat Am 18:9–12, 1990*

Progressive nodular fibrosis of the skin – nodules on fingers *JID 87:210–216, 1986*

Reactive fibrous papule of the fingers (giant-cell fibroma) – fingers and palms *Dermatologica 143:368–375, 1971*

Rhabdomyosarcoma *Curr Prob Derm 14:41–70, 2002; Ped Derm 14:241–243, 1997*

Sclerosing perineuroma – palmar nodule, digital nodule *Ped Derm 21:606–607, 2004; BJD 146:129–133, 2002*

Seborrheic keratosis

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – granuloma annulare-like lesions *JAAD 37:643–646, 1997*

Spiradenocarcinoma – nodule of hand *Cutis 69:455–458, 2002; J Surg Oncol 43:131–133, 1990*

Spitz nevus *Caputo p.86, 2000*

Squamous cell carcinoma *Caputo p.77, 2000; Derm Surg 27:591–593, 2001;* subungual squamous cell carcinoma *JAAD 11:291–298, 1984*

Storiform collagenoma (sclerotic fibroma) *Cutis 64:203–204, 1999*

Stucco keratosis – especially around ankles and dorsal aspects of feet *AD 105:859–861, 1972*

Syringomas *AD 140:1161–1166, 2004; Cutis 59:213–216, 1997; AD 113:1435–1436, 1977;* with calcinosis cutis resembling milia *JAAD 23:372–375, 1990*

Syringomatous carcinoma – multilobulated digital nodule *BJD 144:438–439, 2001*

Trigger finger *Ghatan p.96, 2002, Second Edition*

Vascular and myxoid fibromas of the fingers – multiple warty lesions of palms and fingers *JAAD 2:425–431, 1980*

Verrucous acanthoma – digital papule

Verrucous carcinoma – epithelioma cuniculatum of sole

Waldenström's macroglobulinemia with cutaneous granulomas

## PARANEOPLASTIC DISORDERS

Erythema elevatum diutinum – associated with hairy cell leukemia, chronic lymphocytic leukemia *Bolognia p.1947, 2003*

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997*

## PHOTODERMATITIS

Actinic granuloma

Degenerative collagenous plaques of the hands *Dermatologica 107:164–168, 1953; BJD 106:337–344, 1982*

Digital papular calcific elastosis *AD 137:379–381, 2001*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Acral psoriasiform hemispherical papulosis *Dermatology 189:159–161, 1994*

Acrokeratoelastoidosis of Costa *J Cut Pathol 25:580–582, 1998; J Cutan Pathol 17:358–370, 1990; Dermatologica 171:8–11, 1985; AD 82:362–366, 1960*

Acrokeratosis verruciformis of Hopf *AD 141:515–520, 2005; AD 130:508–512, 1994; Ann DV 115:1229–1232, 1988; Dermatol Zeitschr 60:227–250, 1931*

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) – rare lesions of palms and soles *AD 123:1335–1339, 1987; AD 118:478, 1982*

Congenital hypertrophy of the lateral nail folds of the hallux *Ped Derm 5:243–245, 1989*

Darier's disease – acrally distributed *JAAD 30:860–862, 1994;* hemorrhagic acral Darier's disease *Hautarzt 51:857–861, 2000*

Digital papular calcific elastosis *J Cutan Pathol 17:358–370, 1990*

Ectopic plantar nail *BJD 149:1071–1074, 2003*

Eosinophilic pustular folliculitis

Epidermolysis bullosa – dystrophic

Epidermolysis bullosa simplex with mottled pigmentation of neck, upper trunk, arms and legs with or without keratoderma (punctate palmoplantar keratoses); cutaneous atrophy, nail dystrophy; wart-like hyperkeratotic papules of axillae, wrists, dorsa of hands, palms and soles; P25L mutation of keratin 5 *JAAD 52:172–173, 2005; BJD 150:609–611, 2004; Clin Genet 15:228–238, 1979;* dominant dystrophic

Epidermolytic hyperkeratosis

Erythema elevatum diutinum (EED) – knuckle pads (juxta-articular nodules), papules *JAAD 49:764–767, 2003; Cutis 67:381–384, 2001; Ped Derm 15:411–412, 1998;* including EED associated with HIV disease – digital papule; of feet *Caputo p.29, 2000;* papules of proximal nail fold *Tyring p.358, 2002*

Flegel's disease (hyperkeratosis lenticularis perstans)

Focal acral hyperkeratosis *Ped Derm 21:128–130, 2004; AD 132:1365–1370, 1996; Dermatology 188:28–31, 1994; BJD 109:97–103, 1983*

Granuloma annulare *JAAD 3:217–230, 1980;* subcutaneous granuloma annulare mimicking knuckle pads

Greither's palmoplantar keratoderma (transgradiens et progradiens palmoplantar keratoderma) *Cutis 65:141–145, 2000*

Infantile acropustulosis *AD 115:831–833, 1979; AD 115:834–836, 1979*

Keratoelastoidosis marginalis of the hands – hyperkeratotic papules of the hands in the elderly *Dermatologica 131:169–175, 1954*

Keratosis lichenoides chronica – vesicular and papular lesions of palms and soles *BJD 144:422–424, 2001; JAAD 38:306–309, 1998; Rook p.1924, 1998, Sixth Edition; JAAD 37:263–264, 1997; AD 131:609–614, 1995; AD 105:739–743, 1972*

Knuckle pads (heloderma) *Caputo p.47, 2000; AD 129:1043–1048, 1993*

Lenticular acral keratosis in washerwomen *Int J Dermatol 37:532–537, 1998*

Lichen nitidus – digital papule, knuckle pads *AD 134:1302–1303, 1998*

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition*

Lichen simplex chronicus – knuckle pads

Lichen striatus

Lichen sclerosus et atrophicus – wrists, palms, soles *AD 115:884, 1979*

Migratory angioedema – plantar nodule *Ped Derm 15:97–102, 1998*

Mosaic acral keratosis *Clin Exp Dermatol 15:361–362, 1990*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Painful piezogenic pedal papules *Caputo p.177, 2000; JAAD 36:780–781, 1997*

Palmoplantar keratoderma, epidermolytic (Vorner's) – papules on knuckles *BJD 125:496, 1991*

Pityriasis lichenoides chronica (guttate parapsoriasis)

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis

Reactive perforating collagenosis of childhood – digital papule

## PSYCHOCUTANEOUS DISEASES

Bulimia nervosa – Russell's sign (crusted knuckle nodules) *Clin Orthop 343:107–109, 1997; JAAD 12:725–726, 1985;* perniosis *Clin Sci 61:559–567, 1981;* pseudo knuckle pads (calluses on 2nd and 5th MCP joints) *Psychol Med 9;429–48, 1979*

## SYNDROMES

Acral pseudolymphomatous angiokeratoma in children (APACHE) – unilateral multiple persistent vascular papules on hands and feet (cutaneous pseudolymphoma) *JAAD 48:S15–17, 2003; BJD 145:512–514, 2001; JAAD 38:143–175, 1998; BJD 124:387–388, 1991;* red papules *JAAD S209–211, 2001;* acral pseudolymphomatous angiokeratoma *Am J Dermatopathol 16:130–133, 1994*

Bart–Pumphrey syndrome – knuckle pads, leukonychia, deafness and palmoplantar hyperkeratosis

CHILD syndrome – fingertip nodules (verruciform xanthomas) *JAAD 50:S31–33, 2004*

Cowden's syndrome – acrokeratosis verruciformis-like lesions *AD 106:682–690, 1972; Ann Intern Med 48:136–142, 1963;* translucent papules on palms and soles *JAAD 11:1127–1141, 1984; AD 114:743–746, 1978*

Dermo–chondro–corneal dystrophy

Ehlers–Danlos syndrome (molluscum pseudotumor) – knuckle pads

Ellis van Creveld syndrome – polydactyly *JAAD 46:161–183, 2002; Ped Derm 18:68–70, 2001*

Epidermodysplasia verruciformis

Familial multiple acral mucinous fibrokeratomas – verrucous papules of the fingers *JAAD 38:999–1001, 1998*

Familial histiocytic dermatoarthritis – knuckle pads

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 139:657–662, 2003; Ped Derm 19:532–535, 2002; AD 131:710–712, 1995; Clin Exp Dermatol 19:268–270, 1994; JAAD 14:1086–1088, 1986; Rev Rheum Ed Fr 47:345–351, 1980;* periungual papules *Ped Derm 19:532–535, 2002*

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose, and ears *Ann DV 104:475–478, 1977; AD 124:424–428, 1988*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow-red nodules; raspberry-like papillomas of lips, perineum, acrally at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Hereditary acrokeratotic poikiloderma of Weary – vesiculopustules of hands and feet at age 1–3 months which resolve; widespread dermatitis similar to atopic dermatitis; diffuse poikiloderma with striate and reticulate atrophy; keratotic papules of hands and feet, elbows and knees; autosomal dominant *AD 103:409–422, 1971*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Hereditary progressive mucinous histiocytosis – autosomal dominant; skin-colored or red–brown papules; nose, hands, forearms, thighs *JAAD 35:298–303, 1996; AD 130:1300–1304, 1994*

Hidrotic ectodermal dysplasia (Clouston's syndrome) – syringofibroadenomas – flat-topped coalescing papules (acral) *JAAD 40:259–262, 1999*

Hunter's syndrome – MPS II – knuckle pads *Ped Derm 12:370–372, 1995*

Incontinentia pigmenti (IP) *JAAD 52:727–729, 2005*; – painful subungual keratotic tumor of IP *JAAD 50:S45–52, 2004; JAAD 47:169–187, 2002; J Hand Surg 18B:667–669, 1993; AD 124:29–30, 1988*; *JAAD 13:913–918, 1985; AD 94:632–635, 1966*

Infantile digital fibromatosis *JAAD 49:974–975, 2003*

Infantile systemic hyalinosis – knuckle pads *Ped Derm 11:52–60, 1994*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, knuckle pads; multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001; Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*

Kindler's syndrome – acral keratoses

Knuckle pads, leukonychia, and deafness syndrome *Ghatan p.159, 2002, Second Edition*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Ledderhose's nodules (plantar fibromatosis) *JAAD 41:106–108, 1999;* Dupuytren's contracture (palmar fibromatosis) and/or Peyronie's disease – knuckle pads

Lipoid proteinosis – acral papules *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002;* digital papule *AD 132:1239–1244, 1996*

Lipomatosis of the hands – Madelung–Launois–Bensalide syndrome

Maffucci's syndrome – enchondromas, angiomas, cartilaginous nodules *Rook p.2847, 1998, Sixth Edition; Dermatol Clin 13:73–78, 1995; JAAD 29:894–899, 1993*

Mal de Meleda – knuckle pads *Ped Derm 14:186–191, 1997*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *AD 140:919–921, 2004; JAAD 49:1125–1127, 2003; Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988; Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple exostoses syndrome *JAAD 25:333–335, 1991*

Multiple symmetric lipomatosis of the soles *JAAD 26:860–862, 1992;* of the hands *Clin Exp Dermatol 14:58–59, 1989*

Neurofibromatosis type 1 – digital papule, knuckle pads

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome – acral papules *AD 138:361–365, 2002*

Ollier's syndrome – multiple enchondromas *Rook p.2847, 1998, Sixth Edition*

Olmsted's syndrome – plantar squamous cell carcinoma *BJD 145:685–686, 2001*

Pachydermodactyly – benign fibromatosis of fingers of young men *AD 129:247–248, 1993; JAAD 27:303–305, 1992; AD 111:524, 1975*

Pachyonychia congenita – papules on the fingers

Palmar fibromatosis

Patau's syndrome (trisomy 13) – polydactyly, simian crease of hand, loose skin of posterior neck, parieto-occipital scalp defects, abnormal helices, low-set ears, hyperconvex narrow nails *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Proteus syndrome *Ped Derm 5:14–21, 1988*

Reflex sympathetic dystrophy with chilblain-like lesions – digital papule

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Relapsing eosinophilic perimyositis – fever, fatigue and episodic muscle swelling; erythema over swollen muscles; red palmar papules *BJD 133:109–114, 1995*

Reticular erythematous mucinosis syndrome (REM syndrome)

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Scleroatrophic syndrome of Huriez – palmar nodule, scleroatrophy of the hands *BJD 137:114–118, 1997*

Stiff skin syndrome – knuckle pads *Ped Derm 3:48–53, 1985*

Sweet's syndrome *JAAD 40:838–841, 1999;* drug-induced Sweet's syndrome – red plaques, nasal ulcers, perianal ulcers – celecoxib, G-CSF, all-*trans*-retinoic acid *JAAD 45:300–302, 2001*

Trichorhinophalangeal dysplasia syndrome (Laugier–Gideon syndrome) *Ped Derm 13:212–218, 1996*

Tuberous sclerosis – periungual angiofibromas (Koenen's tumors) *JAAD 18:369–372, 1988;* digital papules *J Clin Neurol 7:221–224, 1992*

Winchester's syndrome *AD 111:230–236, 1975*

Xeroderma pigmentosum

## TOXINS

Arsenical keratoses – palms and soles; resemble corns; fingers, backs of hands *Rook p.1672, 1998, Sixth Edition; JID 4:365–383, 1941*

Mercury poisoning – skin-colored to slightly red papules or papulovesicles of palms or soles *JAAD 49:1109–1111, 2003*

## TRAUMA

Callosities – occupational (carpenters, live chicken hangers, frictional) *Contact Derm 17:13–16, 1987*

Chilblains (perniosis) – tender, pruritic red or purple digital papules *JAAD 47:S263–265, 2002; JAAD 45:924–929, 2001; Rook p.960–961, 1998, Sixth Edition;* plantar nodule *Ped Derm 15:97–102, 1998*

Clavus

Delayed pressure urticaria – nodules of soles *Rook p.2130, 1998, Sixth Edition; JAAD 29:954–958, 1993*

Dermatophagia ('wolf-biter') *Cutis 59:19–20, 1997*

Ectopic nail – post-traumatic *JAAD 50:323–324, 2004*

Frictional lichenoid dermatitis

Garrod's pads – violinist's knuckles – thickened skin over the interphalangeal joints from intense flexion of the tendons of the fingers

Hypertrophic scar – plantar giant nodule *BJD 145:1005–1007, 2001*

Painful piezogenic pedal papules (fat herniation)

Plantar trauma – plantar nodule *Ped Derm 15:97–102, 1998*

Skier's thumb *Acta Orthop Belg 65:440–446, 1999; Sports Med 19:73–79, 1995*

Surfer's nodules of foot *Ghatan p.62, 2002, Second Edition*

Traumatic neuroma due to treatment of supernumerary digit *Ped Derm 20:108–112, 2003*

Writer's callus – digital papule

## VASCULAR

Acroangiodermatitis of Mali – pseudo-Kaposi's sarcoma; chronic venous insufficiency, arteriovenous malformations, paralysis – tops of first and second toes *Acta DV (Stockh) 75:475–478, 1995; Int J Dermatol 33:179–183, 1994*

Angiofibroma – digital papule

Angiokeratoma circumscriptum – foot *Caputo p.62, 2000;* angiokeratoma of Mibelli – acral vascular papules *Caputo p.61, 2000; JAAD 45:764–766, 2001*

Angiokeratoma – plantar; of nail fold

Angiolymphoid hyperplasia with eosinophilia *Cutis 58:345–348, 1996*

Arteriovenous aneurysms

Arteriovenous malformation, digital – red papule, subungual blue papule *BJD 147:1007–1011, 2002; BJD 136:472–473, 1997*

Blue rubber bleb nevus syndrome – blue palmar and plantar nodules *Caputo p.65, 2000;* nail fold lesions *Ghatan p.115, 2002, Second Edition*

Bluefarb–Stewart syndrome *Caputo p.69–70, 2000*

Cholesterol emboli *AD 122:1194–1198, 1986*

Chylous lymphedema – xanthomas of toes and feet *BJD 146:134–137, 2002*

Cutaneous keratotic hemangioma *AD 132:705, 1996*

Digital verrucous fibroangioma *Acta DV 72:303–304, 1992*

Emboli – plantar nodule *Ped Derm 15:97–102, 1998;* atrial myxoma – acral papule *BJD 147:379–382, 2002*

Epithelioid hemangioendothelioma *JAAD 36:1026–1028, 1997*

Epithelioid hemangioma *JAAD 35:851–853, 1996*

Glomus tumors – digital papule, subungual *Derm Surg 27:591–593, 2001*

Hemangioma – of foot or toes *Caputo p.58, 2000;* subungual *Ghatan p.115, 2002, Second Edition*

Histiocytoid hemangioma *JAAD 21:404–409, 1989*

Infantile hemangiopericytoma *Ped Derm 14:241–243, 1997*

Lymphangioma circumscriptum *Caputo p.71, 2000*

Masson's intravascular papillary endothelial hyperplasia (pseudoangiosarcoma) *Cutis 59:148–150, 1997*

Neonatal hemangiomatosis – digital papule

Palmar varices – of palmar creases of elderly *BJD 91:305–314, 1974*

Polyarteritis nodosa – palmar and plantar nodules *AD 130:884–889, 1994; Ped Derm 15:103–107, 1998;* nodules along the course of superficial arteries around knee, anterior lower leg and dorsum of foot *Ann Intern Med 89:666–676, 1978;* cutaneous infarcts presenting as tender nodules *Rook p.2212, 1998, Sixth Edition*

Pseudopyogenic granuloma *Ann DV 110:251–257, 1983*

Pyogenic granuloma – digital papule *Derm Surg 27:591–593, 2001; Rook p.2354–2355, 1998, Sixth Edition*

Retiform hemangioendothelioma *JAAD 38:143–175, 1998*

Spindle cell hemangioendothelioma – hyperkeratotic nodules of soles *BJD 142:1238–1239, 2000*

Takayasu's arteritis – red or flesh-colored nodule *AD 123:796–800, 1987, AD 122:201–204, 1986*

Thrombosis of deep palmar vein *JAMA 111:2007–2008, 1938;* plantar nodule *Ped Derm 15:97–102, 1998;* thrombosed vein – plantar surface *Clin Podiatr Med Surg 13:85–89, 1996*

Tufted angioma of the palm *Ped Derm 18:456–457, 2001*

Vasculitis – plantar nodule *JAAD 47:S263–265, 2002; Ped Derm 15:97–102, 1998*

Venous aneurysm – painful blue nodule of hand *AD 140:1393–1398, 2004*

Venous lake

Verrucous hemangioma *JAAD 42:516–518, 2000*

## ACROMEGALIC FEATURES

Acquired generalized lipodystrophy – acromegalic features *Rook p.2429, 1998, Sixth Edition*

Acromegaloid phenotype with cutis verticis gyrata of scalp and corneal leukoma (opaque cornea) (Rosenthal–Kloepfer syndrome) – autosomal dominant; hyperplasia and folding of facial skin *Arch Ophthalmol 68:722–726, 1962*

Acromegaly – prognathism, frontal bossing, widely spaced teeth, protruding thick lower lip, edematous thick eyelids, large triangular ears, large pores, oily hyperhidrotic skin, elongated blunt thickened fingers, large, furrowed tongue, hyperpigmentation *Rook p.2704, 1998, Sixth Edition*

Bronchial carcinoid *Neurosurg 50:1356–1359, 2002; Asian Cardiovasc Thorac Ann 10:273–274, 2002*

Congenital total lipodystrophy (Berardinelli syndrome, Seip syndrome) – extreme muscularity and generalized loss of body fat from birth, acanthosis nigricans, acromegalic features, umbilical hernia, hyperinsulinemia (fasting and postprandial), early onset diabetes mellitus or glucose intolerance, hypertriglyceridemia/low HDL-C level, hirsutism, clitoromegaly *J Clin Endocrinol Metab 85:1776–1782, 2000*

Congenital macrogingivae – profuse hypertrichosis of lower face, trunk, and extremities with acromegalic features *Plast Reconstr Surg 27:608–612, 1962*

Hughes' syndrome – acromegaloid features and thickened oral mucosa *J Med Genet 22:119–125, 1985*

Lichen myxedematosus

Minoxidil – pseudoacromegaly *JAAD 48:962–965, 2003*

Multiple endocrine neoplasia syndrome

Pachydermoperiostosis – no macroglossia or prognathism; fingers clubbed
- Primary
- Secondary

Phenytoin – fetal phenytoin syndrome; coarse facial features, enlarged lips and nose *JAAD 18:721–741, 1988*

Pseudoacromegaly – autosomal recessive; skin ulcers, arthro-osteolysis, keratitis, oligodontia *Am J Med Genet 15:205–210, 1983*

Pyoderma chronica glutealis complicated by acromegalic gigantism *J Dermatol 25:242–245, 1998*

Sanfilippo's syndrome

Short stature with pleonosteosis and periarticular fibrosis (Leri's syndrome) – autosomal dominant; short stature and Mongoloid facies, thick palms and soles with accentuated creases, flexion contractures of digits, broad thumbs, genu recurvatum *J Bone Joint Surg Am 41:397–408, 1959*

Soto's syndrome(cerebral gigantism) – acromegalic features, increased height and weight, large hands and feet, mental retardation *Dev Med Child Neurol 11:796–797, 1969*

Tumors – pancreatic cell, small-cell lung cancer, adrenal adenomas, pheochromocytomas producing ectopic growth hormone releasing hormone *Ann Oncol 12 Suppl 2: 589–594, 2001*

## ACRO-OSTEOLYSIS

***JAMA 255:2058, 1986; Am J Med 65:632, 1978***

Biliary cirrhosis with arthritis

Burns

Diabetes mellitus

Electrical injuries

Epidermolysis bullosa

Ergot toxicity

Frostbite

Gout

Hyperparathyroidism

Juvenile rheumatoid arthritis

Leprosy

Lipodermatoarthritis

Lipogranulomatosis, disseminated

Lupus erythematosus, systemic

Mixed connective tissue disease

Mucopolysaccharidoses

Neurogenic ulcerative acropathy

Neuropathic arthritis

Occlusive vascular disease

Osteoarthritis
Osteomalacia
Polymyositis
Porphyria cutanea tarda
Progeria
Psoriasis
Pycnodysostosis
Raynaud's disease
Reiter's disease
Rheumatoid arthritis
Sarcoidosis
Scleroderma
Sézary syndrome
Sjögren's syndrome
Syphilis
Vinyl chloride toxicity
Werner's syndrome

# AINHUM

## TRUE AINHUM

Dactylosis spontanea – ainhum *NY State Med J 81:1779–1781, 1981; J Am Podiatr Assoc 61:44–54, 1971; Ann Trop Med Parasitol 55:314–320, 1961; Ann Surg 132:312–314, 1950*

Familial ainhum *JAMA 76:560, 1921*

## PSEUDOAINHUM

***JAAD 44:381-384, 2001***

Acral keratoderma *JAAD 44:381–384, 2001*

Alcoholic toxic polyneuropathy *Z Hautkr 55:349–354, 1980*

Amniocentesis

Amnion rupture malformation sequence (congenital ring constrictions and intrauterine amputations; amniotic band syndrome); after amniocentesis *Int J Dermatol 27:312–314, 1988*

Arteriovenous malformation *Bolognia p.1624, 2003*

Autosomal recessive ectodermal dysplasia with cataracts, alopecia and sclerodactyly *Am J Hum Genet 32:500–503, 1989*

Burns *JAAD 44:381–384, 2001*

Buschke–Fischer–Brauer keratoderma (punctate palmoplantar keratoderma) (keratodermia palmo-plantaris papulosa) (keratodermia palmoplantare papuloverrucoides progressiva) (keratosis hereditarium dissipatum palmare et plantare) – clinical subtypes include pinhead papules, spiky filiform lesions, dense round 1–2-mm papules, clavus-like lesions, hard warty masses, cupuliform lesions, and focal translucent lesions *BJD 128:104–105, 1993; JAAD 8:700–702, 1983; Hum Genet 60:14–19, 1982;* with ainhum *Actas Dermosifiliogr 73:105–110, 1982*

Carpal tunnel syndrome *BJD 150:166–167, 2004*

Clouston's disease *Int J Dermatol 29:225–226, 1990*

Cold injury – frostbite *JAAD 44:381–384, 2001; Rook p.2071, 1998, Sixth Edition*

Congenital ichthyosiform dermatosis with linear keratotic flexural papules and sclerosing palmoplantar keratoderma *AD 125:103–106, 1989*

Congenital pseudoainhum *AD 105:434–438, 1972; Ulster Med J 34:99–102, 1965;* to be differentiated from aplasia of the limbs with rudimentary digits, acromelia (part of limb does not develop), hypoplasia (poorly developed limb parts) *Rook p.2071, 1998, Sixth Edition*

Congenital sensory neuropathy with anhidrosis *Ped Derm 11:231–236, 1994; JAAD 21:736–739, 1989*

Dermatopathia pigmentosa reticularis hyperkeratosis et mutilans – infantile bullae, reticular hyperpigmentation of flexures, punctate palmoplantar keratoderma, ainhum-like contraction, periodontopathy

Diabetes mellitus *Ghatan p.149, 2002, Second Edition*

Ehlers–Danlos syndrome

Epidermal nevus syndrome *Ped Derm 349–352, 2002*

Ergot poisoning *JAAD 44:381–384, 2001*

Erythropoietic porphyria

Erythropoietic protoporphyria *BJD 118:113–116, 1988*

Factitial dermatitis *Rook p.2071, 1998, Sixth Edition*

Focal acral hyperkeratosis and angiodysplasia with pseudoainhum *J R Soc Med 78 (Suppl 11) 13–15, 1985*

Hair/thread tourniquet syndrome *Ped Derm 19:555–556, 1988*

Hereditary sensory and autonomic neuropathy type II *JAAD 21:736–739, 1989*

Keratosis linearis with ichthyosis and sclerosing keratoderma (KLICK syndrome) – autosomal recessive; erythroderma, palmoplantar keratoderma, ainhum, red elbows and knees *BJD 153:461, 2005; Acta DV 77:225–227, 1997; Am J Hum Genet 61:581–589, 1997*

Keratosis palmoplantaris (Unna–Thost type?) with polydactyly and eosinophilia *Dermatologica 138:39–44, 1969*

Kindler's syndrome (hereditary bullous acrokeratotic poikiloderma of Weary–Kindler) *Int J Dermatol 36:529–533, 1997*

Lamellar ichthyosis *Ped Derm 21:181, 2004; Ann DV 128:1037–1039, 2001*

Leprosy *JAAD 44:381–384, 2001*

Loricrin keratoderma – ichthyosis, palmoplantar keratoderma, pseudoainhum *Ped Derm 19:285–292, 2002*

Lupus erythematosus, discoid *J Dermatol 25:275–276, 1998*

Mal de Meleda (keratosis palmoplantaris transgrediens et progressiens *Curr Prob Derm 14:71–116, 2002; Ped Derm 14:186–191, 1997; BJD 128:207–212, 1993; Dermatology 184:78–82, 1992*

Morphea *Acta DV* (*Stockh*) *76:162, 1996*

Neuropathy – alcohol-toxic polyneuropathy *Z Hautkr 55:349–354, 1980*

Olmsted syndrome *Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; JAAD 10:600–610, 1984*

Pachyonychia congenita *JAAD 44:381–384, 2001*

Palmoplantar keratoderma of Gamborg Nielsen *JAAD 44:381–384, 2001*

Palmoplantar keratoderma of Sybert – autosomal dominant; palmoplantar erythema and keratoderma with transgrediens distribution, intertriginous hyperkeratosis, pseudo-ainhum with spontaneous amputations *Curr Prob Derm 14:71–116, 2002*; *JAAD 44:381–384, 2001; JAAD 18:75–86, 1988*

Papillon–Lefevre syndrome *JAAD 51:S134–136, 2004*

Pityriasis rubra pilaris *Actas Dermosifiliogr 64:245–248, 1974*

Plica neuropathica, hair matting, schizophrenia *Cutis 28:629–630, 1981*

Porokeratosis of Mibelli *Cutis 49:129–130, 1992*

Post-traumatic scars *Ped Derm 19:555–556, 2002*

Progressive symmetric erythrokeratoderma *Am J Hum Genet 61:581–589, 1997*

Psoriasis *BJD 149:1064–1066, 2003; JAAD 7:130–132, 1982*

Raynaud's phenomenon *JAAD 44:381–384, 2001*

Reynold's syndrome – CREST syndrome and primary biliary cirrhosis *JAAD 44:381–384, 2001*

Rheumatoid arthritis *Rheumatologie 22:1–6, 1970*

Sarcoidosis – mutilating form *AD 133:882–888, 1997*

Scleroderma (progressive systemic sclerosis) *JAAD 44:381–384, 2001;* linear scleroderma *AD 132:1520–1521, 1996*

Simonart syndrome *Hautarzt 54:163–166, 2003*

Syphilis, tertiary *JAAD 44:381–384, 2001*

Syringomyelia *JAAD 44:381–384, 2001*

Trauma *JAAD 44:381–384, 2001*

Vohwinkel's syndrome (keratosis hereditarium mutilans) – knuckle papules, palmoplantar keratoderma, ichthyosis, pseudoainhum *Clin Exp Dermatol 27:243–246, 2002; JAAD 44:376–378, 2001; Hautarzt 44:738–741, 1993*

Warts – bone destruction of distal phalanx *AD 107:275–276, 1973*

# ALOPECIA

N = non-scarring

S = scarring

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Alopecia areata – associations with adrenal disease, atopy, cytomegalovirus, Down's syndrome, Hashimoto's thyroiditis, pernicious anemia, vitiligo *Ghatan p.122, 2002, Second Edition Rook p.2923–2925, 1998, Sixth Edition*

APECED (polyendocrinopathy, candidiasis, ectodermal dystrophy) syndrome *Rook p.2743, 1998, Sixth Edition*

Atrichia with severe T-cell immunodeficiency and nail dystrophy *Nature 398:473–474, 1999*

Brunsting–Perry pemphigoid

Chronic mucocutaneous candidiasis *NEJM 300:164–168, 1979;* with dermatophytosis without endocrinopathy *Rook p.2744–2745, 1998, Sixth Edition*

Cicatricial pemphigoid (S) *Rook p.1874–1875, 1998, Sixth Edition; AD 131:580–581, 1995; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

Dermatomyositis (NS or S)

Epidermolysis bullosa acquisita *AD 131:618–95, 1995*

Fogo selvagem

Graft vs. host disease, chronic (S) *JAAD 38:369–392, 1998*

Immunodeficiency diseases (Wiskott–Aldrich syndrome, immunoglobulin deficiency diseases, severe combined immunodeficiency) – alopecia and dermatitis *Ped Derm 16:95–102, 1999;* combined immunodeficiency – desquamative erythematous, morbilliform or vesiculopapular eruption of newborn (3 weeks) with progressive alopecia *Rook p.498–499, 1998, Sixth Edition;* common variable immunodeficiency – scarring alopecia with sarcoidal granulomas *BJD 144:597–600, 2001;* alopecia and infantile erythroderma – highly suggestive of an immunodeficiency syndrome including Omenn syndrome *AD 136:875–880, 2000*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extremities, penile rash, alopecia universalis, bullae *AD 140:466–472, 2004*

Lupus erythematosus (LE) – systemic LE (NS or S) – diffuse, patchy, or anterior with broken hairs ('lupus hair') *Rook p.2475, 1998, Sixth Edition*; subacute cutaneous lupus erythematosus – non-scarring alopecia *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988;* bullous LE, discoid LE (S), neonatal LE *JAAD 50:25–32, 2004; Ped Derm 15:38–42, 1998*

Morphea – including linear morphea (en coup de sabre) *Rook p.2504–2508,2936, 1998, Sixth Edition;* pansclerotic morphea *JAAD 53:S115–119, 2005;* – hypotrichosis *Ped Derm 19:151–154, 2002*

Pemphigus vulgaris

Scleroderma (S)

Sjögren's syndrome – patchy alopecia *Ghatan p.174*, *2002, Second Edition,* diffuse alopecia *Rook p.2571, 1998, Sixth Edition*

## CONGENITAL

Aplasia cutis congenita *Rook p.2912, 1998, Sixth Edition*

Atrichia congenita (total alopecia) *Textbook of Neonatal Dermatology, p.491, 2001; Rook p.2910, 1998, Sixth Edition*

Congenital atrichia, nail dystrophy, abnormal facies, retarded psychomotor development *Ped Derm 5:236–242, 1988*

Congenital atrichia, palmoplantar keratoderma, mental retardation, early loss of teeth *JAAD 30:893–898, 1994*

Congenital erosive dermatosis with reticulated supple scarring – most infants premature; extensive symmetrical erosions with scattered vesicles; scarring with hypohidrosis, patchy alopecia, hypoplastic nails *JAAD 45:946–948, 2001; AD 126:544–546, 1990;* decrease in eyelashes *Ped Derm 15:214–218, 1998; JAAD 32:873–877, 1995,*

Congenital hypotrichosis *Textbook of Neonatal Dermatology, p.491, 2001; Rook p.2911–2912, 1998, Sixth Edition*

Congenital hypotrichosis with milia *Textbook of Neonatal Dermatology, p.492, 2001*

Congenital ichthyosiform erythroderma *Textbook of Neonatal Dermatology, p.493, 2001*

Congenital ichthyosis, alopecia, eclabion, ectropion, mental retardation – autosomal recessive *Clin Genet 31:102–108, 1987*

Congenital ichthyosis, follicular atrophoderma, hypotrichosis and hypohidrosis *Am J Med Genet 13:186–189, 1998*

Congenital triangular alopecia (temporal triangular alopecia) (may or may not be congenital) *Ped Derm 19:127–128, 2002; Cutis 69:255–256, 2002; JAAD 40:842–844, 1999; Ped Derm 12:301–303, 1995; JAAD 31:205–209, 1994;* overlying frontotemporal suture or nape of neck *JAAD 16:991–993, 1987; Cutis 28:196–197, 1981*

ECMO (extracorporeal membrane oxygenation) – erythema, edema, crusted ulcerations, scarring alopecia *Eichenfeld, 2001, p.106*

Encephalocele *Textbook of Neonatal Dermatology, p.495, 2001*

Halo scalp ring – prolonged pressure on vertex by cervix *Eichenfeld, 2001, p.106; Arch Pediatr Adolesc Med 156:188–190, 2002; AD 123:992–994, 1987*

Heterotopic brain tissue – blue–red cystic mass with overlying alopecia *JAAD 46:934–941, 2002*

Sequestrated meningocoele (rudimentary meningocoele) *AD 137:45–50, 2001*

Unilateral localized failure of hair growth

## DEGENERATIVE DISEASES

Follicular degeneration syndrome in black patients (S) *AD 130:763–769, 1994; AD 128:68–74, 1992*

Senescent balding *Clin Dermatol 6:108–118, 1988*

## DRUGS

Albendazole *Rook p.3395, 1998, Sixth Edition*

Allopurinol *Rook p.3395, 1998, Sixth Edition*

Amitryptiline *Rook p.3395, 1998, Sixth Edition*

Amphetamine *Rook p.3395, 1998, Sixth Edition*

Anabolic steroids *Ghatan p.68, 2002, Second Edition*

Beta blockers *Ghatan p.227, 2002, Second Edition*

Bleomycin *JAAD 40:367–398, 1999*

Bromocriptine *Rook p.3395, 1998, Sixth Edition*

Busulfan – permanent alopecia *BJD 152:1056–1058, 2005*

Captopril *Rook p.3395, 1998, Sixth Edition*

Carbamazepine *Rook p.3395, 1998, Sixth Edition*

Chemotherapeutic agents – anagen and/or telogen effluvium *JAAD 40:367–398, 1999*

Cholestyramine *Rook p.3395, 1998, Sixth Edition*

Cimetidine *Int J Derm 22:202–203, 1983*

Clofibrate *Rook p.3395, 1998, Sixth Edition*

Colchicine – anagen effluvium *BJD 150:581–588, 2004*; *Hautarzt 31:161–163, 1980*

Coumarin *Rook p.2915, 1998, Sixth Edition*

Danazol – generalized alopecia *Am J Obstet Gynecol 141:349–350, 1981*

Dextran *Rook p.3395, 1998, Sixth Edition*

Dilantin *Ghatan p.68, 2002, Second Edition*

Dixyrazine *Rook p.3395, 1998, Sixth Edition; Acta DV* (*Stockh*) *61:85–88, 1981*

Doxepin *Rook p.3395, 1998, Sixth Edition*

Gentamicin *Rook p.3395, 1998, Sixth Edition*

Gold *Rook p.3395, 1998, Sixth Edition*

Haloperidol *Rook p.3395, 1998, Sixth Edition*

Heparin *Rook p.2915,3395, 1998, Sixth Edition*

Heparinoids *Rook p.3395, 1998, Sixth Edition*

Hypocholesterolemic drugs *Ghatan p.227, 2002, Second Edition*

Hydroxyurea *JAAD 49:339–341, 2003*

Ibuprofen *Rook p.2916, 1998, Sixth Edition*

Indinavir *JAAD 46:284–293, 2002*

Indomethacin *Ghatan p.68, 2002, Second Edition*

Iodine-induced hypothyroidism *BJD 79:103–105, 1967*

Levodopa *Br Med J ii:47, 1971*

Lithium *Rook p.2916,3395, 1998, Sixth Edition*

Methotrexate/antimetabolites

Metoprolol *Rook p.2916, 1998, Sixth Edition*

Nicotinic acid *Rook p.3395, 1998, Sixth Edition*

Nitrofurantoin *Ghatan p.68, 2002, Second Edition*

Non-steroidal anti-inflammatory drugs *Ghatan p.227, 2002, Second Edition*

Octreotid *BJD 149:655–656, 2003*

Oral contraceptives *Rook p.3395, 1998, Sixth Edition*

Potassium thiocyanate *Rook p.2916, 1998, Sixth Edition*

Probenecid *Ghatan p.68, 2002, Second Edition*

Propranolol *Cutis 24:63–65, 1979*

Pyridostigmine *Rook p.2916, 1998, Sixth Edition*

Quinacrine *Ghatan p.227, 2002, Second Edition*

Retinoids – acetretin, isotretinoin *BJD 122:751–756, 1990*

Selenocystathionine (leucena glauca) *Nature 205:1185–1186, 1965*

Sulfasalazine *Ghatan p.67, 2002, Second Edition*

Testosterone *Ghatan p.227, 2002, Second Edition*

Thallium (in the manufacture of optical lenses) – anagen effluvium *South Med J 59:436, 1966; JAMA 183:516–522, 1963*

Thioureas *Ghatan p.67, 2002, Second Edition*

Thyroid antagonists – thiouracil, carbimazole *Acta Med Scand 124:266–281, 1946*

Timolol *Ghatan p.68, 2002, Second Edition*

Trimethadione *Rook p.2916, 1998, Sixth Edition*

Triparanol *AD 87:372–377, 1963*

Valproic acid *Rook p.3395, 1998, Sixth Edition*

## EXOGENOUS AGENTS

Bismuth – anagen effluvium *Ghatan p.67, 2002, Second Edition*

Drug overdose

Hair cosmetics

Irritant contact dermatitis

Lead – anagen effluvium *Ghatan p.67, 2002, Second Edition*

Mimosine – amino acid of legumes *Rook p.2916, 1998, Sixth Edition*

Thallium – anagen effluvium *JAAD 50:258–261, 2004; Ghatan p.67, 2002, Second Edition*

Vitamin A intoxication *Rook p.2656, 1998, Sixth Edition; Arch Intern Med 112:462–466, 1963*

## INFECTIONS AND INFESTATIONS

AIDS *Tyring p.366, 2002; JAAD 34:63–68, 1996*

Bacterial infections, sycosis

*Candida* infection

Carbuncle (S)

Favus (S)

Folliculitis (NS)

Furuncles (NS and S)

Herpes zoster (S)

Kerion (NS and S) *Clin Dermatol 18:735–743, 2000*

Leishmaniasis (S)

Leprosy – borderline tuberculoid, tuberculoid – well-defined edge, red, copper or purple plaque with hypopigmented center; hairless hypopigmented macule with dry, hairless anesthetic surface with fine wrinkling *Int J Lepr Other Mycobact Dis 67:388–391, 1999; Rook p.1222, 1998, Sixth Edition;* lepromatous with leonine facies *Rook p.1225, 1998, Sixth Edition;* Lucio's phenomenon – gradual loss of eyebrow, eyelash, and body hair with generalized sclerodermoid thickening of skin

Lyme disease *JAAD 49:363–392, 2003*

*Mycobacterium tuberculosis* (S) – lupus vulgaris *Rook p.2930, 1998, Sixth Edition*

Myiasis

Scabies – crusted *Cutis 61:87–88, 1998*

Syphilitic alopecia – patchy (symptomatic alopecia) or diffuse (essential syphilitic alopecia) *JAAD 32:840–844, 1995;* tertiary syphilis (S)

Tick bite – alopecia at site of tick attachment to scalp *JAAD 49:363–392, 2003; Clin Exp Dermatol 7:537–542, 1982;* pigeon tick (*Argus reflexus*) *Dermatologica 135:60–65, 1967;* moth-eaten alopecia *JAAD 49:363–392, 2003*

Tinea barbae *Rook p.1306–1307, 1998, Sixth Edition*

Tinea capitis (S or NS) – in infants *BJD 151:886–890, 2004; Rook p.1304–1305, 1998, Sixth Edition;* favus (S) – yellowish cup-shaped crusts (scutula) *Dermatologica 125:369–381, 1962;* in elderly *BJD 144:898–900, 2001;* tinea incognito

Trichodysplasia spinulosa – papovaviral infection of immunocomprised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

Tufted folliculitis (S) *JAAD 21:1096–1099, 1989*

## INFILTRATIVE DISEASES

Amyloidosis – patchy or diffuse alopecia *JAAD 46:434–436, 2002; AD 127:1067–1068, 1991; Medicine 54:271–299, 1975;* alopecia universalis *AD 117:818–826, 1981*; secondary systemic (AA amyloidosis) – occasional purpura, easy bruisability, alopecia *BJD 152:250–257, 2005*

Langerhans cell histiocytosis

Lichen myxedematosis (scleromyxedema, papular mucinosis)

Mastocytosis (S) (urticaria pigmentosa) *Cutis 58:329–336, 1996*

## INFLAMMATORY DISEASES

Acne keloidalis nuchae (S) *Clin Dermatol 19:211–225, 2001; Dermatol Clin 6:387–395, 1988*

Blepharitis – loss of eyelashes *Rook p.2994, 1998, Sixth Edition*

Chronic illness *Rook p.2918, 1998, Sixth Edition*

Dissecting cellulitis of the scalp (perifolliculitis capitis abscedens et suffodiens) (S) – painful, sterile abscesses with interconnecting sinus tracts; scarring; keloids *BJD 152:777–779, 2005; AD 136:235–242, 2000; Dermatol Clin 6:387–395, 1988; Cutis 32:378–380, 1983; Minn Med 34:319–325, 1951; AD 23:503–518, 1931*

Folliculitis decalvans (S) *Clin Dermatol 18:735–743, 2000; AD 136:235–242, 2000; Rook p.2933, 1998, Sixth Edition*

Pyoderma gangrenosum (S)

Sarcoidosis (S) *AD 138:259–264, 2002; JAAD 44:725–743, 2001; AD 133:882–888, 1997;* alopecia of shin *BJD 109 (Suppl 24):66–67, 1983*

## METABOLIC DISEASES

Acrodermatitis enteropathica (NS) *Acta DV* (*Stockh*) *59:177–178, 1979;* with anorexia nervosa *JAMA 288:2655–2656, 2002*

Acromegaly *Rook p.2704, 1998, Sixth Edition*

Addison's disease – axillary and pubic hair in females *Rook p.1779,2706, 1998, Sixth Edition*

Androgenetic alopecia

Argininosuccinic aminoaciduria – trichorrhexis nodosa and other hair shaft abnormalities *Rook p.2812,2912, 1998, Sixth Edition; JID 48:260, 1967*

Biotin deficiency *NEJM 304:820–823, 1981*

Biotin-responsive multiple carboxylase deficiency – alopecia, developmental delay, hypotonia, seizures, biotinidase deficiency *Am J Med Genet 66:378–398, 1996;* diffuse alopecia *Adv Pediatr 38:1–21, 1991; AD 123:1696–1698, 1987*

Citrullinemia – trichorrhexis nodosa and other hair shaft abnormalities *JAAD 12:203–206, 1986; Arch Dis Child 49:579–581, 1974*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Cushing's syndrome – acne and hirsutism; male pattern alopecia; *Semin Dermatol 3:287–294, 1984*

Defect in incorporation of histidine, tyrosine and arginine into hair keratin *Pediatrics 37:498–502, 1966*

Essential fatty acid deficiency – telogen effluvium; severe xerosis with underlying erythema, hair loss with hypopigmentation and weeping intertrigenous rash *Ped Derm 16:95–102, 1999*

Estrogen excess *Ghatan p.165, 2002, Second Edition*

Hartnup disease

Hemochromatosis – especially axillary and pubic hair *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Holocarboxylase deficiency *AD 123:1696–1698, 1987; Pediatrics 68:113–118, 1981*

Homocystinuria – cystathionine-beta synthase deficiency; fine sparse, brittle hair, marfanoid habitus, malar rash, larger facial pores, livedo reticularis, tissue paper scars, superficial thrombophlebitis *JAAD 46:161–183, 2002; JAAD 40:279–281, 1999; JAAD 40:279–281, 1999*

Hyperlysinemia – fine sparse hypopigmented hair *Rook p.2912, 1998, Sixth Edition*

Hyperthyroidism *JAAD 26:885–902, 1992*

Hypocalcemia *AD 121:646–647, 1985*

Hypoparathyroidism, idiopathic – non-scarring *JAAD 15:353–356, 1986*

Hypopituitarism – loss of axillary and pubic hair *Rook p.2704–2705, 1998, Sixth Edition;* Sheehan's syndrome – skin is yellow, dry *Rook p.2914, 1998, Sixth Edition*

Hypothyroidism (myxedema) – coarse, sparse scalp hair, loss of pubic, axillary, facial hair *JAAD 26:885–902, 1992; AD 106:349–352, 1972*

Iron deficiency *BJD 84:83–85, 1971; Acta DV* (*Stockh*) *43:652–659, 1963*

Isovaleric acidemia

Kwashiorkor – protein and caloric deprivation – dry, brittle, lusterless prematurely gray hair which becomes sparse *JAAD 21:1–30, 1989;* telogen effluvium *AD 137:630–636, 2001; Cutis 67:321–327, 2001*

Liver disease, chronic – body and pubic hair thinned *Rook p.2725, 1998, Sixth Edition;* cirrhosis – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Malabsorption *Rook p.2653–2654, 1998, Sixth Edition*

Malnutrition *Semin Dermatol 4:53–64, 1985*

Marasmus (NS) *JAAD 21:1–30, 1990*

Meralgia paresthetica

Mitochondrial disorders – alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Myotonic dystrophy – frontal balding *JAAD 50:S1–3, 2004*

Multiple carboxylase deficiency – total scalp and universal alopecia *Ped Derm 21:231–235, 2004; Ped Derm 16:95–102, 1999*

Necrobiosis lipoidica diabeticorum (S) *Dermatologica 135:11–26, 1967*

Orotic aciduria *Br Med J i:546–552, 1965*

Osteoma cutis – scarring alopecia *BJD 146:1075–1080, 2002*

Panhypopituitarism – loss of body hair *Ghatan p.165, 2002, Second Edition*

Phenylketonuria – fine sparse hypopigmented hair *Rook p.2912, 1998, Sixth Edition*

Phrynoderma (hypovitaminosis A)

Polycystic ovarian disease *Clin Endocrinol 30:459–464, 1989*

Porphyria – congenital erythropoietic porphyria (S) *Rook p.2595, 1998, Sixth Edition*; porphyria cutanea tarda, variegate porphyria, hepatoerythropoietic porphyria

Pseudoglucagonoma syndrome due to malnutrition *AD 141:914–916, 2005*

Renal disease, chronic – uremia; sparse body hair *Ghatan p.177, 2002, Second Edition*

Scurvy *JAAD 41:895–906, 1999*

Selenium – deficiency or excess *Ghatan p.294, 2002, Second Edition*

Telogen effuvium *AD 83:175–198, 1961*

Vitamin D-dependent resistant rickets type IIA – autosomal recessive; hair present at birth then lost in first 12 months *AD 141:343–351, 2005; Am J Med 77:805–811, 1984;* congenital rickets *Clin Dermatol 18:735–743, 2000;* clinically and histologically similar to atrichia with papular lesions

## NEOPLASTIC DISEASES

Angiosarcoma *JAAD 38:837–840, 1998; (S) AD 116:683–686, 1980*

Aplastic nevus – complete absence of skin appendages *Cutis 12:386–389, 1973*

Basal cell carcinoma (S)

Basal cell nevus (linear basal cell nevus) – resemble comedones; usually linear translucent telangiectatic papules, may ulcerate; macular hypopigmentation, alopecia, cysts, striae *Cutis 46:493–494, 1990; BJD 74:20–23, 1962*

Basaloid follicular hamartoma – solitary plaque of alopecia *BJD 146:1068–1070, 2002*

Benign cephalic histiocytosis

Blue nevus – giant alopecic nodule (cellular blue nevus) *BJD 126:375–377, 1992*

Cellular blue nevi *Ped Derm 14:199–203, 1997*

Cylindroma

Eccrine sweat gland hamartoma *AD 99:478–493, 1969*

Epidermal nevus (NS and S) *Rook p.2912, 1998, Sixth Edition*

Epidermoid cyst

Generalized follicular harmatoma (*S*) *AD 131:454–8, 1995; AD 107:435–440, 1973; AD 99:478–493, 1969*

Hair follicle hamartoma *BJD 143:1103–1105, 2000;* follicular hamartoma of the face with myasthenia gravis *Clin Exp Derm 6:283–289, 1981; JAAD 39:853–857, 1998*

Lymphomas, including CTCL (S) *JAAD 47:914–918, 2002;* Hodgkin's disease – due to rubbing, ichthyosiform changes, endocrine dysfunction, cellular infiltration *Rook p.2393, 1998, Sixth Edition;* pilotropic CTCL *JAAD 48:448–452, 2003;* subcutaneous panniculitis-like T-cell lymphoma mimicking alopecia areata *BJD 147:785–788, 2002*

Melanocytic nevus *Textbook of Neonatal Dermatology, p.495, 2001*

Meningioma, congenital – nodule with overlying alopecia or hypertrichosis *JAAD 46:934–941, 2002; Eur J Pediatr Surg 10:387–389, 2000;* primary cutaneous meningioma – overlying alopecia *Cancer 34:728–744, 1974*

Metastatic tumors (S) (alopecia neoplastica) – breast, lung, kidney the most common *Rook p.2371,2709, 1998, Sixth Edition; Cancer 19:162–168, 1966*

Multicentric reticulohistiocytosis *JAAD 10:296–297, 1984*

Myeloma *Ghatan p.170, 2002, Second Edition*

Nerve sheath myxoma *JAAD 16:209–211, 1987*

Nevus psiloliparus – mesodermal nevus with paucity of hair and excess fat tissue; appears in encephalocranial lipomatosis *Ped Derm 22:206–209, 2005*

Nevus sebaceus with or without malignancy (S) *BJD 82:99–117, 1970*

Papular xanthoma

Porokeratosis of Mibelli (S)

Proliferating trichilemmal cysts and cicatricial alopecia *AD 107:435–438, 1973*

Seborrheic keratosis

Squamous cell carcinoma (S)

Syringocystadenoma papilliferum *AD 71:361–372, 1955*

Syringomas(S) *AD 116:843–844, 1980; JAAD 13:528–529, 1985*

## PARANEOPLASTIC DISORDERS

Brain tumors of mid-brain and brainstem *Arch Dermatol Syphilol 176:196–199, 1937*

Necrobiotic xanthogranuloma with paraproteinemia

## PHOTODERMATOSES

Chronic actinic dermatitis – acute, subacute, or chronic dermatitis with lichenification, papules, plaques, erythroderma, stubby scalp and eyebrow hair *AD 136:1215–1220, 2000; AD 130:1284–1289, 1994; JAAD 28:240–249, 1993; AD 126:317–323, 1990;* sensitization by sesquiterpene lactone mix *BJD 132:543–547, 1995;* associated with musk ambrette *Cutis 54:167–170, 1994; JAAD 3:384–393, 1980*

Polymorphic light eruption – suboccipital actinic alopecia and actinic madurosis *Int J Dermatol 30:375–376, 1991*

## PRIMARY CUTANEOUS DISEASES

Acne necrotica(S)

Adolescent onset ichthyosiform erythroderma *BJD 144:1063–1066, 2001*

Alopecia and follicular papules *Int J Derm 38 (Suppl 1):31, 1999*
- Alopecia, keratosis pilaris, cataracts and psoriasis
- Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984; AD 76:419–426, 1957*
- Cardiofaciocutaneous syndrome – sporadic, congenital atrichia, follicular keratotic papules, dermatitis, chylosis, keratosis pilaris atrophicans, seborrheic dermatitis, café au lait macules, nevi, hemangiomas, hyperpigmentation *Ped Derm 20:48–51, 2003*
- Down's syndrome
- Hayden's disease
- Hereditary mucoepithelial dyskeratosis – autosomal dominant; keratitis, non-scarring alopecia, keratosis pilaris, erythema of oral and nasal mucous membranes, cervix, vagina and urethra; increased risk of infections, fibrocystic lung disease *JAAD 21:351–357, 1989*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis *JAAD 46:S156–158, 2002; Am J Med Genet 85:365–368, 1999 AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*
Monilethrix
Noonan's syndrome
Pachyonychia congenita
Schopf–Schulz–Passarge syndrome

Alopecia and neuropsychiatric manifestations *Ped Derm 20:48–51, 2003*
Dubowitz syndrome
Hereditary ectodermal dysplasia
Menkes' kinky hair syndrome
Moynihan syndrome
Nicolaides–Baraitser syndrome
Periniolas syndrome
Shapiro syndrome
Shokeir syndrome
Steijlen syndrome
Trichothiodystrophy

Alopecia mucinosa (follicular mucinosis) (S) – including scalp alopecia *AD 136:235–242, 2000; JAAD 38:622–624, 1998; Dermatology 197:178–180, 1998; JAAD 10:760–768, 1984; AD 76:419–426, 1957*

Alopecia parvimacularis (S) – irregular angular areas of scarring and non-scarring alopecia *Dermatol Wochenschr 149:381–388, 1964*

Anagen effluvium *Clin Dermatol 18:735–743, 2000*

Androgenetic alopecia *JAAD 18:1073–1078, 1988*

Anterolateral leg alopecia *Cutis 70:215–216, 2000*

Atrichia with papular lesions *AD 141:343–351, 2005*

Atrophoderma vermiculata – honeycomb atrophy of cheeks with scarring alopecia of scalp *AD 75:283–289, 1957*

Central centrifugal cicatricial alopecia (follicular degeneration syndrome) *JAAD 53:1–37, 2005; AD 136:235–242, 2000*

Cutis laxa – generalized cutis laxa – autosomal dominant – lesions often preceded in infancy by episodes of edema; infantile genitalia; scant body hair *Rook p.2019–2020, 1998, Sixth Edition*

Darier's disease (S)

Eosinophilic cellulitis (S)

Eosinophilic pustular folliculitis of Ofuji – scarring alopecia *Dermatologica 157:193–205, 1974*

Epidermolysis bullosa (EB) – non-Herlitz junctional EB *JAAD 46:510–516, 2002;* generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; atrophic scarring; alopecia of scalp, partial alopecia of eyebrows, eyelashes *JAAD 46:510–516, 2002; AD 145:150, 1996; Dermatologica 152:72–86, 1976;* cicatricial junctional EB – scarring, alopecia, syndactyly, contractures *JAAD 12:836–844, 1985;* dominant or recessive dystrophic (S) *BJD 146:267–274, 2002; Epidermolysis Bullosa. Basic and Clinical Aspects. New York: Springer p.135–151, 1992;* epidermolysis bullosa simplex with anodontia/hypodontia (Kallin syndrome) – thickened or curved nails, alopecia with brittle hair, bullae of hands and feet, nail dystrophy, anodontia, alopecia, deafness *Acta DV 65:526–531, 1985*

Epidermolytic hyperkeratosis – patchy scarring alopecia *Rook p.1506, 1998, Sixth Edition*

Erosive pustular dermatosis of the scalp (S) *JAAD 48:103–110, 2003; JAAD 28:96–98, 1993; BJD 118:441–444, 1988* (*S*)

Exfoliative dermatitis (NS) *Ghatan p.67, 2002, Second Edition*

Facial hemiatrophy (Romberg's syndrome) (S)

Familial focal alopecia (pseudopelade-like) *AD 123:234–237, 1987*

Folliculitis necrotica *Bolognia p.1041, 2003*

Folliculitis spinulosa decalvans – pustular variant

Frontal fibrosing alopecia (postmenopausal frontal fibrosing alopecia) (S) *JAAD 52:55–60, 2005; AD 139:1363–1368, 2003; AD 137:365–370, 2001; JAAD 36:59–66, 1997; AD 130:770–774, 1994*

Hereditary hypotrichosis simplex of the scalp *Ped Derm 19:250–255, 2002; Dermatology 191:139–141, 1995*

Hypohidrotic ectodermal dysplasia (loose anagen syndrome) *Ped Derm 13:29–32, 1996*

Ichthyosis follicularis *JAAD 21:351–357, 1989*

Intermittent hair follicle dystrophy *JAAD 15:54–60, 1986*

Keratosis pilaris atrophicans including ulerythema ophyrogenes *Rook p.2936, 1998, Sixth Edition*

Keratosis pilaris decalvans *Rook p.2936, 1998, Sixth Edition*

Lamellar ichthyosis (S) – autosomal recessive, autosomal dominant *Textbook of Neonatal Dermatology, p.493, 2001; Rook p.1500, 1998, Sixth Edition*

Leiner's disease *Ghatan p.109, 2002, Second Edition*

Lichen planus – lichen planopilaris (S) (Graham–Little syndrome) *JAAD 50:25–32, 2004; Rook p.1904–1912, 1998, Sixth Edition; Dermatol Clin 14:773–782, 1996; JAAD 22:594–598, 1990; AD Syphilol 5:102–113, 1922*

Lichen sclerosus et atrophicus (S) *BJD 103:197–200, 1980*

Lichen simplex chronicus *Clin Dermatol 18:735–743, 2000*

Lipedematous alopecia (S) – boggy scalp with diffuse alopecia *JAAD 52:152–156, 2005; AD 138:1517–1518, 2002; J Cutan Pathol 27:49–53, 2000; Dermatology 201:168–170, 2000; Cutis 65:199–202, 2000; AD 130:802–803, 1994; AD 84:619–622, 1961; Arch Dermatol Syphilol 32:688, 1935*

Male pattern alopecia

Monilethrix – increased hair fragility *AD 132:577–582, 1996; Scot Med J 3:356–360, 1958*; hair that won't grow long *JAAD 53:S130–134, 2005*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive – patchy scarring alopecia *AD 121:477–488, 1985*

Pili annulati

Pili torti – isolated defect hair that won't grow long *JAAD 53:S130–134, 2005; Rook p.2947–2948, 1998, Sixth Edition; Acta DV 53:385–392, 1973;* associated with Menkes' kinky hair syndrome *Ann DV 102:269–271, 1980;* Bjornstad's syndrome, Bazex syndrome, Crandall's syndrome, hidrotic ectodermal dysplasia, pseudomonilethrix, retinoids *Cutis 35:466–470, 1985;* anorexia nervosa *Cutis 57:151–152, 1996;* with cleft lip and palate, malformed ears, syndactyly, and mental retardation *J Med Genet 25:37–40, 1988;* in Rapp–Hodgkin syndrome *Oral Surg Oral Med Oral Pathol 67:50–62, 1989*

Pili torti and onychodysplasia

Pohl–Pinkus constriction – increased hair fragility *Ghatan p.70, 2002, Second Edition*

Porokeratosis of Mibelli of the scalp *Dermatologica 134:269–272, 1967*

Pseudomonilethrix

Pseudopelade of Brocq (S) *JAAD 50:25–32, 2004; Curr Prob Derm VIII:97–136, 1996*

Psoriasis – tinea amientacea *Clin Exp Dermatol 2:137–143, 1977;* pustular psoriasis, erythrodermic psoriasis *Rook p.1601, 1998, Sixth Edition*

Self-healing collodion baby (lamellar ichthyosis of the newborn) *Textbook of Neonatal Dermatology p.493, 2001*

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

Telogen effluvium *Rook p.2913–2914, 1998, Sixth Edition; Cutis 21:543–544, 1978;* of the newborn *AD 83:175–198, 1961*

Triangular alopecia *Textbook of Neonatal Dermatology, p.494, 2001*

Trichomalacia – increased hair fragility *Ghatan p.70, 2002, Second Edition*

Trichoptilosis – increased hair fragility *Ghatan p.70, 2002, Second Edition*

Trichorrhexis invaginata (bamboo hair)

Trichorrhexis nodosa – increased hair fragility *JAAD 16:1–24, 1987*

Trichothiodystrophy – BIDS, IBIDS, PIBIDS, Pollitt syndrome, Sabinas syndrome, trichothiodystrophy with immune defects; increased hair fragility *JAAD 53:S130–134, 2005; JAAD 20:195–202, 1989*

Vertical alopecia (circumscribed non-scarring alopecia of vertex) *Rook p.2912, 1998, Sixth Edition*

X-linked dominant ichthyosis (Happle's syndrome) (Conradi–Hünermann syndrome) – chondrodysplasia punctata, ichthyosis, cataract syndrome; collodion baby or ichthyosiform erythroderma; Blaschko pattern of erythroderma and scaling; plantar hyperkeratosis; resolves with time to reveal swirls of fine scale, linear hyperpigmentation, follicular atrophoderma of arms and legs, cicatricial alopecia; skeletal defects with short stature, severe autosomal rhizomelic type; X-linked recessive variant *Rook p.1520, 1998, Sixth Edition*

## PSYCHOCUTANEOUS DISEASE

Anorexia nervosa – diffuse non-scarring alopecia *Rook p.2795, 1998, Sixth Edition*

Delusions of parasitosis

Factitial alopecia *Ped Derm 21:205–211, 2004; Rook p.2800–2802, 1998, Sixth Edition*

Trichoteiromania – obsessive rubbing of hair *Dtsch Dermatol Ges 1:22–28, 2003; Eur J Dermatol 11:369–371, 2001*

Trichotemnomania – obsessive cutting of hair *JAAD 52:157–159, 2005; Hautarzt 22:335–337, 1971; Hautarzt 19:551–553, 1968*

Trichotillomania *JAAD 46:807–821, 2002; Curr Prob Derm VIII:97–136, 1996; J Clin Psychol Psychiatry 32:401–409, 1991*; follicular hyperkeratosis *BJD 145:1034–1035, 2001*

## SYNDROMES

ACD mental retardation syndrome *Am J Med Genet 13:383–387, 1982*

Acrocephalopolysyndactyly

Adams–Oliver syndrome

Alopecia–anosmia–deafness–hypogonadism syndrome *Am J Med Genet 26:925–927, 1987*

Alopecia, epilepsy, oligophrenia syndrome of Moynahan *Proc R Soc Med 55:411–412, 1962*

Alopecia, contractures, mental retardation, dwarfism syndrome

Alopecia, keratosis pilaris, cataracts, and psoriasis *JAAD 21:351–357, 1989*

Alopecia–mental retardation syndrome *J Med Genet 20:64–65, 1983*

Alopecia, psychomotor epilepsy, pyorrhea, mental retardation *Clin Genet 11:13–17, 1977*

Alopecia and structural abnormalities of the nose and hands
Alopecia–onychodysplasia–hypohidrosis–deafness syndrome – small teeth, thick dystrophic toenails, hypohidrosis, hyperkeratosis of palms and soles, elbows and knees, sensorineural deafness *Hum Hered 27:127–337, 1977*
Chondroectodermal dysplasia (Ellis van Creveld syndrome) *Ped 26:301–309, 1960*
Coffin–Siris syndrome *Am J Dis Child 119:433–439, 1970*
Hidrotic ectodermal dysplasia (Clouston's syndrome) *J Can Med Ass 21:18–31, 1929*
Langer–Gideon syndrome *Orthop Rev 21:31–35, 1992*
Larsen's syndrome *J Ped 37:574–581, 1950*
Neu–Laxova syndrome – resembles harlequin fetus; resembles restrictive dermopathy
Oral facial digital syndrome *Arch Dis Child 44:729–731, 1969*
Tricho–onychodental dysplasia *Oral Surg 46:376–385, 1978*
Trichorhinophalangeal syndrome *JAAD 31:331–336, 1994*

Anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome) *J Dermatol 26:44–47, 1999;* X-linked recessive – premature aged appearance with soft, dry, finely wrinkled skin, especially around eyes; absent or reduced sweating, sparse fine scalp hair, eyebrows, eyelashes, and total or partial anodontia with conical pointed teeth *Ped Derm 19:226, 2002; J Med Genet 28:181–185, 1991;* autosomal recessive *Ped Derm 7:242, 1990;* carrier state of X-linked anhidrotic ectodermal dysplasia

Ankyloblepharon, ectodermal dysplasia, and cleft lip and palate syndrome (AEC syndrome) (Hay–Wells syndrome) – hair sparse, coarse, wiry or absent, dystrophic nails, dystrophic widely spaced pointed teeth are shed early, chronic scalp erosions in early childhood *Ped Derm 19:226, 2002; Ped Derm 14:149–150, 1997; BJD 94:287–289, 1976*

Anonychia with bizarre flexural pigmentation – autosomal dominant, absent nails, dry peeling palmoplantar skin, coarse and sparse frontal hair; mottled hyper- and hypopigmentation of the axillae, groin, and natal cleft *BJD 92:469–474, 1975*

ANOTHER syndrome – alopecia, nail dystrophy, ophthalmic complications, thyroid dysfunction, hypohidrosis, ephelides and enteropathy, respiratory tract infections *Clin Genet 35:237–242, 1989; J Pediatr 108:109–111, 1986*

Atrichia congenita with papular lesions – autosomal recessive; infantile hair loss, follicular papules; follicular cysts and milia-like lesions *AD 139:1591–1596, 2003; JAAD 47:519–523, 2002; Ped Derm 19:155–158, 2002; Eur J Dermatol 11:375–377, 2001; Dermatology 185:284–288, 1992; Dermatologica 108:114–121, 1954;* atrichia with keratin cysts – face, neck, scalp then trunk and extremities *Ann DV 121:802–804, 1994*

Baraitser syndrome (premature aging with short stature and pigmented nevi) – lack of facial subcutaneous fat, fine hair, hypospadias, dental abnormalities, hepatomegaly *J Med Genet 25:53–56, 1988; J Med Genet 20:64–75, 1983*

Basaloid follicular hamartoma syndrome (generalized basaloid follicular hamartoma syndrome) – autosomal dominant; hypotrichosis, multiple skin-colored, red and hyperpigmented papules of the face, neck, chest, back, proximal extremities and eyelids; syndrome includes milia-like cysts, comedone-like lesions, dermatosis papulosa nigra, skin tag-like lesions, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 49:698–705, 2003; BJD 146:1068–1070, 2002; JAAD 45:644–645, 2001; JAAD 43:189–206, 2000*

Basan syndrome (ectodermal dysplasia) – sparse coarse scalp hair, hypohidrosis, nail dystrophy, abnormal dermatoglyphics, dental abnormalities *Arch Klin Exp Dermatol 222:546–557, 1965*

Bazex–Dupre–Christol syndrome (X-linked dominant) – milia and comedo-like papules, hypotrichosis, follicular atrophoderma, anhidrosis, X-linked dominant *AD 130:337–342, 1994; Ped Derm 16:108–110, 1999*; *Ann Dermatol Syphilgr (Paris) 93:241–254, 1966*

Bazex–Dupre–Christol-like syndrome – basal cell carcinomas, hypohidrosis, hypotrichosis, milia *Derm Surg 26:152–154, 2000*

Berlin syndrome – no vellus hairs; mottled pigmentation and leukoderma, flat saddle nose, thick lips, fine wrinkling around the eyes and mouth (similar to Christ–Siemens ectodermal dysplasia); stunted growth, bird-like legs, mental retardation *Dermatologica 123:227–243, 1961*

Bjornstad syndrome (Crandall syndrome) – pili torti, sensorineural deafness *JAAD 46:301–303, 2002; Ped Derm 16:220–221, 1999;* chromosome 2q34–36 *Am J Hum Genet 62:1107–1112, 1998;* Crandall's syndrome – pili torti, sensorineural deafness, hypogonadism *JAAD 46:301–303, 2002; J Pediatr 82:461–465, 1973*

Brachymetapody syndrome (Tuomaala–Haapanen syndrome) (brachymetapody, anodontia, hypotrichosis, albinoid trait) – albinoid skin – short stature, shortening of all digits but thumbs, hypoplastic maxilla, anodontia, hypotrichosis, hypoplastic breasts and genitalia, strabismus, distichiasis *Acta Ophthalmol 46:365–371, 1968*

Brown–Crounse syndrome – 1–2-mm papules, plaques and nodules, diffuse hypotrichosis resembling alopecia areata, basaloid follicular hamartomas, trichoepitheliomas, myasthenia gravis *AD 99:478–493, 1969*

Buschke–Ollendorf syndrome – annular plaque with broken hairs *JAAD 24:822–824, 1991*

Calcitriol-resistant rickets with alopecia

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) (NS) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophyrogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 22:920–922, 1990; JAAD 28:815–819, 1993; AD 129:46–47, 1993;* port wine stain *Clin Genet 42:206–209, 1992*

Cartilage–hair hypoplasia (metaphyseal chondrodysplasia of McKusick) – dwarfism; short, sparse, lightly colored hair; some with total baldness; immune defects *Eur J Pediatr 155:286–290, 1996; Eur J Pediatr 142:211–217, 1993; Am J Med Genet 41:371–380, 1991; Bull Johns Hopkins Hosp 116:285–326, 1965*

Cataracts, alopecia, and sclerodactyly – ectodermal dysplasia syndrome on the island of Rodrigues *Am J Med Genet 32:500–532, 1989*

CHILD syndrome (hemidysplasia, ichthyosiform erythroderma, unilateral limb defects (hypoplasia)) – X-linked dominant; unilateral alopecia; unilateral inflammatory epidermal nevus or unilateral ichthyosiform erythroderma with skeletal abnormalities *AD 123:503–509, 1987*

Chondroectodermal dysplasia (Ellis van Creveld syndrome) – autosomal recessive; chondrodysplasia, polydactyly, short arms and legs, teeth small and defective, nails dystrophic, hair normal or sparse and brittle; scant or fine hair *JAAD 46:161–183, 2002; Ped Derm 18:68–70, 2001; J Med Genet 17:349–356, 1980*

Ciliary and superciliary hypotrichosis

Cleft lip–palate with ectoderma dysplasia with syndactyly

Cockayne syndrome – sparse dry hair in infancy and early childhood *Ped Derm 20:538–540, 2003; Textbook of Neonatal Dermatology, p.493, 2001*

Coffin–Siris syndrome – autosomal dominant; coarse facial features, sparse scalp hair, bushy eyebrows, absent fifth fingernails and toenails, short distal phalanges, lax joints, delayed eruption of small teeth; microcephaly, retarded growth, skeletal abnormalities *Clin Genet 26:374–378, 1984; Am J Dis Child 119:433–439, 1970*

Complete testicular feminization syndrome – hairless women *NEJM 302:198–209, 1980*

Conradi–Hünermann syndrome (S) (chondrodysplasia punctata) – sparse coarse lusterless hair or circumscribed cicatricial scalp alopecia, linear hyperkeratotic bands with diffuse erythema and scale, systematized follicular atrophoderma, hypochromic areas *Ped Derm 19:226, 2002; Ped Derm 15:299–303, 1998; AD 127:539–542, 1991;* congenital ichthyosiform erythroderma *Hum Genet 53:65–73, 1979;* X-linked dominant Conradi–Hünermann syndrome *JAAD 21:248–256, 1989*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands and feet; acanthosis nigricans; low-set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi, short limbs, failure to thrive *Ped Derm 20:447–450, 2003; Textbook of Neonatal Dermatology, p.460, 2001; JAAD 32:904–907, 1995; Aust Paediatr J 13:114–118, 1977*

Cranio-ectodermal dysplasia – short, fine hair, craniofacial abnormalities *Birth Defects XI:372–379, 1975*

Craniofaciocutaneous syndrome – ulerythema ophryogenes

Cronkhite–Canada syndrome – lentigo-like macules of face and extremities, and diffuse pigmentation of palms; gastrointestinal polyposis, malabsorption, alopecia, dystrophic nails *AD 135:212, 1999; Cutis 61:229–232, 1998*

De Barsy syndrome – sparse hair, thin skin, cutis laxa-like changes, pinched nose

Dermatopathia pigmentosa reticularis – autosomal dominant; reticulate pigmentation, alopecia, nail changes, palmoplantar hyperkeratosis, loss of dermatoglyphics *JAAD 26:298–301, 1992; AD 126:935–939, 1990*

Dermo-odonto-dysplasia – autosomal dominant; dry skin, small teeth, dysplastic brittle nails, slow growing hair; hair thin with alopecia of vertex *Ped Derm 19:226, 2002; Clin Genet 24:58–68, 1983*

Dermotrichic syndrome – X-linked recessive, congenital atrichia, ichthyosis, hypohidrosis *Am J Med Genet 44:233–236, 1992*

Dorfman–Chanarin syndrome (neutral lipid storage disease) – cicatricial alopecia *AD 110:261–266, 1974;* total alopecia *BJD 144:430–432, 2001*

Down's syndrome – high incidence of alopecia areata *Br Med J 1:191–194, 1975;* fine sparse hair *Ghatan p.242, 2002, Second Edition*

Dubowitz syndrome – autosomal recessive, erythema and scaling of face and extremities in infancy, sparse blond scalp and eyebrow hair, high-pitched hoarse voice, delayed eruption of teeth, growth retardation, craniofacial abnormalities *Am J Med Genet 63:277–289, 1996; Am J Med Genet 47:959–964, 1993*

Dwarfism–alopecia–pseudoanodontia–cutis laxa – autosomal recessive; generalized atrichia, unerupted teeth, hyperconvex nails, cutis laxa with fragile skin, dwarfism, deafness, eye anomalies *Cien Cult 34 (Suppl):705, 1982*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28; hair sparse and dry *Rook p.415, 1998, Sixth Edition; J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Ectodermal dysplasia with corkscrew hair – light lusterless, corkscrew hair with alopecia *Ped Derm 19:226, 2002*

Ectodermal dysplasia with pili torti and syndactyly – sparse hair, eyebrows and lashes, severe dental dysplasia, yellow thickened nails, lordosis, high arched palate and syndactyly *Ped Derm 16:220–221, 1999*

Ectodermal dysplasia with sparse hair, short stature, hypoplastic thumbs, single upper incisor and abnormal skin pigmentation *Am J Clin Genet 29:209–216, 1988*

Ectrodactyly, ectoderma dysplasia, cleft lip and palate syndrome (EEC syndrome) – fine, dry, wiry hypopigmented sparse hair, scarring alopecia, peg-shaped teeth, mental retardation *Ped Derm 20:113–118, 2003; Clin Dysmorphol 5:115–127, 1996; Clin Genet 9:35–40, 1976*

Ehlers–Danlos syndrome

Encephalocraniocutaneous lipomatosis – alopecia, scalp nodules, skin-colored nodules, facial and eyelid papules – lipomas and lipofibromas; unilateral or bilateral skin-colored or yellow domed papules or nodules of scalp (hairless plaque), head and neck; ipsilateral cranial and facial asymmetry, cranial and ocular abnormalities, spasticity, mental retardation *JAAD 37:102–104, 1998; JAAD 32:387–389, 1995; Ped Derm 10:164–168, 1993; Arch Neurol 22:144–155, 1970*

Eosinophilic cellulitis (Wells' syndrome)

Exudative retinopathy with bone marrow failure (Revesz syndrome) – intrauterine growth retardation, reticulate hyperpigmentation of trunk, palms, and soles; fine sparse hair, ataxia with cerebellar hypoplasia, hypertonia, progressive psychomotor retardation *J Med Genet 29:673–675, 1992*

Eyelid cysts, hypodontia and hypotrichosis *JAAD 10:922–925, 1984*

Facial hemiatrophy

Familial acne conglobata, hidradenitis suppurativa, pili torti and cataracts

Familial focal alopecia

Familial mandibuloacral dysplasia (craniomandibular dermatodysostosis) – onset at age 3–5 years; atrophy of skin over hands and feet with club shaped terminal phalanges and acro-osteolysis, mandibular dysplasia, delayed cranial suture closure, short stature, dysplastic clavicles, prominent eyes and sharp nose, alopecia, sharp nose, loss of lower teeth, multiple Wormian bones, acro-osteolysis *Ped Derm 22:75–78, 2005; BJD 105:719–723, 1981; Birth Defects 10:99–105, 1974*

Familial partial lipodystrophy, mandibuloacral dysplasia variety – autosomal recessive; short stature, high-pitched voice, mandibular and clavicular hypoplasia, dental anomalies, acro-osteolysis, stiff doints, cutaneous atrophy, alopecia, nail dysplasia *Am J Med 108:143–152, 2000*

Fatal infantile diarrhea with abnormal hair

Fibrodysplasia ossificans progressiva – diffuse thinning of hair

Flynn–Aird syndrome – skin atrophy, ulceration, alopecia and dental caries *J Neurol Sci 2:161–182, 1965*

Follicular atrophoderma

Fried's tooth and nail syndrome – fine, short hair, few peg-shaped teeth, nails dystrophic *J Med Genet 14:137–139, 1977*

GAPO syndrome – growth retardation, alopecia, pseudoanodontia and optic atrophy *Ped Derm 19:226, 2002*; *Am J Med Genet 19:209–216, 1984; Syndr Ident 8:14–16, 1982*

Genee–Wiedemann syndrome – acrofacial dysostosis of the predominantly post-axial type – sparse eyelashes

Hereditary gelsolin amyloidosis(AGel amyloidosis) – cutis laxa, thin scalp hair with frontotemporal baldness, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Giant axonal neuropathy with kinky light hair

Glucagonoma syndrome (NS)

Goltz's syndrome (focal dermal hypoplasia) (S) – linear alopecia *Cutis 53:309–312, 1994; J Dermatol 21:122–124, 1994;* asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Gomez–Lopez–Hernandez (cerebello-trigeminal-dermal dysplasia) syndrome – parietal alopecia *Am J Med Genet 72:34–39, 1997; Brain Dev 1:253–256, 1979*

Greither-type ectodermal dysplasia – almost total alopecia, loss of teeth, corneal and lens opacities, dystrophic nails, transgradiens palmoplantar keratoderma *Arch Klin Exp Dermatol 216:50–62, 1963*

HAIR-AN syndrome – acne, muscular physique, alopecia (hyperandrogenism), hidradenitis suppurativa, insulin resistance, acanthosis nigricans *AD 133:431–433, 1997*

Hallermann–Streiff–François syndrome (mandibulo-oculofacial syndrome) – scalp margin or sutural alopecia; beak-like nose; atrophy over nose and cranial sutures; central facial atrophy and telangiectasia *JAAD 50:644, 2004; Ped Derm 13:255–257, 1996;* atrophic alopecia *Clin Exp Dermatol 14:250–252, 1989*

Happle's syndrome – cicatricial alopecia – X-linked dominant erythrodermic ichthyosis at birth, cataracts, generalized follicular atrophoderma, asymmetric shortening of limbs with chondrodysplasia punctata *Ped Derm 18:442–444, 2001; Ped Derm 13:1–4, 1996*

Hartnup's disease

Hereditary hypotrichosis simplex – hair that won't grow long *JAAD 53:S130–134, 2005*

Hereditary mucoepithelial dysplasia(dyskeratosis)(Gap junction disease, Witkop disease) – dry rough skin; red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral(hard palate, gingival, tongue) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; Am J Med Genet 39:338–341, 1991; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Hidrotic ectodermal dysplasia (Clouston syndrome) – scalp hair sparse, fine, pale and brittle or absent; outer two-thirds of eyebrows; thin eyelashes *Ped Derm 19:226, 2002; Rook p.394, 1998, Sixth Edition; Can Med Assoc J 21:18–31, 1929*

Hutchinson–Gilford syndrome (progeria) – sparse downy scalp hair with eventual generalized alopecia; scleroderma-like skin changes, wrinkled atrophic skin, hyperpigmentation, abnormal facies *Ped Derm 19:226, 2002; Am J Med Genet 82:242–248, 1999; AD 125:540–544, 1989; J Pediatr 80:697–724, 1972*

Hypodontia and nail dysgenesis – autosomal dominant; fine brittle hair, few conical and widely spaced teeth, small dystrophic nails, lips everted *Oral Surg Oral Med Oral Pathol 39:409–423, 1975*

Hypodontia, taurodontism, sparse hair *Oral Surg 33:841–845, 1972*

Hypogonadism, diabetes mellitus, alopecia, mental retardation and ECG abnormalities

Hypohidrosis and diabetes insipidus (Fleck syndrome) – hypohidrosis, hypotrichosis, diabetes insipidus, syndactyly,

coloboma, disturbed hematopoiesis *Dermatol Wochenschr 132:994–1007, 1955*

Hypohidrotic ectodermal dysplasia *Textbook of Neonatal Dermatology, p.492, 2001*

Hypomelia, hypotrichosis, facial hemangioma syndrome (pseudothalidomide syndrome) – sparse silvery blond hair *Am J Dis Child 123:602–606, 1972*

Hypothyroidism (athyroidal) with spiky hair and cleft palate

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Hypotrichosis with keratosis pilaris *Arch Klin Exp Dermatol 210:123–127, 1960*

Hypotrichosis with keratosis pilaris and lentiginosis *Arch Klin Exp Dermatol 210:123–127, 1960*

Hypotrichosis with light-colored hair and facial milia

Hypotrichosis with juvenile retinal macular dystrophy – autosomal recessive; mutation in CDH3 encoding P-cadherin; short sparse scalp hair *BJD 153:635–638, 2005; BJD 143:902–904, 2000*

HID syndrome (hystrix-like ichthyosis with deafness) – autosomal dominant; shark-skin appearance, sensorineural deafness, spiky and cobblestoned hyperkeratosis, neonatal erythroderma, scarring alopecia, occasional punctate keratitis; probably variant of KID syndrome with mutation of connexin 26 (gap junction protein) *BJD 146:938–942, 2002*

Ichthyosis–cheek–eyebrow syndrome – ICE syndrome – ichthyosis vulgaris, fullness of cheeks, thinning of eyebrows; dysmorphic features, skeletal anomalies *Clin Genet 31:137–142, 1987*

Ichthyosis follicularis with atrichia and photophobia (IFAP syndrome) – psoriasiform plaques; collodion membrane and erythema at birth; ichthyosis; palmoplantar erythema; generalized follicular keratoses, non-scarring alopecia of scalp, eyebrows, and eyelashes, keratotic spiny follicular papules of elbows, knees, fingers, extensor surfaces, xerosis; gingival hyperplasia, angular cheilitis, recurrent cutaneous infections; punctate keratitis; ocular revascularizations; growth retardation; atopic dermatitis, urticaria; X-linked recessive *Ped Derm 20:48–51, 2003; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Incontinentia pigmenti (S) – vertex alopecia *AD 112:535–542, 1976;* pale atrophic hairless patches in stage 4 *AD 139:1163–1170, 2003; JAAD 47:169–187, 2002; JAAD 31:853–857, 1994;* whorled alopecia *JAAD 49:929–931, 2003*

Jackli syndrome – generalized reticulated hyperpigmentation with alopecia, microdontia and childhood cataracts

Johanson–Blizzard syndrome – aplasia cutis congenita of the scalp, sparse hair, deafness, absence of permanent tooth buds, hypoplastic ala nasi, dwarfism, microcephaly, mental retardation, hypotonia, pancreatic insufficiency with malabsorption, hypothyroidism, genital and rectal anomalies *Clin Genet 14:247–250, 1978; J Pediatr 79:982–987, 1971*

Juvenile macular dystrophy and congenital hypokeratosis – hair that won't grow long *JAAD 53:S130–134, 2005*

Keratoderma, hypotrichosis, and leukonychia totalis – dry, brittle, sparse hair *Ped Derm 19:226, 2002*

Keratosis follicularis spinulosa decalvans (Siemens syndrome)(S) – X-linked dominant and autosomal dominant; scarring alopecia of scalp and eyebrows, and eyelashes; xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, palmoplantar keratoderma *Ped Derm 22:170–174, 2005*; *JAAD 47:S275–278, 2002; AD 136:235–242, 2000; AD 128:397–402, 1992; JAAD 16:89–95, 1987*

Keratosis–ichthyosis–deafness syndrome (KID syndrome) – autosomal recessive; hypotrichosis of scalp, eyebrows, and eyelashes *Ped Derm 15:219–221, 1998*

Kirman syndrome – anhidrosis, total alopecia, and severe mental retardation *BJD 67:303–307, 1953*

Klinefelter's syndrome – scant hair on beard, trunk and extremities *Klinefelter's syndrome. Berlin: Springer-Verlag, 1984*

Koraxitrachitic syndrome – self-healing collodion baby; heals with mottled reticulated atrophy; alopecia, absent eyelashes and eyebrows, conjunctival pannus, hypertelorism, prominent nasal root, large mouth, micrognathia, brachydactyly, syndactyly of interdigital spaces *Am J Med Genet 86:454–458, 1999*

Lipoid proteinosis – patchy alopecia *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998;* eyelash alopecia due to beaded papules along lash margin *Rook p.2641, 1998, Sixth Edition*

Loose anagen syndrome – hair that won't grow long *JAAD 53:S130–134, 2005; JAAD 20:249–256, 1989;* may be seen with Noonan's syndrome, nail–patella syndrome, tricho–rhino–phalangeal syndrome, woolly hair nevus, other ectodermal dysplasias *AAD National Meeting, 1998, Vera Price Hair Seminar*

Lumpy scalp syndrome – autosomal dominant; irregular scalp nodules, deformed pinnae, rudimentary nipples *Clin Exp Dermatol 15:240, 1989*

Marie Unna's hypotrichosis (hereditary hypotrichosis simplex) – thin, sparse hair *BJD 150:837–842, 2004; Ped Derm 19:250–255, 2002; Ped Derm 19:148–150, 2002; BJD 143:811–814, 2000; Dermatology 196:339–342, 1998; Dermatology 191:139–141, 1995; Clin Genet 32:120–124, 1987; JID 57:389–400, 1971*

Marinesco–Sjögren syndrome – sparse, fine, short, fair, brittle hair, short stature, congenital cataracts, cerebellar ataxia *J Ped 65:431–437, 1964*

MAUIE syndrome – micropinnae, alopecia, ichthyosis and ectropion *JAAD 37:1000–1002, 1997*

MC/MR syndrome with multiple circumferential skin creases – multiple congenital anomalies including high forehead, elongated face, bitemporal sparseness of hair, broad eyebrows, blepharophimosis, bilateral microphthalmia and microcornea, epicanthic folds, telecanthus, broad nasal bridge, puffy cheeks, microstomia, cleft palate, enamel hypoplasia, micrognathia, microtia with stenotic ear canals, posteriorly angulated ears, short stature, hypotonia, pectus excavatum, inguinal and umbilical hernias, scoliosis, hypoplastic scrotum, long fingers, overlapping toes, severe psychomotor retardation; resembles Michelin tire baby syndrome *Am J Med Genet 62:23–25, 1996*

Mendes de Costa syndrome – generalized reticulate hyperpigmentation on face and limbs, intraepidermal blisters, microcephaly, mental retardation, atrichia, short conical fingers *JAAD 50:S65–69, 2004*

Menkes' kinky hair syndrome – alopecia with increased hair fragility, silvery hair, generalized hypopigmentation, lax skin of brows, neck and thighs *Ped Derm 15:137–139, 1998;* pili torti *Ped Derm 16:220–221, 1999; Pediatrics 50:181–183, 1972*

Mitochondrial disease – alopecia and hair shaft abnormalities *Pediatrics 103:428–433, 1999*

Monilethrix with scalp pruritus, posterior subcapsular cataracts, abnormal facies, severe growth retardation *Ped Derm 21:486–490, 2004*

Moynahan's syndrome – autosomal recessive; congenital alopecia, mental retardation, seizures *Proc R Soc Med 55:411–412, 1962*

Mucoepithelial dysplasia (gap junction disease) – thin scalp hair

Multiple follicular hamartomas with sweat gland and sebaceous differentiation, vermiculate atrophoderma, milia, hypotrichosis and late development of basal cell carcinomas *JAAD 39:853–857, 1998*

Myotonic dystrophy – frontal balding – muscle wasting, weakness, cataracts, expressionless face, testicular atrophy *JAAD 37:268–269, 1997*

Netherton's syndrome – trichorrhexis invaginata (bamboo hair) – increased hair fragility with crewcut appearance *AD 135:823–832, 1999; BJD 141:1097–1100, 1999; Ped Derm 14:473–476, 1997; Ped Derm 13:183–199, 1996; BJD 131:615–619, 1994; Ped Derm 9:158–160, 1992; AD 78:483–487, 1958*

Neutral lipid storage disease (Chanarin–Dorfman disease) – autosomal recessive; focal or diffuse alopecia; congenital non-bullous ichthyosiform erythroderma, collodion baby; seborrheic dermatitis-like rash of face and scalp; leukonychia; erythrokeratoderma variabilis-like presentation; mutation in ABHD5 which encodes protein of esterase/lipase/thioesterase subfamily *BJD 153:838–841, 2005*

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; Ped Derm 15:18–22, 1998; J Med Genet 24:9–13, 1987*

Oculo-auricular vertebral syndrome – epibulbar dermoid tumors, abnormal hair, short neck *Ped Derm 20:182–184, 2003*

Oculo-dento-osseous (oculo-dento-digital) dysplasia – sparse scalp hair, eyebrows and eyelashes sparse or absent, small closely set sunken eyes, small mouth, enamel hypoplasia producing yellow teeth, syndactyly, camptodactyly, iris anomalies, hypertelorism *J Pediatr 63:69–75, 1963*

Oculo-osteocutaneous syndrome – sparse, fair hair, limb and digit abnormalities, hypoplastic nipples, abnormal genitalia *Ped Derm 19:226, 2002*

Odonto-onycho-dermal dysplasia – telangiectatic atrophic patches of face, sparse hair, conical teeth, hyperkeratosis of palms and soles, dystrophic nails *Am J Med Genet 14:335–346, 1983*

Odonto-onychodysplasia with alopecia – small widely spaced teeth, brittle fingernails, supernumerary nipples, palmoplantar hyperkeratosis *Cien Cult 33 (Suppl):696, 1981*

Odonto-trichomelic syndrome – autosomal recessive; severe hypotrichosis, few small conical teeth, hypoplastic or absent areolae, cleft lip, tetramelic dysplasia, short stature *Hum Hered 22:91–95, 1972*

Olmsted syndrome – diffuse alopecia or sparse hair anteriorly *JAAD 5F3:s266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; Semin Dermatol 14:145–151, 1995; JAAD 10:600–610, 1984*; *Am J Dis Child 33:757–764, 1927*

Omenn syndrome – alopecia of scalp and eyebrows; erythroderma *Ped Derm 17:91–96, 2000; Ped Derm 14:49–52, 1997*

Onycho-trichodysplasia with chronic neutropenia *Birth Defects 11:63–66, 1975*

Oral–facial–digital syndrome type I (Papillon–Leage syndrome) – short upper lip, hypoplastic alanasi, hooked pug nose, hypertrophied labial frenulae, bifid or multilobed tongue with small tumors within clefts, clefting of hard and soft palate, teeth widely spaced, trident hand or brachydactyly, syndactyly, or polydactyly; hair dry and brittle, diffuse alopecia, numerous milia of face, ears, backs of hands, mental retardation *Ped Derm 9:52–56, 1992*

Oral–facial–digital syndrome – X-linked dominant
oral–facial–digital syndrome – hairless streaks along Blaschko's lines *Am J Med Genet 85:324–329, 1999*

Pachyonychia congenita – occasional sparse scalp hair *Ped Derm 19:226, 2002; Am J Dermatopathol 19:180–184, 1997*

Pallister–Killian syndrome – i (12p) (tetrasomy 12p); tissue mosaicism; pigmentary mosaicism and localized alopecia *Ped Derm 22:270–275, 2005*

Palmoplantar keratoderma (PPK) with atrichia/hypotrichosis
Atrichia, PPK (Bazex-like), mental retardation, and early loss of teeth *Ped Derm 19:226, 2002; JAAD 30:89–898, 1994*
Alopecia congenita with keratosis palmoplantaris *Act Genet Statis Med 9:127–132, 1959*
Clouston syndrome *Can Med Assoc J 40:1–7, 1939*
Fitzsimmons syndrome *Clin Genet 23:329–335, 1983*
Schopf syndrome *Birth Defects 7:219–221 1971*
Richner Hanhart syndrome
Olmsted syndrome
Alopecia, onychodysplasia, hypohidrosis, deafness *Hum Hered 27:127–133, 1977*
Hereditary PPK, congenital alopecia, onychodystrophy, enamel dysplasia *Hautarzt 25:8–16, 1970*
Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*
PPK, hypotrichosis, leukonychia totalis *BJD 133:636–638, 1995*
Punctate palmoplantar keratoderma – fine scalp hair *Ped Derm 19:226, 2002*
Keratoderma, hypotrichosis, and leukonychia totalis – dry, brittle, sparse hair *Ped Derm 19:226, 2002*

Palmoplantar keratoderma, large ears, sparse hypopigmented scalp hair, frontal bossing *Ped Derm 19:224–228, 2002*

Papillon–Lefevre syndrome

Pili torti, acne conglobata, early-onset cataracts *BJD 91 (Suppl 10):54–57, 1974*

Pili torti, defective teeth, webbed fingers *JAAD 46:301–303, 2002*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism and hypogonadism *JAAD 21:1061–1068, 1989*; *Cutis 61:329–334, 1998;* cicatricial alopecia with underlying plasmacytoma *JAAD 40:808–812, 1999*

Poland's chest wall deformity – breast and pectoralis muscle hypoplasia; absence of axillary hair, ipsilateral syndactyly, dermatoglyphic abnormalities *Plast Reconstr Surg 99:429–436, 1997*

Polycystic brain associated with ectodermal dysplasia – thin hair, brain cysts, irregular retinal pigment epithelium, dystrophic nails, dental abnormalities *Pediatr Radiol 24:116–118, 1994*

Polyostotic fibrous dysplasia – scarring alopecia *AD 112:715–719, 1976*

Popliteal pterygium syndrome

Primary hypogonadism and partial alopecia

Proteus syndrome *AD 140:947–953, 2004*

Rapp-Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996; JAAD 22:513–520, 1990; Arch Neurol 44:555–561, 1987*

Reiter's syndrome

Robert's syndrome (pseudothalidomide syndrome) – hypotrichosis, growth retardation, cleft lip, mild facial port wine stain *JAAD 37:523–549, 1997*

Romberg syndrome (facial hemiatrophy) – frontoparietal alopecia *Rook p.2016–2017, 1998, Sixth Edition; Arch Neurol 39:44–46, 1982*

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, sparse beard hair and thin eyebrows, trichoepitheliomas, peripheral vasodilatation with cyanosis *BJD 144:1215–1218, 2001; JAAD 39:853–857, 1998*; *JAAD 28:1011–1014, 1993; Acta DV 61:497–503, 1981*

Rosselli–Gulinetti syndrome (ectodermal dysplasia) – autosomal recessive, hypohidrosis, fine, dry, sparse scalp hair, dystrophic nails and teeth, cleft lip and palate, syndactyly, defects of external genitalia *Ped Derm 19:226, 2002; J Plast Surg 14:190–204, 1961*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; scalp hair sparse and fine *Rook p.417, 1998, Sixth Edition; Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210–212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; JAAD 17:332–338, 1987; Arch Ophthalmol* (*German*) *4:159, 1887*

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Salamon's syndrome – woolly hair, hypotrichosis, dystrophic nails, ophthalmologic abnormalities, everted lower lip, outstanding ears *Arch Klin Exp Dermatol 220:564–575, 1964*

Satoyoshi syndrome – alopecia areata (universalis) with progressive painful intermittent muscle spasms, diarrhea or unusual malabsorption, endocrinopathy with amenorrhea (hypothalamic dysfunction), very short stature, flexion contractures, skeletal abnormalities *Ped Derm 18:406–410, 2001; AD 135:91–92, 1999*

Schopf–Schulz–Passarge syndrome – eyelid cysts (apocrine hidrocystomas), palmoplantar keratoderma, hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Seckel's syndrome – autosomal recessive; hair sparse and prematurely gray, growth retardation, beak-like nose, large eyes, skeletal defects *Am J Med Genet 12:7–21, 1982*

Short anagen syndrome – hypotrichosis; hair that won't grow long *JAAD 53:S130–134, 2005; BJD 143:612–617, 2000*

Sparse brittle hair and spondyloepimetaphyseal dysplasia

Sternal cleft with hemagiomas of the face and anterior trunk

Swirled alopecia (Blaschko-esque) in:

Aplasia cutis congenita

Conradi's syndrome *Hum Genet 70:200–206, 1985*

Oral–facial–digital syndrome *JAAD 31:157–190, 1994*

Syringomyelia, syringobulbia *Dermatol Wochenschr 143:543–545, 1961*

Taurodontism, oligodontia, sparse hair *Birth Defects 11:39–50, 1975*

Tay syndrome – brittle and sparse hair, progeric appearance, low birthweight *Ped Derm 19:226, 2002*

Thumb deformity and alopecia

Treacher Collins syndrome (mandibulofacial dysostosis) – partial or total alopecia of lower eyelashes, scarring alopecia, characteristic facies, malformed pinnae, extension of scalp hair onto cheeks; blind fistulae between ear and angle of mouth *Am J Dis Child 113:405–410, 1967*

Tricho-dental dysplasia *JAAD 53:S130–134, 2005*

Trichodysplasia with xeroderma

Tricho-oculo-dermo-vertebral syndrome (Alves syndrome) – dry, sparse, brittle hair, dystrophic nails, plantar keratoderma, short stature, cataracts *Am J Med Genet 46:313–315, 1993*

Tricho-odonto-onychodysplasia syndrome – autosomal recessive; alopecia of vertex; hair dry, brittle and sparse, curly, easily plucked, enamel hypoplasia of teeth, nail dystrophy, supernumery nipples, palmoplantar hyperkeratosis, melanocytic nevi *Ped Derm 19:226, 2002; Am J Med Genet 15:67–70, 1983*

Tricho-odonto onycho-ectodermal dysplasia (linear dermal hypoplasia) – hypotrichosis, hypodontia, focal linear dermal hypoplasia of the tip of the nose, irregular hyperpigmentation of the back, bilateral amastia and athelia, nerve hearing loss *AD 122:1047–1053, 1986*

Trichorhinophalangeal syndrome type I – autosomal dominant; pear-shaped nose, long philtrum, thin upper lip, receding chin, tubercle of normal skin below the lower lip, distension and deviation with fusiform swelling of the PIP joints; hip malformation, brachydactyly, fine brittle slow-growing sparse hair, eyebrows sparse laterally, dense medially, short stature *AD 137:1429–1434, 2001; JAAD 31:331–336, 1994; Hum Genet 74:188–189, 1986*

Trichorhinophalangeal syndrome type II (Langer–Giedion syndrome) – facies, bulbous nose, and sparse hair as in TRPS-I – microcephaly, loose, redundant skin, exostoses *Birth Defects 10:147–164, 1974*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – brittle hair, premature aging, sexual immaturity with sparse or absent axillary, pubic and body hair, few vibrissae and otic hair, sparse or absent eyelashes and eyebrows, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 52:224–232, 2005; JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997; JAAD 22:705–717, 1990;* Sabina's syndrome – brittle hair, impaired intelligence, decreased fertility/BIDS (short stature)/IBIDS (ichthyosis)/PIBIDS (photosensitivity)/Marinesco–Sjögren syndrome – cerebellar ataxia, physical and mental retardation, dysarthria, cataracts, fine brittle hair; PIBIDS and chronic neutropenia, recurrent infections, folliculitis, conjunctivitis

Vohwinkel's syndrome – occasional diffuse or scarring alopecia *Ped Derm 19:226, 2002*

Wallenburg syndrome

Werner's syndrome (pangeria) – graying of temples in teenage years with progressive alopecia; sparse or absent pubic and axillary hair *Medicine 45:177–221, 1966*

Wiedemann–Rautenstrauch (neonatal progeroid) syndrome – autosomal recessive, sparse hair, generalized lipoatrophy, macrocephaly, premature aging, wide open sutures, aged and triangular face with hypoplasia of facial bones, persistent fontanelles, prominent scalp veins, growth retardation, low-set ears, beak-shaped nose, neonatal teeth, slender limbs, large hands and feet with long fingers, large penis, pseudohydrocephalus, psychomotor retardation *Ped Derm 22:75–78, 2005; J Med Genet 34:433–437, 1997; Eur J Pediatr 130:65–70, 1979; Eur J Pediatr 124:101–111, 1977*

Woolly hair, alopecia, premature loss of teeth, nail dystrophy, reticulate acral hyperkeratosis, facial abnormalities *BJD 145:157–161, 2001*

XXYY syndrome – features of Klinefelter's; sparse body hair; also multiple angiomas, acrocyanosis, and premature peripheral vascular disease *AD 94:695–698, 1966*

Yunis–Varon syndrome (dysplastic clavicles, sparse hair, digital anomalies) – anonychia *Am J Dis Child 134:649–653, 1980*

Zunich neuroectodermal syndrome *Ped Derm 13:363–371, 1996*

### TOXINS

Arsenic poisoning – acute *BJD 149:757–762, 2003;* anagen effluvium *Ghatan p.67, 2002, Second Edition*

Bismuth *Rook p.2916, 1998, Sixth Edition*

Boric acid (pesticides) – anagen effluvium *JAAD 44:599–602, 2001*

Eosinophilia myalgia syndrome (L-tryptophan related) – morphea, urticaria, papular lesions; arthralgia *BJD 127:138–146, 1992; Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990; JAAD 23:1063–1069, 1990*

Mercury and other heavy metals – anagen effluvium

Phenyl glycidyl ether inhalation *J Toxicol Environ Health 3:859–869, 1977*

### TRAUMA

Accidental trauma *Rook p.2927, 1998, Sixth Edition*

Balance beam alopecia *AD 114:968, 1978*

Burns (S and NS) – thermal, electrical, radiation, chemical *Clin Dermatol 18:735–743, 2000*

Cephalohematoma *Textbook of Neonatal Dermatology, p.494, 2001*

Cosmetic alopecia mechanica (hairdressing procedures) – hair straightening, brush roller alopecia, hot comb alopecia *Rook p.2927, 1998, Sixth Edition; Dermatol Clin 6:387–395, 1988*

Fetal intravenous needle (S) *Clin Exp Dermatol 4:197–199, 1979*

Fetal scalp electrode (S) *Am J Obstet Gynecol 129:351–360, 1977;* perinatal fetal scalp monitor – scarring alopecia *AD 135:697–703, 1999*

Fluoroscopically guided vascular surgery – non-scarring alopecia *AD 135:1555–1556, 1999*

Forceps delivery *Textbook of Neonatal Dermatology, p.494, 2001*

Frictional alopecia

Head injuries *Rook p.2919, 1998, Sixth Edition*

Mechanical trauma (S and NS) – brush alopecia, hair weaving, massage, water slides, gymnasts, breakdancing, headphones *Cutis 67:399–400, 2001*

Neonatal occipital alopecia – rubbing *Textbook of Neonatal Dermatology, p.494, 2001*

Postoperative alopecia (pressure-induced alopecia) *Cutis 54:21–22, 1994* (S and NS); *Ped Derm 10:32–33, 1993;* surgery in Trendelenburg position; cardiac surgery *J Thorac Cardiovasc Surg 71:342–345, 1976; Anesthesiology 25:869–871, 1964*

Radiodermatitis (S and NS) – acute radiation gives anagen effluvium; chronic radiation dermatitis *Rook p.2940, 1998, Sixth Edition*

Scalp vein infusion – extensive cicatricial alopecia *Clin Exp Dermatol 4:197–199, 1979*

Surgical embolization – occipital scalp necrosis and scarring *Surg Neurol 25:357–366, 1988*

Traction alopecia (NS and S) *Curr Prob Derm VIII:97–136, 1996; Dermatol Clin 6:387–395, 1988*

### VASCULAR

Atherosclerosis – loss of hair of lower legs *Rook p.2231, 1998, Sixth Edition*

Sinus pericranii – alopecic red or blue nodule of scalp *JAAD 46:934–941, 2002*

Temporal arteritis (S) – alopecia of affected area of scalp *Rook p.2224, 1998, Sixth Edition*

## ALOPECIA, EYEBROWS

### AUTOIMMUNE DISEASES

Alopecia areata *Int J Derm 37:617–621, 1998*

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Morphea – including linear morphea(en coup de sabre) *Rook p. 2504–2508, 1998, Sixth Edition*

### DRUGS

Cyclosporine-induced folliculodystrophy – partial alopecia of eyebrows and eyelashes *JAAD 50:310–315, 2004*

### INFECTIONS

Leprosy – lepromatous with leonine facies, tuberculoid *Rook p.1225,2979, 1998, Sixth Edition*

Syphilis – secondary *Sex Trans Dis 9:43–44, 1982*

Tinea faciei

Tuberculosis – lupus vulgaris *Rook p.2980, 1998, Sixth Edition*

### INFLAMMATORY DISORDERS

Folliculitis decalvans *Rook p.2980, 1998, Sixth Edition*

### METABOLIC DISORDERS

Hypoparathyroidism, idiopathic

Hypothyroidism – loss of lateral eyebrows *JAAD 26:885–902, 1992*

Myxedema

### NEOPLASTIC DISEASES

Keratoacanthomas – Grzybowski eruptive keratoacanthomas *BJD 147:793–796, 2002*

Lymphoma – cutaneous T-cell lymphoma

### PHOTODERMATOSES

Actinic prurigo – eyebrow alopecia *JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Ped Derm 3:384–389, 1986; JAAD 5:183–190, 1981*

Chronic actinic dermatitis – acute, subacute, or chronic dermatitis with lichenification, papules, plaques, erythroderma, stubby scalp and eyebrow hair *AD 136:1215–1220, 2000; AD 130:1284–1289, 1994; JAAD 28:240–249, 1993; AD 126:317–323, 1990*; sensitization by sesquiterpene lactone mix *BJD 132:543–547, 1995;* associated with musk ambrette *Cutis 54:167–170, 1994; JAAD 3:384–393, 1980*

Polymorphic light eruption – suboccipital actinic alopecia and actinic madurosis *Int J Dermatol 30:375–376, 1991*

## PRIMARY CUTANEOUS DISEASES

Alopecia mucinosa(follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984; AD 76:419–426, 1957*

Atopic dermatitis – Hertoghe's sign

Epidermolysis bullosa – GABEB(generalized atrophic benign epidermolysis bullosa) *BJD 138:859–866, 1998; polydysplastic Rook p. 2979, 1998, Sixth Edition*

Erythroderma *Rook p.2979, 1998, Sixth Edition*

Frontal fibrosing alopecia *JAAD 52:55–60, 2005; AD 130:770–774, 1994*

Lamellar ichthyosis

Lichen simplex chronicus

Monilethrix *AD 132:577–578, 1996*

Pili torti – isolated defect *Rook p. 2947–2948, 1998, Sixth Edition; Acta DV 53:385–392, 1973;* associated with Menkes' kinky hair syndrome *Ann DV 102:269–271, 1980;* Bjornstad's syndrome, Bazex syndrome, Crandall's syndrome, hidrotic ectodermal dysplasia, pseudomonilethrix, retinoids Cutis 35:466–470, 1985; anorexia nervosa *Cutis 57:151–152, 1996*

Pseudomonilethrix – trauma with artefactual microscopic appearance *AD 122:688–692, 1986*

Psoriasis

Ulerythema oophyrogenes(keratosis pilaris atrophicans) *Rook p.2936, 1998, Sixth Edition*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Ablepharon–macrostomia syndrome – absent eyelids, eyebrows and eyelashes at birth *Br J Ophthalmol 25:317–319, 1991*

Anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome) *J Dermatol 26:44–47, 1999;* X-linked recessive – premature aged appearance with soft, dry, finely wrinkled skin, especially around eyes; absent or reduced sweating, hypotrichosis, and total or partial anodontia *J Med Genet 28:181–185, 1991;* autosomal recessive *Ped Derm 7:242, 1990*

Apert's syndrome – interrupted eyebrows *Cutis 52:205–208, 1993*

Atrichia congenita *Rook p.2910,2979, 1998, Sixth Edition*

Atrichia with papular lesions *JAAD 47:519–523, 2002*

Multiple basaloid follicular hamartoma syndrome *J Dermatol 23:821–824, 1996*

Basan syndrome – sparse coarse scalp hair, hypohidrosis, nail dystrophy, abnormal dermatoglyphics, dental abnormalities *Arch Klin Exp Dermatol 222:546–557, 1965*

Cardio-facio-cutaneous syndrome(NS) – autosomal dominant, xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes(decreased or absent eyebrows), seborrheic dermatitis, CALMs, nevi, keratosis pilaris, patchy or widespread ichthyosiform eruption, sparse scalp hair and eyebrows and lashes, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990*

Cartilage hair hypoplasia syndrome

Chromosome 4 deletion syndrome

Congenital hypotrichosis *Rook p.2911–2912, 1998, Sixth Edition*

Down's syndrome

Dubowitz syndrome – autosomal recessive, erythema and scaling of face and extremities in infancy, sparse blond scalp and eyebrow hair, high pitched hoarse voice, delayed eruption of teeth, growth retardation, craniofacial abnormalities *Am J Med Genet 63:277–289, 1996; Am J Med Genet 47:959–964, 1993*

Ectodermal dysplasia – ankyloblepharon, absent lower eyelashes, hypoplasia of upper lids, coloboma, seborrheic dermatitis, cribriform scrotal atrophy, ectropion, lacrimal duct hypoplasia, malaligned great toenails, gastroesophageal reflux, ear infections, laryngeal cleft, dental anomalies, scalp hair coarse and curly, sparse eyebrows, xerosis, hypohidrosis, short nose absent philtrum, flat upper lip *BJD 152:365–367, 2005*

Ectodermal dysplasia with pili torti and syndactyly – sparse hair, eyebrows and lashes, severe dental dysplasia, yellow thickened nails, lordosis, high arched palate, and syndactyly *Ped Derm 16:220–221, 1999*

Encephalocraniocutaneous lipomatosis *JAAD 38:102–104, 1998*

Familial hypoplasia of the eyebrows *Rook p.2979, 1998, Sixth Edition*

Focal facial dermal dysplasia with other facial anomalies (Setleis syndrome) – leonine aged facies with absent eyelashes, eyebrows, puckered periorbital skin, scar-like defects of temples *AD 110:615–618, 1974*

Hereditary gelsolin amyloidosis(AGel amyloidosis) – cutis laxa, thin eyebrows, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Hallerman–Streiff syndrome – microphthalmos, cataracts, sparse eyebrows and eyelashes *Rook p.3010, 1998, Sixth Edition*

Happle's syndrome – cicatricial alopecia – X-linked dominant erythrodermic ichthyosis at birth, cataracts, generalized follicular atrophoderma, asymmetric shortening of limbs with chondrodysplasia punctata *Ped Derm 18:442–444, 2001; Ped Derm 13:1–4, 1996*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Hidrotic ectodermal dysplasia (Clouston syndrome) – alopecia of outer two-thirds of eyebrows; thin eyelashes *Rook p.394, 1998, Sixth Edition; Can Med Assoc J 21:18–31, 1929*

Hutchinson–Gilford syndrome (progeria) – sparse or absent eyelashes and eyebrows *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Ichthyosis–cheek–eyebrow syndrome – ICE syndrome – ichthyosis vulgaris, fullness of cheeks, thinning of eyebrows; dysmorphic features, skeletal anomalies *Clin Genet 31:137–142, 1987*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis *JAAD 46:S156–158, 2002; Am J Med Genet 85:365–368, 1999 AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Ichthyosis, follicular atrophoderma, eyebrow hypotrichosis, woolly hair *BJD 147:604–606, 2002; Am J Med Genet 75:186–189, 1998*

Incontinentia pigmenti *JAAD 47:169–187, 2002; AD 116:701–703, 1980*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Keratosis follicularis spinulosa decalvans (Siemens syndrome) – scarring alopecia of scalp and eyebrows *AD 119:22–26, 1983*

Keratosis–ichthyosis–deafness syndrome (KID syndrome) – autosomal recessive; hypotrichosis of scalp, eyebrows and eyelashes *Ped Derm 15:219–221, 1998*

Koraxitrachitic syndrome – self-healing collodion baby; heals with mottled reticulated atrophy; alopecia, absent eyelashes and eyebrows, conjunctival pannus, hypertelorism, prominent nasal root, large mouth, micrognathia, brachydactyly, syndactyly of interdigital spaces *Am J Med Genet 86:454–458, 1999*

Leprechaunism (Donohue's syndrome) – decreased subcutaneous tissue and muscle mass, characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, and clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Lipoid proteinosis

Marie Unna's hypotrichosis (hereditary hypotrichosis) *BJD 150:837–842, 2004; JID 57:389–400, 1971*

Meige syndrome – conjunctival edema and alopecia of the lateral third of the eyebrow *Graefes Arch Clin Exp Ophthalmol 238:98–100, 2000*

Netherton's syndrome *Ped Derm 13:183–199, 1996*

Noonan's syndrome *Sem Derm 14:140–144, 1995*

Oculo-dento-osseous dysplasia – sparse scalp hair, eyebrows and eyelashes sparse or absent, small closely set sunken eyes, small mouth, enamel hypoplasia producing yellow teeth, syndactyly, camptodactyly, iris anomalies, hypertelorism *J Pediatr 63:69–75, 1963*

Oculomandibular dysostosis *Rook p.2979, 1998, Sixth Edition*

Oculovertebral dysplasia *Rook p.2979, 1998, Sixth Edition*

Omenn's syndrome – autosomal recessive; immunodeficiency; erythroderma with occasional alopecia of scalp and eyebrows *Ped Derm 14:49–52, 1997; JAAD 25:442–446, 1991*

Popliteal pterygium syndrome *Rook p.2979, 1998, Sixth Edition*

Progeria *Rook p.2979–2980, 1998, Sixth Edition*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and, eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadias, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

ROMBO syndrome – hypotrichosis of eyebrows *BJD 144:1215–1218, 2001*

Rothmund–Thomson syndrome *Arch Ophthalmol* (*German*) *4:159, 1887*

Tietz's syndrome – autosomal dominant; absence of pigment, deaf–mutism, hypoplastic eyebrows *Rook p.2964, 1998, Sixth Edition; Am J Hum Genet 15:259–264, 1963*

Trichodental syndrome – fine short hair, madurosis *BJD 116:259–263, 1987*

Trichodysplasia spinulosa – papovaviral infection of immunocomprised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

Trichorhinophalangeal syndrome type I – autosomal dominant; pear-shaped nose, long philtrum, thin upper lip, receding chin, tubercle of normal skin below the lower lip, distension and deviation with fusiform swelling of the PIP joints; hip malformation, brachydactyly, fine brittle sparse hair, eyebrows sparse laterally, dense medially, short stature *AD 137:1429–1434, 2001; JAAD 31:331–336, 1994*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Trichotillomania *Curr Prob Derm VIII:97–136, 1996; Austr NZ J Ophthalmol 23:59–61, 1995; J Clin Psychol Psychiatry 32:401–409, 1991*

Trisomy 18 (Edward's syndrome)

### TRAUMA

Burns – chemical, thermal *Rook p. 2980, 1998, Sixth Edition*

Radiation *Rook p. 2980, 1998, Sixth Edition*

Smoking free-base cocaine *NEJM 314:1324, 1986*

## ALOPECIA IN NEONATES, INFANTS OR TODDLERS

Atrichia with papular lesions *JAAD 47:519–523, 2002*

Bazex–Dupre–Christol syndrome – congenital hypotrichosis, follicular atrophoderma, basal cell nevi and basal cell carcinomas, facial milia, hypohidrosis, pinched nose with hypoplastic alae, atopy with comedones, keratosis pilaris, joint hypermobility, scrotal tongue, hyperpigmentation of the forehead *BJD 153:682–684, 2005; Dermatol Surg 26:152–154, 2000; Hautarzt 44:385–391, 1993*

Congenital alopecia areata *JAAD 52:S8–11, 2005*

Hereditary hypotrichosis of scalp *Ped Derm 19:148–150, 2002; Clin Genet 32:120–124, 1987*

Loose anagen syndrome *AD 133:1089–1093, 1997; AD 128:1349–1353, 1992*

Marie–Unna hypotrichosis *Ped Derm 19:250–255, 2002*

Netherton's syndrome

Neutral lipid storage disease (Chanarin–Dorfman disease) – autosomal recessive; focal or diffuse alopecia; congenital non-bullous ichthyosiform erythroderma, collodion baby; seborrheic dermatitis-like rash of face and scalp; leukonychia; erythrokeratoderma variabilis-like presentation; mutation in ABHD5 which encodes protein of esterase/lipase/thioesterase subfamily *BJD 153:838–841, 2005*

Tinea capitis *J Eur Acad Dermatol Venereol 17:239–240, 2003; JAAD 42:1–20, 2000*

Triangular alopecia *Ped Derm 19:127–128, 2002; JAAD 31:205–209, 1994*

Vitamin D-resistant rickets *Am J Med 77:805–811, 1984*

# ANGIOEDEMA

***JAAD 53:373–388, 2005***

Acquired cold urticaria *JAAD 49:714–716, 2003*

Acquired C1 esterase inhibitor deficiency *Am J Med 95:169–175, 1993;* B-cell lymphoma *BJD 146:343–344, 2002*

Allergic contact dermatitis

Allergic contact urticaria *JAAD 53:373–388, 2005; Clin Dermatol 15:619–672, 1997*

Angiotensin-converting enzyme inhibitor-induced angioedem *JAAD 53:373–388, 2005*

Antibody against the C1 esterase inhibitor without associated disease

AHA syndrome (arthritis or arthralgia, hives, angioedema) *Rheumatol Int 7:277–279, 1987*

Allergic angioedema *JAAD 53:373–388, 2005*

Angioedema (idiopathic acquired angioedema) – lips, eyelids, genitalia *JAAD 25:155–161, 1991; JAAD 53:373–388, 2005*

Angioedema associated with idiopathic or chronic urticaria *JAAD 53:373–388, 2005*

Angioedema associated with infections and infestations *JAAD 53:373–388, 2005*

Angioedema associated with urticarial vasculitis *JAAD 53:373–388, 2005; Medicine 74:24–41, 1995*

Angioedema with eosinophilia – transient variant *BJD 144:169–174, 2001*

Angiosarcoma – recurrent angioedema *BJD 143:1346–1348, 2000*

Angiotensin converting enzyme inhibitors – face and oral mucosa; not associated with urticaria *BJD 136:153–158, 1997*

Aquagenic urticaria *JAAD 53:373–388, 2005; The Clinical Management of Itching. Parthenon p.103, 2000*

Ascariasis

Autoimmune progesterone urticaria

Betel nut (areca nut) chewing – betel quid (areca nut, leaf of betel pepper, slaked lime paste from shells, coral, or limestone) autonomic and psychoneurologic effects; cholinergic activation, flushing, tachycardia, warmth, euphoria, alertness, hypotension, angioedema, hyperhidrosis, myocardial infarction *Clin Toxicol 39:355–360, 2001*

Capillary leak syndrome *JAAD 32:364–366, 1995*

Cholinergic angioedema *AD 123:462–467, 1987*

Cholinergic urticaria *The Clinical Management of Itching. Parthenon p.103, 2000*

Cold urticaria *JAAD 53:373–388, 2005; The Clinical Management of Itching. Parthenon p.103, 2000; J Clin Lab Med 74:902–910, 1969*

Contact heat urticaria *JAAD 53:373–388, 2005*

Cyclic edema

Drug reaction *JAAD 53:373–388, 2005*

Eosinophilic myositis/perimyositis *JAAD 37:385–391, 1997*

Episodic angioedema with eosinophilia *JAAD 53:373–388, 2005; Clin Exp Immunol 82:38–43, 1990; NEJM 310:1621–1626, 1984*

Estrogen-dependent inherited angioedema *J Allergy Clin Immunol 106:546–550, 2000*

Exercise-induced anaphylaxis, with or without food ingestion *JAAD 53:373–388, 2005*

Familial Mediterranean fever

Fluid retention syndrome

Foods – peanuts, shellfish, milk, eggs, tree nuts, and foods which cross-react with latex (kiwi, banana, avocado, chestnut) *JAAD 53:373–388, 2005*

Gleich's syndrome (episodic angioedema with eosinophilia) – angioedema, urticaria, fever, periodic weight gain, eosinophilia, increased IgM *AD 141:633–638, 2005; JAAD 20:21–27, 1989; NEJM 310:1621–1626, 1984*

Graves' disease *JAAD 48:641–659, 2003*

Henna (Lawsonia inermis) *Poster Session, European Academy of Dermatology and Venereology, 2002*

Hereditary angioedema – autosomal dominant; C'1 INH deficiency *Medicine 71:206–215, 1992;* type III – normal C1 INH activity in women with relationship to estrogenic activity *JAAD 53:373–388, 2005; BJD 150:157–158, 2004; J Allergy Clin Immunol 106:546–550, 2000; Lancet 356:213–217, 2000; NEJM 334:1666–1667, 1996*; *Am J Med 35:37–44, 1963; Am J Med Si 95:362–367, 1888*

Hereditary angioedema with normal C'1 INH in women *JAAD 53:373–388, 2005*

Hereditary vibratory angioedema

Hypereosinophilic syndrome *Medicine 54:1–27, 1975*

Hypocomplementemic vasculitis *JAAD 48:311–340, 2003*

Idiopathic hypereosinophilic syndrome *BJD 144:639, 2001; Blood 83:2759–2779, 1994; AD 114:531–535, 1978*

Insect venoms *JAAD 53:373–388, 2005*

Leukemia – chronic lymphocytic leukemia *Ghatan p.122, 2002, Second Edition;* acute lymphoblastic leukemia with eosinophilia *Ped Derm 20:502–505, 2003*

Leukotriene antagonist (monteleukast) administration concurrently with aspirin *JAAD 53:373–388, 2005*

Loiasis

Lupus erythematosus – systemic lupus erythematosus *JAAD 7:255–264, 1982*

Monoclonal gammopathy *Ghatan p.122, 2002, Second Edition*

Myeloma *Ghatan p.170, 2002, Second Edition*

Necrobiotic xanthogranuloma with paraproteinemia – antibody-mediated decreased levels of C1 esterase inhibitor *Hautarzt 45:339–343, 1994*

NSAID (including aspirin)-induced angioedema *JAAD 53:373–388, 2005*

Parvovirus B19 – neonatal angioedema due to intrauterine infection with Parvovirus B19 *BJD 143:428–430, 2000*

Recurrent cutaneous necrotizing eosinophilic vasculitis *AD 130:1159–66, 1994*

Radiocontrast media *JAAD 53:373–388, 2005*

Serum sickness

Solar urticaria *JAAD 53:373–388, 2005*

Superior vena cava syndrome

Urticaria *Rook p.2116–2117, 1998, Sixth Edition*

Urticarial vasculitis *JAAD 49:S283–285, 2003; Clin Rev Allergy Immunol 23:201–216, 2002; JAAD 38:899–905, 1998; JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992*

Vibratory angioedema *JAAD 53:373–388, 2005*

Waldenström's macroglobulinemia *Ghatan p.122, 2002, Second Edition*

# ANGIOKERATOMA CORPORIS DIFFUSUM

***BJD 149:405–409, 2003; JAAD 37:523–549, 1997***

Aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991*

Beta mannosidase deficiency (β-mannosidosis) *BJD 152:177–178, 2005*

Fabry's disease – α-galactosidase A deficiency *NEJM 276:1163–1167, 1967*

Fucosidosis type II ($\alpha_1$-fucosidase) *AD 107:754–757, 1973*

Galactosialidosis – combined deficiency of β-galactosidase and neuraminidase; due to defecton of lysosomal protein (protective protein); conjunctival telangiectasia, telangiectasias of joints, Mongolian-like spots, café au lait macules, skin hyperextensibility, nevus of Ito *BJD 149:405–409, 2003; AD 120:1344–1346, 1984*

Galactosidosis type II

Adult onset GM1 gangliosidosis (β-galactosidase) *Clin Genet 17:21–26, 1980*

Idiopathic (no enzyme deficiency) *AD 123:1125–1127, 1987; JAAD 12:885–886, 1985*) – telangiectasias or small angiokeratomas; and arteriovenous fistulae without metabolic disorders – papules *AD 131:57–62, 1995*

Kanzaki's disease (Kanzaki-Schindler disease) (α-*N*-acetylgalactosidase) (acetylgalactosaminidase) *AD 129:460–465, 1993*

Sialidosis type II *BJD 152:177–178, 2005*

# ANNULAR LESIONS OF THE PENIS

Bowenoid papulosis

Chancroid

Erythema multiforme *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.65, 1998*

Erythroplasia of Queyrat *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.82, 1998*

Factitial dermatitis

Fixed drug eruptions *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.62, 1998*

Herpes simplex virus infection, chronic *Genital Skin Disorders. Fischer and Margesson, Mosby p.16–17, 1998*

Leishmaniasis *BJD 139:111–113, 1998*

Lichen planus *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.48, 1998; Rook p.1904–1912,3184, 1998, Sixth Edition; JAAD 25:392–394, 1991*

Lichen sclerosus et atrophicus

Linear IgA disease

Lupus erythematosus, annular

Mucha–Habermann syndrome *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.53, 1998*

Necrobiosis lipoidica diabeticorum – chronic balanitis *Dermatology 188:222–225, 1994*

Nevus flammeus

Non-venereal sclerosing lymphangitis

Pityriasis rosea *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.52, 1998; JAAD 15:159–167, 1986*

Porokeratosis *BJD 144:643–644, 2001; Dermatology 196:256–259, 1998*

Psoriasis *Genital Skin Disorders, Fischer and Margesson. CV Mosby p.51, 1998; Rook p.1602, 1998, Sixth Edition*

Reiter's syndrome – circinate balanitis *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.52, 1998; Rook p.2767, 1998; Arthr Rheum 24:844–849, 1981; Semin Arthritis Rheum 3:253–286, 1974*

Seborrheic dermatitis

Syphilis – primary – hard penile circumferential fold at coronal sulcus; secondary – annular syphilid *Rook p.3184, 1998, Sixth Edition*

Tinea cruris (*E. floccosum*, *T. rubrum*) *Rook p.1311, 1998, Sixth Edition*

Tinea versicolor

Trauma

Warts (condylomata acuminata) *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.13, 1998*

Zoon's balanitis (plasma cell balanitis) *Genital Skin Disorders. Fischer and Margesson, CV Mosby p.44, 1998*

# ANNULAR LESIONS WITH SURFACE CHANGES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous eruption in CREST syndrome, primary biliary cirrhosis and Sjögren's syndrome *JAAD 29:648–650, 1993*

Bullous pemphigoid *Rook p.1869–1870, 1998, Sixth Edition;* erythema gyratum repens *Clin Exp Dermatol 77:401–406, 1982*

Chronic granulomatous disease, neonatal *AD 130:105–110, 1994*

Combined immunodeficiency syndrome – cutaneous granuloma *JAAD 25:761–766, 1991*

Dermatitis herpetiformis – annular and rosette lesions *Rook p.1890, Sixth Edition*

Epidermolysis bullosa acquisita *AD 133:1122–1126, 1997;* annular bullae *BJD 147:592–597, 2002*

Graft vs. host disease – annular scaly papules of epithelioid granulomas *BJD 149:898–899, 2003*

Herpes (pemphigoid) gestationis *Rook p.1878–1879, 1998, Sixth Edition; JAAD 40:847–849, 1999*

IgA pemphigus with rosettes *JAAD 25:383–386, 1991;* IgA pemphigus (intraepidermal (subcorneal) IgA pemphigus) *Eur J Dermatol 11:41–44, 2001; JAAD 43:546–549, 2000;* vesiculopustules *JAAD 43:923–926, 2000; JAAD 32:352–357, 1995; JAAD 31:502–504, 1994; JAAD 24:993, 1992;* intercellular IgA dermatosis resembling subcorneal pustular dermatosis *AD 123:1062–1065, 1987*

Intercellular IgA dermatosis of childhood *AD 127:221–224, 1991*

Interstitial granulomatous dermatitis with arthritis *JAAD 34:957–961, 1996*

Linear IgA disease (chronic bullous disease of childhood) – perioral, eyelids, ears, scalp, perineum, vulva; rosettes of bullae *BJD 144:870–873, 2001;* annular polycyclic bullae;

palmar and plantar bullae in infancy; may have hemorrhagic bullae *Ped Derm 15:108–111, 1998;* neonatal linear IgA disease *Ped Derm 10:171–176, 1993;* annular psoriasiform, serpiginous red plaques of palms *JAAD 51:S112–117, 2004;* resembling erythema annulare centrifugum *JAAD 51:S112–117, 2004*

Lupus erythematosus (LE) – systemic lupus erythematosus – annular erythema *Rook p.2473, 1998, Sixth Edition;* bullous or vesicular (annular bullae) *JAAD 27:389–394, 1992; Arthritis Rheum 21:58–61, 1978;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* neonatal – macular erythema or thin red plaque of forehead, periorbital, temples, upper cheeks, scalp, neck *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* subacute cutaneous lupus erythematosus – annular and polycyclic lesions *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1057–1062, 1988; Cutis 28:90–92, 1981;* SCLE in children – annular and polycyclic *Ped Derm 20:31–34, 2003;* erythema gyratum repens *Clin Exp Dermatol 77:129–134, 1982;* systemic LE; arcuate scaly plantar plaques *JAAD 49:S270–271, 2003*

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

Pemphigus foliaceus, pemphigus herpetiformis variant *AD 129:69–73, 1993;* pemphigus foliaceus of children – arcuate, circinate, polycyclic lesions *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986*

Pemphigus vulgaris; IgG/IgA pemphigus – herpetiform, targetoid lesions *BJD 147:1012–1017, 2002*

Rheumatoid neutrophilic dermatitis *Cutis 60:203–205, 1997*

Sjögren's syndrome – annular erythema of Sjögren's syndrome *JAAD 42:1069–1073, 2000*

X-linked hypogammaglobulinemia

## CONGENITAL

Congenital constriction band of the trunk (variant of amniotic band syndrome) *Ped Derm 14:470–472, 1997*

## DRUG-INDUCED

Erythema annulare centrifugum – drug-induced; cimetidine, chloroquine, estrogens, hydroxychloroquine, penicillin, progestogens, salicylates *Ghatan p.229, 2002, Second Edition*

Fixed drug eruption – multiple drugs

Granulocyte colony-stimulating factor (G-CSF) *JAAD 34:455–459, 1996*

Heparin (subcutaneous) allergy *JAAD 21:703–707, 1989*

Linear IgA disease, drug-induced – annular bullae; amiodarone, captopril, cefamandole, cyclosporin, diclofenac, euglucon, furosemide, interleukin, lithium, phenytoin, somatostatin, sulfa, vigabatrin, piroxicam, vancomycin *Cutis 73:65–67, 2004; JAAD 45:691–696, 2001*

Lupus erythematosus – subacute cutaneous LE – annular scaly lesions in a photodistribution including the legs – terbinafine, thiazides, piroxicam, D-penicillamine, sulfonylureas, procainamide, oxyprenelol, chrysotherapy, griseofulvin, naproxen, spironolactone, diltiazem, cinnarizine, captopril, cilazapril, verapamil, nifedipine, interferon-β, ranitidine, infliximab, etanercept *AD 139:45–49, 2003; Lancet 359:579–580, 2002; JAAD 44:925–931, 2001; Ann Intern Med 103:49–51, 1985*; chlorthalidone – SCLE associated with *Hygroton JAAD 18:38–42, 1988;* tiotropium bromide *AD 141:911–912, 2005;* leflunomide, antihistamines, gold *Cutis 76:189–192, 2005*

Penicillamine-induced elastosis perforans serpiginosa

Penicillin-induced bullous pemphigoid mimicking erythema multiforme *JAAD 18:345–349, 1988*

Prilosec – mimicking SCLE

Quinidine – lichen planus-like eruption

Ranitidine (Zantac)

Scopolamine patch – allergic contact dermatitis *JAAD 13:247–251, 1985*

Terbinafine – drug-induced SCLE *BJD 148:1056, 2003; JAAD 44:925–931, 2001; AD 137:1196–1198, 2001*

Tetanus shot reaction

Vitamin K reaction *Cutis 61:81–83, 1998*

## EXOGENOUS AGENTS

Fixed food eruption – strawberries *JAAD 35:638–639, 1996*

Irritant contact dermatitis

ECG electrode dermatitis (parachlorometaxylenol) *JAAD 15:348–350, 1986*

Paraffinoma – morphea-like reaction

## INFECTIONS AND INFESTATIONS

Anthrax – rosette of blisters surrounding central eschar *Clin Inf Dis 19:1009–1014, 1994*

*Candida* – chronic mucocutaneous candidiasis – tinea corporis-like changes *Annu Rev Med 32:491–497, 1981*

Chromoblastomycosis *Bolognia p.1187, 2003; AD 131:399–401, 1995*

Cutaneous larva migrans

Dermatophilus congolensis – due to contact with infected animals *BJD 145:170–171, 2001*

Erythrasma – disciform erythrasma

Herpes simplex – chronic *Am J Med 80:486–490, 1986*

Impetigo – bullous (staphylococcal) and streptococcal

Insect bites

Leishmaniasis – chronic lupoid leishmaniasis *AD 132:198–202, 1996;* post-kala-azar dermal leishmaniasis *Acta DV 78:353–354, 1998;* leishmaniasis recidivans – circinate papules at periphery of old scars *Clin Inf Dis 33:1076–1079, 2001; JAAD 34:257–72, 1996*

Leprosy – tuberculoid; borderline *Rook p.1225, 1998, Sixth Edition*

Lobomycosis

Lyme disease – erythema (chronicum) migrans – *Borrelia burgdorferi Am J Med 99:412–419, 1995*

Mucormycosis – primary cutaneous *JAAD 24:882–885, 1991*

*Mycobacterium africanum* (tuberculosis) *Clin Inf Dis 21:653–655, 1995*

*Mycobacterium haemophilum BJD 149:200–202, 2003*

*Mycobacterium tuberculosis* – lichen scrofulosorum – yellow to red–brown flat-topped papules, slightly scaly, surmounted with minute pustule; trunk *AD 124:1421–1426, 1988;* lupus vulgaris *AD 126:1227, 1990;* erythema induratum; pulmonary tuberculosis – erythema gyratum repens *BJD 98:465–468, 1975*

Parvovirus B19 – subacute cutaneous lupus-like annular scaling erythematous rash *Hum Pathol 31:488–497, 2000*

Phaeohyphomycosis (*Exserohilum rostratum*) – porokeratosis-like *JAAD 28:340–344, 1993*

Pinta

Scabies *Skin & Allergy News 28:1, 1997*

Sporotrichosis, fixed cutaneous *JAAD 12:1007–1012, 1985*

'Spotless' Rocky Mountain Spotted Fever – erythema migrans–like skin lesion *Clin Inf Dis 21:1328–1329, 1995*

Syphilis – congenital *Genitourin Med 68:195–196, 1992;* secondary and tertiary *Cutis 59:135–137, 1997;* nodular tertiary syphilis – circinate and annular lesions *JAAD 42:378–380, 2000*; annular verrucous perianal dermatitis in secondary syphilis *BJD 152:1343–1345, 2005*

Tinea corporis – *Trichophyton rubrum*, *T. megninii*, *E. floccosum Rook p.1302, 1998, Sixth Edition; Trichophyton verrucosum* – extensive annular lesions of trunk and neck *AD 94:35–37, 1966;* tinea corporis, pedis – bullous or scaly *Rook p.1300–1301, 1998, Sixth Edition;* tinea capitis *Rook p.1304–1305, 1998, Sixth Edition;* tinea faciei *AD 114:250–252, 1978;* tinea cruris *The Clinical Management of Itching. Parthenon Publishing p.xi, 2000; Trichophyton rubrum*, invasive; radiation port dermatophytosis *JAAD 19:1053–1056, 1988;* dermatophyte immune restoration inflammatory syndrome (IRIS) *Clin Inf Dis 40:113, 182–183, 2005*

Tinea imbricata – *Trichophyton concentricum* – extensive involvement with pruritus and lichenification *Clin Exp Dermatol 13:232–233, 1988; Trans R Soc Trop Med Hyg 78:246–251, 1984*

Tinea versicolor – tinea versicolor with EAC-like lesions *AD 120:380–382, 1984*

Trypanosomiasis(African trypanosomiasis) *AD 131:1178–1182, 1995*

Vaccinia – generalized vaccinia *Cutis 73:115–122, 2004*

Warts

Yaws

## INFILTRATIVE LESIONS

Lichen amyloidosis

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis *BJD 145:514–515, 2001; AD 132:341–346, 1996; JAAD 14:469–474, 1986;* annular plaque with pustules *JAAD 51:S71–73, 2004*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983*

Post-inflammatory elastolysis and cutis laxa (PECL) in children – severe variant of anetoderma in black girls; begins as indurated annular plaque with collarette of scale; progresses to finely wrinkled skin *JAAD 51:165–185, 2004; JAAD 22:40–48, 1990; S Afr Med J 40:1016–1022, 1966*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clin Chest Med 18:663–679, 1997;* necrotizing sarcoid

## METABOLIC DISEASES

Cystic fibrosis, scaly annular plaques *AD 128:1358–1364, 1992*

Hereditary LDH-M subunit deficiency *JAAD 24:339–342, 1991* with acroerythema *JAAD 27:262–263, 1992*

Necrobiosis lipoidica diabeticorum (NLD) *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988;* NLD with perforating elastosis *Cutis 57:326–328, 1996*

Necrotizing infundibular crystalline folliculitis – follicular papules with waxy keratotic plugs *BJD 145:165–168, 2001*

Phrynoderma – phrynoderma as sign of general malnutrition not specific for vitamins A, B, E or essential fatty acid deficiency *Ped Derm 22:60–63, 2005*

Prolidase deficiency *AD 127:124–125, 1991*

Pseudoglucagonoma syndrome with alcoholic liver disease *AD 138:405–410, 2002;* with chronic liver disease, chronic pancreatitis, traumatic necrotizing pancreatitis, celiac disease, jejunal adenocarcinoma *AD 115:1429–1432, 1979*

## NEOPLASTIC DISEASES

Basal cell carcinoma

Bowen's disease

Dermal dendrocyte hamartoma – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004*

Desmoplastic trichoepithelioma *AD 132:1239–1244, 1996*

Extramammary Paget's disease *JAAD 17:910–913, 1987*

Kaposi's sarcoma

Keloid

Keratoacanthoma – resolving keratoacanthoma; multiple keratoacanthomas on DLE *JAAD 21:805–810, 1989;* keratoacanthoma centrifugum *JAAD 48:282–285, 2003;* keratoacanthoma centrifugum marginatum *Cutis 73:257–262, 2004; JAAD 30:1–19, 1994; AD 111:1024–1026, 1975; Hautarzt 13:348–352, 1962*

Large cell acanthomas *AD 123:1071–1076, 1987; JAAD 8:840–845, 1983*

Lentigo

Lymphoma – cutaneous T-cell lymphoma *Rook p.2376, 1998, Sixth Edition;* CTCL mimicking EAC in a child *BJD 152:565–566, 2005;* CTCL mimicking porokeratosis of Mibelli *JAAD 29:1046–1048, 1993; JAAD 27:327–330, 1992;* annular necrosis with gamma/delta T-cell lymphoma *JAAD 26:865–870, 1992;* Woringer–Kolopp disease (pagetoid reticulosis) – annular hyperkeratotic plaque *JAAD 14:898–901, 1986;* CTCL mimicking annular and gyrate erythema *JAAD 47:914–918, 2002*

Lymphocytoma cutis

Melanoma *Rook p.1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975*

Meyerson's nevus – dermatitic halos surrounding melanocytic nevi, atypical nevi, seborrheic keratoses, stucco keratoses, keloids, benign lentigo, insect bite, basal cell carcinoma, squamous cell carcinoma, dermatofibroma, pityriasis rosea *AD 139:1209–1214, 2003*

Porokeratosis – of Mibelli; autosomal dominant *Cutis 72:391–393, 2003; Curr Prob Derm 14:71–116, 2002; AD 122:586–587, 589–590, 1986;* giant porokeratosis *Hautarzt 41:633–635, 1990;* hyperkeratotic porokeratosis *Int J Dermatol 32:902–903, 1993;* linear *Ped Derm 21:682–683, 2004; Cutis 44:216–219, 1989; Int J Dermatol 27:589–590, 1988;* disseminated superficial (actinic) porokeratosis – autosomal dominant *Curr Prob Derm 14:71–116, 2002; Int J Dermatol 34:71–72, 1998; BJD 123:249–254, 1996; Cutis 42:345–348, 1988;* palmoplantar porokeratosis *JAAD 21:415–418, 1989*

Seborrheic keratosis

Squamous cell carcinoma

Stucco keratosis

## PARANEOPLASTIC DISEASES

Erythema gyratum repens – seen with malignancy, benign breast hypertrophy, CREST syndrome, ichthyosis, palmoplantar hyperkeratosis *Rook p.2090, 1998, Sixth Edition; AD 111:227–229, 1975*

Glucagonoma syndrome (necrolytic migratory erythema) *JAAD 24:473–477, 1991*

Lymphoma – annular red and reticulated plaques due to cutaneous granulomas associated with systemic lymphoma *JAAD 51:600–605, 2004*

Necrobiotic xanthogranuloma with paraproteinemia

Paraneoplastic autoimmune multiorgan syndrome (paraneoplastic pemphigus) – arciform and polycyclic lesions *AD 137:193–206, 2001*

Pityriasis rotunda *Cutis 58:406–408, 1996; AD 119:607–6098, 1983*

## PHOTODERMATOSES

Actinic lichen planus *AD 135:1543–1548, 1999*

Annular elastolytic granuloma (actinic granuloma)

Disseminated superficial actinic porokeratosis *JAAD 40:479–480, 1999; Int J Derm 38:204–206, 1999*

Phototoxic dermatitis

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Alopecia mucinosa (follicular mucinosis) *Derm 197:178–180, 1998; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Annular atrophic plaques of the face *AD 100:703–716, 1969*

Annular epidermolytic ichthyosis *BJD 141:642–646, 1999; JAAD 27:348–355, 1992*

Annular erythema of infancy

Atrophia maculosa varioliformis cutis – linear, varioliform scars *Ped Derm 18:230–233, 2001; JAAD 21:309, 1989; BJD 115:105–109, 1986*

Atrophoderma of Pasini and Pierini *JAAD 30:441–446, 1994*

Circumscribed palmar or plantar hypokeratosis – red depressed or atrophic patch with ridged border *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Confluent and reticulated papillomatosis

Dyshidrosis *Cutis 23:819–821, 1979*

Elastosis perforans serpiginosa *AD 141:1457–1462, 2005; JAAD 51:1–21, 2004; AD 129:205–207, 1993;* seen in Down's syndrome, osteogenesis imperfecta, pseudoxanthoma elasticum, Rothmund-Thomson syndrome, penicillamine *JAAD 46:161–183, 2002*; elastosis perforans serpiginosa with pseudoxanthoma elasticum-like changes in Moya-Moya disease (bilateral stenosis and occlusion of basa intracranial vessels and carotid arteries) *BJD 153:431–434, 2005*

Eosinophilic pustular folliculitis of Ofuji – circinate and serpiginous plaques with overlying papules and pustules in seborrheic areas; pustules are follicular *J Dermatol 16:388–391, 1989; Hautarzt 39:527–530, 1988; Acta DV 50:195–203, 1970*; red plaque with pustules *JAAD 46:827–833, 2002*

Epidermolysis bullosa simplex, dystrophica; epidermolysis bullosa herpetiformis (Dowling-Meara) *Textbook of Neonatal Dermatology, p.160, 2001; JAAD 28:859–861, 1993;* epidermolysis bullosa S/P ECG

Epidermolytic hyperkeratosis – annular and polycyclic plaques *JAAD 27:348–355, 1992*

Erythema annulare centrifugum

Erythema dyschromicum perstans *JAAD 21:438–442, 1989*

Erythema elevatum diutinum *Rook p.2194, 1998, Sixth Edition; BJD 67:121–145, 1955*

Erythrokeratoderma hiemalis (erythrokeratolysis hiemalis (Oudtshoorn disease)) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet; annular serpiginous lesions of lower legs, knees, thighs, upper arms, shoulders – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Erythrokeratoderma variabilis (Mendes da Costa syndrome) – autosomal dominant – dark red fixed plaques with transient polycyclic red macules with fine scale *JID 113:1119–1122, 1999; Ped Derm 12:351–354, 1995*

Familial annular erythema – autosomal dominant; early infancy to puberty; vesiculation or scaling *Textbook of Neonatal Dermatology, p.295, 2001*

Figurate erythemas
- Erythema annulare centrifugum *Am J Dermatopathol 25:4510462, 2003; Rook p.2088, 1998, Sixth Edition;* in infancy *JAAD 14:339–343, 1986*
- Associations with erythema annulare centrifugum:
  - Acute myeloblastic leukemia *Ann Dermatol Venereol 116:6–7,1989*
  - *AIDS Tyring p.369, 2002*
  - Alendronate *JAAD* 48:945–946, 2003
  - Ampicillin *J Indian Med Assoc 65:307–308, 1975*
  - Ascariasis *AD 117:582–585, 1981*
  - Blood dyscrasia *Arch Klin Exp Dermatol 195:434–446, 1953*
  - Breast cancer *Cutis 26:282–284, 1980*
  - Bullous pemphigoid *Br J Dermatol 110:378–379, 1984*
  - *Candida Hautarzt 236:466–470, 1975*
  - Carcinoid tumor *Nt J Frtmsyol 94:452–456, 2976*
  - Cat scratch disease *Int J Derm 17:656–658, 1988*
  - Chloroquine *AD 95:37–39, 1967*
  - Chronic polyarthritis *J Rheumatol 38:59–66, 1979*
  - Cimetidine *Br Med J [Clin Res Ed] 283:698, 1981*
  - Dysproteinemia *Br J Dermatol 85:546–560, 1971*
  - Epstein–Barr virus *Acta Paediatr Scand 63:788–792, 1974*
  - Familial *Cutis 44:139–170, 1989*
  - Gold thiomalate therapy *JAAD 25:557–560, 1991; JAAD 27:284–287, 1992*
  - Graves' disease *AD 118:623, 1982*
  - Hodgkin's disease *Int J Dermatol 32:59–61, 1993*
  - Hydrochlorothiazide *Int J Dermatol 27:129–130, 1988*
  - Hydroxychloroquine sulfate *Cutis 36:129–30, 1985*
  - Hypereosinophilic syndrome *Med Cutan Ibero Lat Am 16:299–304, 1988; Cutis* 35:53–55, 1985
  - Congenital ichthyosis *Dermatologica 140:75, 1970*
  - Infectious mononucleosis *Tyring p.149, 2002*
  - Ingested fungus (cheese) *AD 90:54–58, 1964*
  - Inflammatory carcinoma (carcinoma erysipelatoides) *ActaDerm Venereol (Stockh) 73:138–140, 1993*
  - Internal malignancy *AD 87:246–251, 1963*
  - Liver disease *AD 122:1239–1270, 1986*
  - Lyme disease *Dermatol Clin 3:129–139, 1985*
  - Malignant histiocytosis *Clin Exp Dermatol 9:608–613, 1984*
  - Molluscum contagiosum *AD 114:1853, 1978*
  - Phenothiazine *Hautarzt 41:161–163, 1990*
  - Phthirus pubis infestation *BJD 149:1291, 2003*
  - Piroxicam *JAAD 13:840–841, 1985*
  - Polycythemia vera *Ann Dermatol Venereol 111:767–768, 1984*
  - Prostate adenocarcinoma *Ann Dermatol Venereol 106:789–92,1979*
  - Psoriasis *Hautarzt 38:509–520, 1987*
  - Sarcoidosis *Br J Dermatol 1060:713–716, 1982*
  - Sjögren's syndrome and systemic lupus erythematosus *JAAD 25:557–560, 1991*
  - Spironolactone *Ann DV 114:375–376, 1987*

- Terbinafine *AD 131:960–961, 1995*
- Thiacetazone *Australas J Dermatol 28:44, 1987*
- Tinea pedis *Arch Dermatol Syphilol 70;355–359, 1954*
- Tuberculosis *Int J Dermatol 21:538–539, 1982*
- Urinary tract infection *Hautarzt 30:673–675, 1979*

Erythema chronicum migrans

Erythema gyratum atrophicans

Erythema gyratum perstans *Textbook of Neonatal Dermatology, p.295, 2001*

Erythema gyratum repens

Erythema marginatum – rheumatic fever *JAAD 8:724–728, 1983; Ann Intern Med 11:2223–2272, 1937–1938*

Familial annular erythema

Glucagonoma

Infantile epidermolytic erythema gyratum *AD 120:1601–1603, 1984*

Keratolytic winter erythema

Persistent annular erythema of infancy *Ped Derm 10:46–48, 1993*

Pityriasis rubra pilaris

Psoriasis

Subacute cutaneous lupus erythematosus

Tinea corporis

Tinea imbricata

Geographic tongue (benign migratory glossitis) *J Am Dent Assoc 115:421–424, 1987*

Granuloma multiforme

Hailey–Hailey disease – arciform and circinate plaques *Australas J Dermatol 37:196–198, 1996; BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Ichthyosis bullosa of Siemens – mutation of keratin 2e; superficial blistering of flexures, shins, abdomen with annular peeling; gray rippled hyperkeratosis of extremities, lower trunk, flexures; hypertrichosis; circumscribed patchy scaling (mauserung); palmoplantar blistering with hyperhidrosis *BJD 140:689–695, 1999; JID 103:277–281, 1994; JAAD 14:1000–1005, 1986*

Keratosis follicularis squamosa – follicular hyperkeratotic papule; annular with scale *BJD 144:1070–1072, 2001*

Lichen planus

- Annular atrophic lichen planus *AD 141:93–98, 2005; JAAD 25:392–394, 1991*
- Annular *JAAD 50:595–599, 2004; Rook p.3247, 1998, Sixth Edition; J Dermatol 19:414–419, 1992; J Cutan Dis 37:639–670, 1919*
- Hypertrophic
- Lichen planus atrophicus annularis (actinic lichen planus) *JAAD 25:392–394, 1991*

Lichen sclerosus et atrophicus – wrinkled lesions, atrophic vulvar with shrinkage *Cutis 67:249–250, 2001; Rook p.2549–2551,3231–3232, 1998, Sixth Edition; Trans St John's Hosp Dermatol Soc 57:9–30, 1971*

Lichen simplex chronicus

Lichen striatus, annular *BJD 101:351–352, 1979*

Lipoatrophia semicircularis

Miescher's granuloma

Nummular dermatitis *BJD 95:653–656, 1976*

Ofuji's disease (eosinophilic pustular folliculitis) – red plaque with papules and pustules *JAAD 46:827–833, 2002*

Parakeratosis variegata

Parapsoriasis en plaque

Perforating granuloma annulare *JAAD 3:217–230, 1980*

Perifollicular macular atrophy (perifollicular elastolysis) – gray-white finely wrinkled round areas of atrophy with central hair follicle *BJD 83:143–150, 1970*

Persistent annular erythema of infancy *Ped Derm 10:46–48, 1993*

Porokeratosis palmaris et plantaris disseminata *JAAD 21:415–418, 1989*

Pityriasis alba

Pityriasis lichenoides chronica

Pityriasis rosea *JAAD 15:159–167, 1986;* pityriasis rosea with erythema multiforme-like lesions *JAAD 17:135–136, 1987*

Pityriasis rotunda – may be paraneoplastic phenomenon; or with leprosy *Ped Derm 19:200–203, 2002; JAAD 31:866–871, 1994; JAAD 14:74–78, 1986; BJD 76:223–227, 1964*

Pityriasis rubra pilaris – erythema gyratum repens *JAAD 37:811–815, 1997*

Poikiloderma vasculare atrophicans with or without CTCL

Progressive symmetric erythrokeratoderma

Pseudo-ainhum

Psoriasis – recurrent circinate erythematous psoriasis of Bloch and Lapiere *Rook p.1608, 1998, Sixth Edition;* annular plaque type psoriasis *Ped Derm 22:15–18, 2005;* annular pustular psoriasis *Ped Derm 19:19–25, 2002; JAAD 24:186–194, 1991; Cutis 45:439–442, 1990; AD 108:687–688, 1973;* psoriasis mimicking porokeratosis

Seborrheic dermatitis *Bolognia p.304, 2004*

Subcorneal pustular dermatosis of Sneddon-Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *Bolognia p.305, 2004; Ped Derm 20:57–59, 2003; BJD 145:852–854, 2001; J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998; JAAD 19:854–858, 1988; BJD 68:385–394, 1956*

Symmetric progressive erythrokeratoderma

Transient acantholytic dermatosis (Grover's disease) – nummular plaques with scale/crust *JAAD 35:653–666, 1996*

Vitiligo – inflammatory vitiligo with figurate papulosquamous lesions *Dermatology 200:270–274, 2000*

## PSYCHOCUTANEOUS DISEASE

Factitial dermatitis

## SYNDROMES

Acquired progressive kinking of the hair *Ped Derm 21:265–268, 2004*

Acrogeria – elastosis perforans serpiginosa *Ghatan p.131, 2002, Second Edition*

Annular epidermolytic ichthyosis – variant of bullous congenital ichthyosiform erythroderma – mutation in keratin 10 *JID 111:1220–1223, 1998*

Ataxia telangiectasia – facial granulomas *BJD 153:194–199, 2005*

Breast hypertrophy, erythema annulare centrifugum, generalized melanoderma, verrucae vulgaris and SLE *Acta DV (Stockh) 52:33, 1972*

Down's syndrome – elastosis perforans serpiginosa *Rook p.373, 1998, Sixth Edition*

Ehlers–Danlos syndrome, type IV – elastosis perforans serpiginosa *Ghatan p.132, 2002, Second Edition*

Genodermatosis en cocarde of Degos – autosomal dominant – large annular scaling plaques

Hypereosinophilic syndrome – annular scaly red plaque of necrotizing vasculitis associated with deep vein thrombosis *AD 141:1051–1053, 2005*

Ichthyosis exfoliativa – annular epidermal ichthyosis

Kawasaki's disease – macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, pustular, erythema marginatum-like exanthems, annular lesions with peripheral pustules *Cutis 72:354–356, 2003; JAAD 39:383–398, 1998*

Lipoid proteinosis – early lesions *BJD 148:180–182, 2003*

Netherton's syndrome – ichthyosis linearis circumflexa *BJD 131:615–621, 1994; AD 122:1420–1424, 1986; JAAD 13:329–337, 1985*

Osteogenesis imperfecta – elastosis perforans serpiginosa *Ghatan p.132, 2002, Second Edition*

Pseudoxanthoma elasticum – elastosis perforans serpiginosa *Ghatan p.132, 2002, Second Edition*

Reiter's syndrome – keratoderma blenorrhagicum; flexural confluent circinate lesions *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Reticular erythematous mucinosis syndrome (REM syndrome)

Rothmund–Thomson syndrome – elastosis perforans serpiginosa *Ghatan p.130, 2002, Second Edition*

Rowell's syndrome *JAAD 21:374–377, 1989*

Sweet's sydrome – pustules and/or pustular plaques *Hautarzt 46:283–284, 1995; JAAD 16:458–462, 1987; AD 123:519–524, 1987; BJD 76:349–356, 1964;* in infancy *Textbook of Neonatal Dermatology, p.305, 2001*

Wells' syndrome – annular plaques with collarette of bullae *BJD 143:425–427, 2000; AD 133:1579–1584, 1997*

### TOXINS

Dioxin – erythema elevatum diutinum-like lesions of late dioxin exposure *JAAD 19:812–819, 1988*

### TRAUMA

Chilblains

Childbirth – annular blisters due to vacuum extraction *AD 135:697–703, 1999*

Radiation dermatitis – chronic

Suction device trauma of newborn

### VASCULAR

Leukocytoclastic vasculitis, including Henoch-Schönlein purpura

Osler–Weber–Rendu disease

Pigmented purpuric eruption (eczematoid)

Pustular vasculitis – annular pustular plaques with central necrosis *Rook p.2167, 1998, Sixth Edition*

Spider telangiectasia

Urticarial vasculitis

## ANNULAR LESIONS WITHOUT SURFACE CHANGES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Autoimmune progesterone dermatitis *JAAD 47:311–313, 2002*

Bullous pemphigoid – figurate lesions *Rook p.1869–1870, 1998, Sixth Edition*

Chronic granulomatous disease – arcuate dermal erythema *AD 113:798–800, 1977*

Dermatitis herpetiformis *Ghatan p.38, 2002, Second Edition*

Graft vs. host disease – chronic, sclerodermoid graft vs. host disease with mucin *BJD 142:529–532, 2000*

Herpes (pemphigoid) gestationis *Rook p.1878–1879, 1998, Sixth Edition; JAAD 40:847–849, 1999*

Lupus erythematosus
- Annular erythema of face with anti-Ro/SSA antibodies *BJD 150:1005–1008, 2004*
- Lupus erythematosus gyratum repens – migratory gyrate annular erythema *Clin Exp Dermatol 7:129, 1982*
- Neonatal – annular erythema without scale; Japanese infants *Medicine 63:362–378, 1984*
- Subacute cutaneous lupus erythermatosus (SCLE)
- Anti-Ro/SSA associated recurrent annular erythema *J Dermatol Sci 12:127–131, 1996*
- Tumid lupus *JAAD 48:901–908, 2003; Cutis 69:228–230, 2002; Am J Dermatopathol 21:356–360, 1999*

Morphea *Caputo p.39, 2000*

Rheumatoid arthritis – palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis) *JAAD 47:251–257, 2002; AD 133:757–760, 1997; Cutis 60:203–205, 1997*

Serum sickness

Sjögren's syndrome – annular purpura *J Korean Med Sci 15:115–118, 2000;* annular erythema *Rook p.2571, 1998, Sixth Edition; JAAD 20:596–601, 1989*

Still's disease, including adult Still's disease *Rook p.2570, 1998, Sixth Edition*

Urticaria – acute or chronic *The Clinical Management of Itching. Parthenon p.xvi, 2000; Textbook of Neonatal Dermatology p.300, 2001; Rook p.2116–2117, 1998, Sixth Edition*

### CONGENITAL LESIONS

Aplasia cutis congenita

Hair collar sign *Textbook of Neonatal Dermatology p.121, 2001*

Hair whorl – parietal scalp *Textbook of Neonatal Dermatology, p.487, 2001*

Halo scalp ring – prolonged pressure on vertex by cervix *Textbook of Neonatal Dermatology p.106, 2001; AD 123:992–994, 1987*

Meningocoele (rudimentary meningocoele; primary cutaneous meningioma) – annular tuft of hair over sequestrated meningocoele *Ped Derm 14:315–318, 1994; Ped Derm 15:388–389, 1998*

Raised limb bands *BJD 147:359–363, 2002*

### DRUG-INDUCED

Anthralin – post-inflammatory hyperpigmentation after anthralin therapy

Chlorthalidone – subacute cutaneous lupus erythematosus *JAAD 18:38–42, 1988*

Corticosteroids, topical – tinea incognito *Rook p.3551, 1998, Sixth Edition*

Drug rash, morbilliform, accentuated under cardiac leads

Fixed drug reaction

G-CSF *JAAD 34:455–459, 1996*

Interferon alpha (pegylated) and ribavirin as treatment for hepatitis C infection – sarcoidosis *AD 141:865–868, 2005*

Interstitial granulomatous drug reaction

Linear IgA disease, drug-induced – red annular plaques; amiodarone, captopril, cefamandole, cyclosporin, diclofenac, euglucon, furosemide, interleukin, lithium, phenytoin,

somatostatin, sulfa, vigabatrin, piroxicam, vancomycin *JAAD 45:691–696, 2001*

Morbilliform drug eruption with accentuation under cardiac leads Non-pigmenting fixed drug eruption *JAAD 23:379–381, 1990*

Ranitidine (Zantac)

Vitamin K injection allergy *JAAD 27:105–106, 1992*

## EXOGENEOUS AGENTS

Exogenous ochronosis – annular granulomatous lesions *Am J Dermatopathol 17:18–22, 1995*

Eyebrow ring

Pili migrans *Ped Derm 21:612–613, 2004*

Tattoo

Tongue ring

Zirconium granuloma

## INFECTIONS AND INFESTATIONS

*Arcanobacterium haemolyticum* – annular urticarial lesions *JAAD 48:298–299, 2003*

*Aspergillus* sepsis

*Candida* sepsis

Cat scratch disease – erythema marginatum-like lesions, erythema multiforme-like lesions *Derm Times p.39–40, Aug 1997; Rook p.1154, 1998, Sixth Edition*

Demodicidosis in childhood acute lymphocytic leukemia *J Pediatr 127:751–754, 1995*

Epstein–Barr virus infection, chronic (infectious mononucleosis) – granuloma annulare-like eruption *AD 124:250–255, 1988*

Erysipelas

Erysipeloid *Clin Microbiol Rev 2:354–359, 1989*

*Fusarium roseum* infection – granuloma annulare like lesion *AD 123:167–168, 1987*

*Fusarium* sepsis – annular lesions with or without central necrosis

Hawaian box jellyfish sting (*Carybdea alata*) *JAAD 36:991–993, 1996*

Herpes simplex – dystrophic calcinosis due to intrauterine herpes simplex infection *Ped Derm 3:208–211, 1986*

Human bite

Insect bite reaction

Leishmaniasis recidivans – circinate papules at periphery of old scars *Clin Inf Dis 33:1076–1079, 2001; JAAD 34:257–72, 1996*

Leprosy – macular lepromatous leprosy *AD 113:1027–1032, 1997;* tuberculoid leprosy *Rook p.1223, 1998, Sixth Edition*; borderline *Rook p.1225, 1998, Sixth Edition;* lupus vulgaris; id reaction to *Mycobacterium leprae Cutis 54:282–286, 1994;* reversal reaction *JAAD 20:857–860, 1989;* lepromatous phlebitis of external jugular vein (post-auricular red annular plaque) *JAAD 49:1180–1182, 2003*

Lyme disease – erythema migrans *JAAD 49:363–392, 2003; Clin Inf Dis 31:533–542, 2000; NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

*Mycobacterium hemophilum JAAD 43:913–915, 2000*

*Mycobacterium tuberculosis* – lupus vulgaris *Medicine 60:95–109, 1980; M. africanum* (*M. tuberculosis* complex) – circinate and annular facial plaques, around nose *J Clin Inf Dis 21:653–655, 1995*

Rheumatic fever – erythema marginatum *Trans St John's Hsop Dermatol Soc 50:105–112, 1964*

*Rickettsia slovaca* (Hungary) – Dermacentor marginatus or D. reticulatus tick bite; erythema marginatum-like lesions; scalp papules, crusted scalp papules and subsequent alopecia; tick-borne lymphadenopathy *Clin Inf Dis 34:1331–1336, 2002*

Rocky Mountain spotted fever (spotless RMSF) – erythema migrans-like lesions *J Clin Inf Dis 21:1328–1329, 1995*

Scarlet fever – erythema marginatum *Bolognia p.304, 2004*

*Schistosoma mansoni BJD 103:205, 1980*

Southern tick-associated rash infection – erythema migrans lesions without evidence of *Borrelia* infection; reported from Georgia, Kentucky, Maryland, Missouri, North Carolina, and South Carolina *Clin Inf Dis 40:429, 475–476, 2005; JAAD 49:363–392, 2003; AD 135:1317–1326, 1999; AD 134:955–960, 1998; Arch Int Med 157:2635–2641, 1997; J Inf Dis 172:470–480, 1995*

Sporotrichosis, fixed cutaneous *JAAD 12:1007–1012, 1985*

Stingray bite *Cutis 58:208–210, 1996*

Syphilis – primary – hard penile circumferential fold *JAAD 26:700–703, 1992;* secondary – discoid, annular, circinate papules and plaques *Rook p.1248, 1998, Sixth Edition*; nodular tertiary lesions mimicking granuloma annulare *JAAD 42:378–380, 2000*

Tinea corporis, pedis, manuum, faciei – steroid modified tinea – concentric rings of erythema or plaques *Int J Dermatol 22:39–42, 1983*

Trypanosomiasis (*Trypanosoma brucei rhodesiense* (African trypanosomiasis) – edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition;* annular red patch of thigh *NEJM 342:1254, 2000*

Verrucae – flat warts

Viral exanthem

## INFILTRATIVE DISEASES

Acral persistent papular mucinosis *JAAD 21:293–297, 1989*

Jessner's lymphocytic infiltrate *AD 125:1525–1530, 1989*

Lymphocytoma cutis

Urticaria pigmentosa

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis (plaque-type) *JAAD 14:469–474, 1986*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983*

Erythema nodosum

Goodpasture's syndrome – annular erythematous macule *AD 121:1442–1444, 1982*

Inflammatory bowel disease – cutaneous granulomata

Interstitial granulomatous dermatitis – annular plaques, linear erythematous cords *BJD 152:814–816, 2005; JAAD 47:251–257, 2002; JAAD 46:892–899, 2002; JAAD 45:286–291, 2001;* interstitial granulomatous dermatitis with arthritis *JAAD 34;957–961, 1996*

Neutrophilic eccrine hidradenitis *Ann DV 119:605–611, 1992; AD 118:263–266, 1982;* large annuli of breasts *BJD 151:507–508, 2004*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

Sebaceous adenitis – arcuate lesion *JAAD 36:845–846, 1997*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – annular granulomatous papules *Int J Derm 37:271–274, 1998;*granuloma annulare-like lesions *JAAD 37:643–646, 1997*

Subacute migratory nodular panniculitis (Villanova) (erythema nodosum migrans) – red leg plaque *AD 128:1643–1648, 1992; Cutis 54:383–385, 1994; Acta DV* (*Stockh*) *53:313–317, 1973; AD 89:170–179, 1964*

## METABOLIC DISEASES

Arcus (annulus) senilis (atherosclerosis) *Rook p.2231,2605, 1998, Sixth Edition*

Calcinosis cutis due to EEG paste – annular forehead plaque *AD 138:405–410, 2002*

Hepatoerythropoietic porphyria – annular plaques of nose and face *BJD 151:920–923, 2004*

LDH M-subunit deficiency – annular papules *JAAD41:469–473, 1999*

Miescher's granuloma *Ghatan p.10, Second Edition*

Necrobiosis lipoidica diabeticorum *Acta DV 58:276–277, 1978*

Pruritic urticarial papules and plaques of pregnancy *JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Wilson's disease – Kayser-Fleischer ring of cornea *Br Med J 289:273–276, 1984*

Xanthomas

## NEOPLASTIC DISEASES

Atrial myxoma – violaceous, annular and serpiginous lesions *Cutis 62:275–280, 1998; JAAD 21:1080–1084, 1989; JAAD 32:881–883, 1995*

Desmoplastic trichoepithelioma – annular facial plaque *AD 138:1091–1096, 2002; AD 132:1239–1240, 1996; Cancer 40:2979–2986, 1977*

Epithelioid sarcoma

Fibrofolliculomas *BJD 141:332–334, 1999*

Halo nevi

Keloid

Leukemia cutis including juvenile chronic myelogenous leukemia *BJD 138:1058–1060, 1998; Ped Derm 7:122–125, 1990; Ped Derm 12:364–368, 1995;* chronic lymphocytic leukemia – transient annular erythema with pustular folliculitis *BJD 150:1129–1135, 2004*

Lymphoma – cutaneous T-cell lymphoma (CTCL) *BJD 148:591, 2003; Rook p.2376, 1998, Sixth Edition;* CTCL mimicking granuloma annulare *BJD 146:1102–1104, 2002;* lymphoepithelial cell lymphoma (Lennert's lymphoma) presenting as atypical granuloma annulare *BJD 142:776–780, 2000;* lymphomatoid granulomatosis (angiocentric lymphoma) *AD 122:303–306, 1986; JAAD 17:621–631, 1987;* HIV-associated lymphoma *Tyring p.374, 2002*

Melanoma *Semin Oncol 2:5–118, 1975*

Metastases – multiple primary systemic cancers; annular red halo after stroking neuroblastoma metastases *J Ped 77:297–300, 1970*

Mongolian spots – dermal melanocytosis; congenital, persistent *JAAD 16:788–792, 1987; Clin Pediatr 20:714–719, 1981*

Multinucleate cell angiohistiocytoma *JAAD 30:417–422, 1994; Cutis 59:190–192, 1997*

Sebaceous hyperplasia – annular sebaceous hyperplasias of the penis *JAAD 48:149–150, 2003*

## PARANEOPLASTIC DISEASES

Erythema gyratum repens *Bolognia p.304, 2004*

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997*

## PHOTODERMATOSES

Actinic granuloma (annular elastolytic giant cell granuloma, Miescher's granuloma) *AD 111:460–466, 1975; JAAD 1:413–421, 1979; Eur J Dermatol 9:647–649, 1999; Cutis 62:181–187, 1998*

Actinic lichen planus *AD 59:308, 1989; JAAD 20:226–231, 1989*

Photo-induced granuloma annulare in AIDS

Polymorphic light eruption

Transcutaneous oxygen monitor – photo-induced burns with annular erythema *Textbook of Neonatal Dermatology, p.113, 2001*

## PRIMARY CUTANEOUS DISEASES

Alopecia areata

Alopecia mucinosa *AD 125:287–292, 1989*

Annular and semicircular lipoatrophy

Annular atrophic plaques of the face *Cutis 24:90–93, 1979*

Annular constriction of the glans penis *JAAD 15:351–353, 1986*

Annular dystrophic calcinosis in infancy *JAAD 26:1015–1017, 1992*

Annular erythema of infancy *Clin Exp Dermatol 25:404–405, 2000; AD 123:510–3, 1987;* persistent annular erythema of infancy *Ped Derm 10:46–48, 1993*

Annular lichenoid dermatitis of youth *JAAD 49:1029–1036, 2003*

Atrophoderma of Pasini and Pierini

Centrifugal lipodystrophy

Circle hairs *JAAD 634–635, 1996; JAAD 8:423–427, 1983*

Circumscribed palmar or plantar hypokeratosis – red depressed or atrophic patch with ridged border *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Erythema dyschromicum perstans *JAAD 21:438–442, 1989*

Erythema elevatum diutinum – giant annuli *JAAD 43:955–957, 2000; BJD 143:415–420, 2000*

Erythrokeratoderma hiemalis (erythrokeratolysis hiemalis (Oudtshoorn disease)) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet; annular serpiginous lesions of lower legs, knees, thighs, upper arms, shoulders – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Erythrokeratoderma variabilis (Mendes da Costa syndrome) – autosomal dominant – dark red fixed plaques with transient polycyclic red macules with fine scale *JID 113:1119–1122, 1999; Ped Derm 12:351–354, 1995*

Figurate erythema
- Annular erythema of infancy *JAAD 14:339–343, 1986; Ped Derm 10:46–48, 1993*
- Annular erythema of Sjögren's syndrome *JAAD 20:596–601, 1989*
- Disseminated superficial porokeratosis
- Erythema annulare centrifugum (deep type) *JAAD 27:281–287, 1992; Int J Derm 17:656–658, 1988, Cutis 35:53–55, 1985*
- Erythema chronicum migrans
- Erythema gyratum atrophicans
- Erythema gyratum atrophicans transiens neonatal *AD 111:615–616, 1975*

Erythema gyratum perstans *BJD 58:111–121, 1946*
Erythema marginatum – rheumatic fever *JAAD 8:724–728, 1983; Ann Intern Med 11:2223–2272, 1937–1938*
Erythema multiforme
Erythema multiforme-like lesions in sarcoid *Cutis 34:461–463, 1984*
Familial annular erythema *BJD 78:59–68, 1966*
Infantile epidermodysplastic erythema gyratum *AD 120:1601–1603, 1984*

Granuloma annulare *BJD 152:552–555, 2005; JAAD 3:217–230, 1980;* EAC-like generalized granuloma annulare *JAAD 20:39–47, 1989;* GA as a tuberculid *JAAD 46:948–952, 2002;* photo-GA of AIDS

Granuloma faciale and extrafacial granuloma faciale *Cutis 67:413–415, 2001*

Granuloma multiforme – upper trunk and arms; papules evolving into annular plaques with geographical, polycyclic borders; heal centrally with depigmented macules; Central Africa *Rook p.2309, 1998, Sixth Edition*

Halo scalp ring *AD 123:992–993, 1987*

Lichen myxedematosus *AD 83:230–242, 1961*

Lichen planus – annular lichen planus *JAAD 50:595–599, 2004; J Cutan Dis 37:639–670, 1919;* atrophic lichen planus *JAAD 25:392–394, 1991*

Lipoatrophia semicircularis

Miliaria – giant centrifugal miliaria profunda *Ped Derm 7:140–146, 1990*

Multiple benign annular creases of the extremities – deep creases around arms and legs *Eur J Paediatr 138:301–303, 1982*

Palpable migratory arciform erythema *AD 133:763–766, 1977*

Rolled hairs *JAAD 35:634–635, 1996*

Sclerotic panatrophy – may follow morphea or occur spontaneously; linear or annular or circumferential bands around limbs *Rook p.2016, 1998, Sixth Edition*

Woolly hair – autosomal dominant, autosomal recessive *Rook p.2953, 1998, Sixth Edition;* symmetrical allotrichia (acquired progressive kinking) *Cutis 24:322–324, 1979;* woolly hair nevus *JAAD 22:377–381, 1990*

## SYNDROMES

Amnion rupture malformation sequence (amniotic band syndrome) – congenital ring constrictions and intrauterine amputations; secondary syndactyly *Textbook of Neonatal Dermatology, p.133, 2001; JAAD 32:528–529, 1995; Cutis 44:64–66, 1989*

Buschke–Ollendorf syndrome of scalp *JAAD 24:882–885, 1991*

Hyper-IgD syndrome – periodic fever, red macules, urticaria, annular erythema, nodules, arthralgias, abdominal pain, lymphadenopathy *AD 130:59–65, 1994*

Hypereosinophilic syndrome – annular erythema *Semin Dermatol 14:122–128, 1995*

Kawasaki's disease – erythema multiforme-like, erythema marginatum-like, macular, morbilliform, urticarial, scarlatiniform, pustular *JAAD 39:383–398, 1998*

MC/MR syndrome with multiple circumferential skin creases – multiple congenital anomalies including high forehead, elongated face, bitemporal sparseness of hair, broad eyebrows, blepharophimosis, bilateral microphthalmia and microcornea, epicanthic folds, telecanthus, broad nasal bridge, puffy cheeks, microstomia, cleft palate, enamel hypoplasia, micrognathia, microtia with stenotic ear canals, posteriorly angulated ears, short stature, hypotonia, pectus excavatum, inguinal and umbilical hernias, scoliosis, hypoplastic scrotum, long fingers, overlapping toes, severe psychomotor retardation, resembles Menkes' syndrome – kinky hair, characteristic face with pallor, full cheeks, cupid's bow upper lip, lethargy, spasticity, seizures *J Med Genet 34:265–274, 1997*

Michelin tire baby syndrome *Am J Med Genet 62:23–25, 1996*

Neurofibromatosis type I – paraspinal hair whorl indicating mediastinal plexiform neurofibroma *Ped Derm 14:196–198, 1997*

Reticular erythematous mucinosis (REM) syndrome

Ring chromosome 13 syndrome – symmetrical arciform hypopigmentation

Rubenstein–Taybi syndrome – arciform keloids, hypertrichosis, long eyelashes, thick eyebrows, keratosis pilaris or ulerythema ophyrogenes, low-set ears, very short stature, broad terminal phalanges of thumbs and great toes, hemangiomas, nevus flammeus, café au lait macules, pilomatrixomas, cardiac anomalies, mental retardation *Ped Derm 19:177–179, 2002; Am J Dis Child 105:588–608, 1963*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55kDa TNF receptor *AD 136:1487–1494, 2000*

Wells' syndrome – annular red plaques *AD 133:1579–1584, 1997*

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004*

## TOXINS

Dioxin exposure – erythema elevatum diutinum-like lesions *JAAD 19:812–819, 1988*

## TRAUMA

Annular erythema – due to impending pacemaker extrusion *Acta DV 79:385–387, 1999*

Candle suction (chope) – annular skin lesions *AD 120:1379–1380, 1984*

Chilblains *Rook p.960–961, 1998, Sixth Edition*

Cupping – annular purpura *Aust J Dermatol 12:89–96, 1971*

Delayed pressure urticaria *Rook p.2130, 1998, Sixth Edition; JAAD 29:954–958, 1993*

Gardner–Diamond syndrome

Hardball injury – annular purpura *Cutis 43:363–365, 1989*

Paintball purpura *JAAD 53:901–902, 2005; Cutis 75:157–158, 2005*

Suction purpura *AD 128:822–824, 1992*

## VASCULAR DISEASES

Acute hemorrhagic edema of infancy *JAAD 43:955–957, 2000*

Emboli – from cardiac myxomas; violaceous annular and serpiginous lesions *BJD 147:379–382, 2002*

Generalized essential telangiectasia *JAAD 37:321–325, 1997*

Henoch–Schönlein purpura *JAAD 43:955–957, 2000;* rosettes *AD 139:215–220, 2003*

Pseudo–Kaposi's sarcoma *Int J Dermatol 37:223–225, 1998*

Purpura annularis telangiectoides (Majocchi's pigmented purpuric eruption) *Rook p.2149–2151, 1998, Sixth Edition; Dermatologica 140:45–53, 1970*

Recurrent annular erythema with purpura *BJD 135:972–975, 1996*

Tufted angioma *Dermatology 201:68–70, 2000*

Urticarial vasculitis

Vasculitis – with paraproteinemia, inflammatory bowel disease, pregnancy, myeloma, sarcoid *JAAD 43:955–957, 2000;* leukocytoclastic vasculitis due to chlorzoxazone *BJD 150:153, 2004*

# ANNULAR SCARS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* lupus profundus

Morphea

Keloidal scleroderma *JAAD 11:1111–1114, 1984*

## CONGENITAL ANOMALIES

Amniotic band *Ped Derm 3:153–157, 1986*

Aplasia cutis congenital

Congenital varicella syndrome – pox-like scars *JAAD 43:864–866, 2000; AD 126:546–547, 1990*

Trisomy 13

## DRUG-INDUCED

Status-post corticosteroid injections

D-Penicillamine therapy – cribriform scars *JAAD 20:979–988, 1989*

Status-post corticosteroid injections

## INFECTIONS AND INFESTATIONS

Deep mycoses

Herpes simplex, resolved

Herpes zoster, healed

Osteomyelitis with draining sinus tracts

Papulonecrotic tuberculid – varioliform scars *JAAD 14:815–826, 1986*

Pyodermas

Smallpox

Syphilis, tertiary

## INFILTRATIVE DISEASES

Disseminated xanthosiderohistiocytosis (form of xanthoma disseminatum) – keloidal plaques *JAAD 11:750–755, 1984*

## INFLAMMATORY DISEASES

Pancreatic panniculitis, healed

Pyoderma gangrenosum – cigarette paper scars *JAAD 18:559–568, 1988*

Sarcoidosis

## METABOLIC DISEASES

Necrobiosis lipoidica diabeticorum *Rook p.2306, 1998, Sixth Edition*

Porphyria – erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976;* congenital erythropoietic porphyria – shallow facial scars *AD 128:1243–1248, 1992*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *AD 127:124–125, 1991; Ped Derm 13:58–60, 1996*

## NEOPLASTIC DISEASES

Dermatofibrosarcoma protuberans arising in BCG vaccination scar *AD 124:496–497, 1988*

Desmoplastic trichoepithelioma

Kaposi's sarcoma (papules within scars) *JAAD 27:273–274, 1992*

Keratoacanthoma

Leukemia cutis in scar *AD 123:88–90, 1987*

Lymphomatoid papulosis – papules or nodules with central necrosis *Am J Dermatopathol 18:221–235, 1996; JAAD 17:632–636, 1987; JAAD 13:736–743, 1985*

Nevus comedonicus with cribriform scars *Ped Derm 8:300–305, 1991*

Sebaceous carcinoma – scar-like plaque on eyelid *AD 123:653–658, 1987*

## PHOTODERMATOSES

Hydroa vacciniforme – atrophic, macular, or hypertrophic scars *JAAD 25:892–895, 1991; AD 114:1193–1196, 1978*

## PRIMARY CUTANEOUS DISEASES

Acne excoriée

Acne necrotica varioliformis – varioliform scars *JAAD 16:1007–1014, 1987*

Acne scarring

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Anetoderma of Jadassohn

Aplasia cutis congenita (ACC) *Textbook of Neonatal Dermatology, WB Saunders pp.126–127, 2001*
- Type 1 – ACC of scalp without multiple anomalies
- Type 2 – ACC of scalp with limb reduction abnormalities
- Type 3 – ACC of scalp with epidermal and organoid nevi
- Type 4 – ACC with overlying developmental malformations
- Type 5 – ACC with fetus papyraceus or placental infarcts
- Type 6 – ACC with epidermolysis bullosa (EB)
- Type 7 – ACC due to teratogens
- Type 8 – ACC due to intrauterine infections
- Type 9 – ACC as feature of malformation syndromes

Junctional EB with pyloric atresia

ACC localized to extremities without blistering (group 7)

Adams–Oliver syndrome – large irregular scalp defects; distal limb reduction abnormalities

Chromosome 16–18 defect – large scalp defects; arteriovenous malformation of scalp with underlying bony defect

Trisomy 13 (trisomy D (13–15) – membranous aplasia cutis; holoprosencephaly, seizures, ocular abnormalities, deafness, neural tube defects
Deletion of short arm of chromosome 4 (4p (–) syndrome) – mental retardation, deafness, seizures, ocular abnormalities
Oculocerebrocutaneous syndrome – membranous aplasia cutis; orbital cysts, cerebral malformations, facial skin tags, seizures, developmental delay
Opitz syndrome – membranous aplasia cutis; hypertelorism, cleft lip/palate, hypospadias, crytorchidism
Johnson–Blizzard syndrome – small stellate defects; membranous aplasia cutis; dwarfism, mental retardation, deafness, hypothyroidism, pancreatic insufficiency
Focal dermal hypoplasia
Bitemporal aplasia cutis congenita (Setleis syndrome)
Focal facial dermal dysplasia
Amnion rupture malformation sequence
Congenital erosive and vesicular dermatosis with reticulate supple scarring
Lumpy scalp, odd ears, and rudimentary nipples
Ectrodactyly–ectodermal dysplasia–cleft lip/palate (EEC) syndrome
Scalp–ear–nipple syndrome – autosomal dominant; aplasia cutis congenita of the scalp, irregularly shaped pinna, hypoplastic nipple, widely spaced teeth, partial syndactyly *Am J Med Genet 50:247–250, 1994*
Tricho–odonto–onychodermal dysplasia syndrome
Others – cleft lip and palate, ear pits, ear deformities
X-p22 microdeletion syndrome – bilateral linear defects of malar region; microphthalmia, sclerocornea

Atrophia maculosa varioliformis cutis

Atrophoderma of Pasini and Pierini

Collagenome perforante verruciform *Ann DV 90:29–36, 1963*

Epidermolysis bullosa – benign juvenile epidermolysis bullosa – cigarette paper scars *JAAD 14:508–509, 1986;* cicatricial junctional epidermolysis bullosa *JAAD 12:836–844, 1985;* epidermolysis bullosa dystrophica inversa – pitted heel scars *AD 124:544–547, 1988;* dominant dystrophic epidermolysis bullosa; junctional epidermolysis bullosa

Familial acne conglobata – pitted antecubital scars *JAAD 14:207–214, 1986*

Focal facial dermal dysplasias *JAAD 27:575–582, 1992;* bitemporal scarring *JAAD 18:1203–1207, 1988*

Hidradenitis suppurativa

Mid-dermal elastolysis – wrinkled scars *JAAD 26:169–173, 1992*

Pityriasis rosea, vesicular

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

### SYNDROMES

Behçet's syndrome

Dowling–Degos syndrome – pitted scars

Ehlers–Danlos syndrome

Goltz's syndrome – annular atrophic plaques *Cutis 53:309–312, 1994*

Lipoid proteinosis – pock-like annular scars *Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Progeria – scars and keloid-like lesions *AD 124:1261–1266, 1988*

### TRAUMA

Amniocentesis scar

Drug abuse – skin popping

### VASCULAR

Atrophie blanche en plaque

Degos' disease

Livedo vasculitis *AD 124:684–687, 1988*

Vasculitis, including koebnerization of leukocytoclastic vasculitis – lesions within scars *JAAD 22:775–781, 1990*

Wegener's granulomatosis

## APHTHOUS STOMATITIS

***JAAD 52:500–508, 2005; JAAD 40:1–18, 1999***

Agranulocytosis

AIDS *J Oral Pathol Med* 21:409–411, 1992

Behçet's syndrome

Cancrum oris (noma) *Br J Plast Surg 45:193–198, 1992*

Captopril *Lancet Dec15;2* (*8155*)):*1297–1298, 1979*

Carcinoma *Dent Update 19:353, 1992*

Celiac disease *Eur J Oral Sci 106:899–906, 1998; BJD 103:111, 1980*

Crohn's disease *Eur J Dermatol 8:1238–1240, 1998; NEJM 330:1870, 1994*

Cyclic neutropenia *JAAD 52:500–508, 2005*

Cytomegalovirus, including aphthous ulcer of the tongue *Otolaryngol Head Neck Surg 110:463–464, 1994*

Erythema multiforme

Fanconi's anemia *Int J Ped Dent 14:214–217, 2004*

FAPA – fever, aphthosis, stomatitis, pharyngitis, adenitis *JAAD 52:500–508, 2005*

Fluoride *Dermatology 208:181, 2004*

Folate deficiency *JAAD 52:500–508, 2005*

Foreign bodies at distant locations
Intrauterine device
Contact lenses *Lancet 1:857, 1974*

Gold

Hand, foot, and mouth disease

Herpes simplex

Histoplasmosis *Ned Tijdschr Geneeskd 144:1201–1205, 2000*

Hypereosinophilic syndrome *Eur J Dermatol 13:207–208, 2003*

Idiopathic *Dermatol Clin 5:761–768, 1987*

Imiquimod *JAAD 53:360–361, 2005*

Inflammatory bowel disease

Iron deficiency *JAAD 52:500–508, 2005*

Losartan *Clin Nephrol 50:197, 1998*

Lupus erythematosus, systemic

MAGIC syndrome – mouth and genital ulcers with inflamed cartilage *JAAD 52:500–508, 2005*

Methotrexate

Muckle–Wells syndrome *Am J Med Genet 53:72–74, 1994*

Mycobacterium tuberculosis

Myospherulosis *Int J Oral Maxillofacial Surg 22:234–235, 1993*

Neutropenia
  Autoimmune *Oral Surg Oral Med Oral Pathol 78:178–180, 1994*
  Cyclic
  Chemotherapy-induced

Nicorandil *BJD 138:712–713, 1998*

NSAIDS

Paracoccidioidomycosis

Pemphigus vulgaris

Penicillamine *Br Dent J 149:180–181, 1980*

Periodic fever, aphthous stomatitis, pharyngitis, adenitis (PFAPA) *Curr Opin Pediatr 12:563–566, 2000; Curr Opin Pediatr 12:253–256, 2000; J Pediatr 135:98–101, 1999*

Piroxicam *JAAD 50:648–649, 2004*

Pityriasis rosea *AD 122:503–504, 1986*

Polyarteritis nodosa

Primary complex aphthosis

Radiation ulcer

Reiter's syndrome

Relapsing polychondritis with or without associated Behçet's disease *Am J Med 79:665, 1985; J Rheum 4:559, 1984*

Rhinoscleroma

Rhinosporidiosis

Smoking cessation *Tobacco Control 12:86–88, 2003*

Sodium lauryl sulfate in dentifrices

Steatorrhea *BJD 78:546–547, 1966*

Sutton's disease (periadenitis mucosa necrotica recurrens) *AD 133:1162–1163, 1165–1166, 1997*

Sweet's syndrome

Syphilis, including endemic syphilis (bejel)

Trauma

Tumor necrosis factor receptor-associated periodic syndrome (TRAPS) *J Ped 146:283–285, 2005*

Ulcerative colitis *Indian J Gastroenterol 10:88–89, 1991*

Ulcus vulvae acutum *JAAD 52:500–508, 2005*

Vitamin $B_1$, $B_2$, $B_6$, and $B_{12}$ deficiency *Clinics in Derm 17:457–461, 1999; South Med J 83:475–477, 1990*

Wegener's granulomatosis

X-linked chronic granulomatous disease – discoid lupus-like lesions of face and hands in female carriers of X-linked chronic granulomatous disease *BJD 104:495–505, 1981*

*Yersinia enterocolita*

Zinc deficiency *Oral Surg Oral Med Oral Pathol 72:559–561, 1991*

# ARTHRITIS AND RASH

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Angioedema *AD 134:929–931, 1998*

Antineutrophil cytoplasmic antibody syndrome – polyarthritis, purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Autoimmune progesterone dermatitis *AD 107:896, 1973*

Bowel arthritis–dermatitis syndrome – pustular vasculitis, erythema nodosum-like lesions; tenosynovitis, non-destructive polyarthritis *BJD 142:373–374, 2000; AD 135:1409–1414, 1999; Cutis 63:17–20, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Common variable immunodeficiency *BJD 144:597–600, 2001*

Dermatomyositis – bursitis of shoulders and hips, joint effusions *Rook p.2558, 1998, Sixth Edition; Am J Med 67:287–292, 1979;* arthralgias *JAAD 51:427–439, 2004*

Fogo selvagem (endemic pemphigus) – arthralgias *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Hyper-IgE syndrome – hyperextensible joints *Pediatr 141:572–575, 2002; Curr Prob Derm 10:41–92, 1998*

Juvenile rheumatoid arthritis (Still's disease) *Med Chir Trans 80:47, 1897*
  Salmon pink macules, papules
    Evanescent not migratory
    With fever
    Trunk, extremities; pressure areas
    Usually non-pruritic
    'Resident's rash'
    Misinterpreted as drug rash
    Koebner phenomenon
  Fever, FUO
    Quotidian – single or double
    Wide diurnal swings
    Hyperpyrexia to subnormal temperature
    Urticaria *Clin Rheumatol 19:389–391, 2000*
  Pharyngitis at presentation
  Migratory arthritis becomes chronic
  Lymphadenopathy
  Leukocytosis, neutrophilic
  Elevated erythrocyte sedimentation rate (ESR) (two-thirds of patients with ESR of 100 or greater)
  Elevated liver function tests
  Elevated ferritin

Linear IgA disease *BJD 119:789–792, 1988*

Lupus erythematosus – systemic; discoid lupus erythematosus *Rook p.2444–2449,2738, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Mixed connective tissue disease *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Morphea *Rook p.2507, 1998, Sixth Edition;* pansclerotic morphea – mutilating form of morphea *AD 116:169–173, 1980;* generalized morphea *Rook p.2511, 1998, Sixth Edition*

Relapsing polychondritis
  Auricular chondritis
    Limited to cartilagenous portion of ears
    Lobules spared
    Redness may involve retroauricular soft tissues
    Residual – permanent induration
      – cauliflower ear
  Nasal chondritis
    Saddle nose deformity
  Seronegative, non-destructive arthritis
  Non-nodular, asymmetric
  Rarely deformity
  Polyarthralgia – mimicks rheumatoid arthritis
  Costal cartilage
  Sternoclavicular, manubrial-sternal joint

Rheumatoid arthritis-associated lesions *Rook p.2566–2568, 1998, Sixth Edition*
  Rheumatoid neutrophilic dermatitis
  Rheumatoid vasculitis
  Dawson's palms (palmar erythema)
  Yellow discoloration of skin
  Skin transparency
  Subcutaneous nodules
  Sweet's syndrome
  Erythema elevatum diutinum
  Pyoderma gangrenosum

Scleroderma – tenderness and swelling of joints as presenting signs *Rook p.2566,2738, 1998, Sixth Edition*

Serum sickness *NEJM 311:1407–1413, 1984; Dermatol Clin 3:107–117, 1985;* associated with hepatitis B *Arch Int Med 141:623–629, 1981*

X-linked chronic granulomatous disease – discoid lupus-like lesions of face and hands in female carriers of X-linked chronic granulomatous disease *BJD 104:495–505, 1981*

X-linked hypogammaglobulinemia (agammaglobulinemia) *J Allergy 33:406–411, 1962*

## DEGENERATIVE DISEASE

Osteoarthitis – Heberden's nodes on DIP joints
– Bouchard's nodes on PIP joints

## DRUGS

BCG vaccination – morbilliform or purpuric eruptions with arthralgia, abdominal pain *BJD 75:181–192, 1963;* lichenoid and red papules and papulopustules *Ped Derm 13:451–454, 1996*

Drug hypersensitivity syndrome *AD 132:1315–1321, 1996*

Intralesional corticosteroid – periarticular rash *Arthritis Rheum 26:231–233, 1983*

Isotretinoin therapy for acne vulgaris *JAAD 15:1061–1062, 1986*

Jarisch–Herxheimer reaction – treatment of syphilis, onchocerciasis, Lyme disease, strongyloidiasis *AD 125:77–81, 1989; Hautarzt 35:588–590, 1984*

Methotrexate osteopathy in low dose treatment of psoriasis *AD 132:184–187, 1996*

Minocycline hypersensitivity syndrome or lupus-like syndrome *Br Med J 312:169–172, 1996; BJ Rheumatol 674–676, 1994;* Minocycline-induced p-ANCA+ cutaneous polyarteritis nodosa (vasculitis) *JAAD 48:311–340, 2003; JAAD 44:198–206, 2001*

Non-pigmenting fixed drug eruption

Sweet's syndrome – drug-induced *JAAD 34:918–923, 1996*

## EXOGENOUS AGENTS

Epoxy resin-associated fibrosis with arthralgia *Dermatologica 161:33–44, 1980*

Plants – sharp-tipped leaves of palms or yuccas, rose thorns – deeply embedded – septic arthritis mimicking bony tumor *J Bone Joint Surg Am 34:386–388, 1952*

Sea urchin spine granulomas – initial edema; delayed onset of bluish papules and nodules (granulomas); fusiform swelling of digits (synovitis) *Clin Exp Dermatol 2:405–407, 1977;* tenosynovitis and arthritis *Joint Bone Spine 67:94–100, 2000*

Silicone gel breast implants – fever, rash, and arthritis *West J Med 167:149–158, 1997*

## INFECTIONS AND INFESTATIONS

Actinomycosis of long duration *Clin Inf Dis 27:889, 1998*

Acute bacterial endocarditis

Adenovirus infection

African histoplasmosis

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks) – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

African trypanosomiasis *AD 131:1178–1182, 1995*

Arbovirus fever
Dengue fever
West Nile fever
O'nyong–Nyong fever – arbovirus; morbilliform eruption, fever, arthritis; sub-Saharan Africa *Tyring p.399, 2002*
Sindbis – arbovirus; fever, rash, arthritis; Europe, Asia, Africa, Australia *Tyring p.399, 2002*
Ross river fever
Oropouche fever
Phlebotomus fever
Mayaro fever Mayaro – arbovirus; Brazil and Trinidad *Tyring p.399, 2002*
Togavirus – morbilliform, maculopapular-petechial (Sindbis *BJD 135:320–323, 1996; BJD 80:67–74, 1968; chickungunya Trans R Soc Trop Med Hyg 49:28–32, 1955;* and O'Nyong–Nyong fever *Trans R Soc Med Hyg 55:361–373, 1961;* bunyavirus fevers) with joint pains

Barmah Forest virus – similar to Ross River virus *Med J Aust 152:463–466, 1990*

Bee and wasp stings – serum sickness as late onset manifestation *NEJM 133:523–527, 1994; J Allergy Clin Immunol 84:331–337, 1989*

Bejel (endemic syphilis)

Brown recluse spider bite – purpuric morbilliform eruption in children at 24–48 hours *JAAD 44:561–573, 2001*

*Calymmatobacterium granulomatis* (Donovanosis) – joint pain and swelling *J Clin Inf Dis 25:24–32, 1997*

*Candida* – disseminated Candidiasis *JAAD 26:295–297, 1992*

*Capnocytophaga canimorsus Eur J Epidemiol 12:521–533, 1996*

Cat scratch disease – *Bartonella henselae;* red papule, becomes vesicle, crusts, ulcerates, heals with scar *Am J Dis Child 139:1124–1133, 1985; JAMA 154:1247–1251, 1954*

Chikungunya fever *Tyring p.425,513, 2002; Clin Inf Dis 20:225–231, 1995*
Fever, chills, severe pain in large joints
Maculopapular eruption of the trunk, extensor surfaces
East Africa, India

Coccidioidomycosis

Dengue fever (flavivirus) – morbilliform or scarlatiniform eruption on day 3–4, then becomes petechial; classic dengue fever with joint and bone pain (breakbone fever) with severe backache *JAAD 49:979–1000, 2003; JAAD 46:430–433, 2002; Bull Soc Pathol Exot 86:7–11, 1993*

Dematiaceous fungal infections in organ transplant recipients – all lesions on extremities – bursitis, synovitis
Alternaria
Bipolaris hawaiiensis
Exophiala jeanselmei, E. spinifera, E. pisciphera, E. castellani
Exserohilum rostratum
Fonsacaea pedrosoi
Phialophora parasitica

*Dirofilaria* – parasitic rheumatism *Cutis 72:269–272, 2003;* subcutaneous dirofilariasis *JAAD 35:260–262, 1996*

*Dracunculus* – migration of this nematode into joints *Dermatol Clinic 7:323–330, 1989*

Echovirus

Erysipeloid

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gonococcemia *Am Fam Phys 34:77–79, 1986*
Acral purpuric vesicles, pustules
Gray necrotic centers
Hemorrhagic bullae

Mean number of lesions is 10–16
Skin lesions resolve in 3–5 days
Polyarticular arthritis, especially wrist, ankle, extensor tendon sheaths, tenosynovitis
Monoarticular arthritis
Women during or after menses

*Helicobacter cinaedi* – cellulitis and monoarticular arthritis *Clin Inf Dis 20:564–570, 1995*

Hepatitis A *JAAD 37:659–661, 1997*

Hepatitis B *JAAD 8:539–548, 1983*
Urticaria – 'yellow hives'
Maculopapular eruption
Angioneurotic edema
Non-thrombocytopenic petechiae
Pruritus
Acute migratory or additive polyarthritis
Arthritis subsides with onset of jaundice

Hepatitis C associated mixed cryoglobulinema *AD 131:1185–1193, 1995; JAAD 34:219–223, 1996;* livedo reticularis *JAAD 37:659, 1997*

HIV-1 acute infection – erythematous macules, morbilliform eruptions on trunk and face, also palms and soles with arthralgias *JAAD 28:167–173, 1993; AD 134:1279–1284, 1998*

Human bite

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthema of hands, wrists, and elbows *NEJM 353:156–163, 2005*

Infectious mononucleosis *Tyring p.148, 2002; Ghatan p.171, 2002, Second Edition*

Lassa fever (arenavirus) – morbilliform or petechial rash with conjunctivitis *J Infect Dis 155:445–455, 1985*

Leishmaniasis – dactylitis

Lemierre's syndrome (human necrobacillosis) – *Fusobacterium necrophorum;* suppurative thrombophlebitis of tonsillar and peritonsillar veins and internal jugular vein; oropharyngeal pain, neck swelling, pulmonary symptoms, arthralgias *Clin Inf Dis 31:524–532, 2000*

Leprosy – polyarthritis, dactylitis with erythema nodosum leprosum *JAAD 51:416–426, 2004; AD 138:1607–1612, 2002; Rook p.1227, 1998, Sixth Edition;* leprous dactylitis *Rook p.1225, 1998, Sixth Edition*

Lyme disease *Clin Inf Dis 31:533–542, 2000*
Erythema migrans (erythema chronicum migrans)
Tick bite, red papule 3–32 days later, ECM
Thigh, groin, axilla
Bright red outer borders, flat, raised
Central clearing, indurated, vesicular, bullous, necrotic
Secondary lesions
Multiple annular, smaller, migrate less
Lack indurated centers
Recurrent skin lesions
Borrelial lymphocytoma (blue–red nodule of earlobe, scrotum, breast)
Acrodermatitis chronica atrophicans
Arthritis
Late manifestation, from several weeks to years later
Intermittent, recurring in up to 40% of untreated patients

Lymphogranuloma venereum *JAAD 41:511–529, 1999*

Melioidosis – *Burkholderia pseudomallei;* septic arthritis, abscesses, ulcers *Clin Inf Dis 31:981–986, 2000*

Meningococcemia *Ped Derm 13:483–487, 1996;* chronic *BJD 153:669–671, 2005; Med J Aust 153:556–559, 1990*

*Moraxella osloensis* – gonococcemia-like infection *Cutis 21:657–659, 1978*

Mumps – adult males

Murine typhus (*Rickettsia typhi*) – arthralgia *MMWR 52:1224–1226, 2003*

Mycetoma

*Mycobacterium abscessus* – breast abscesses with tenosynovitis; erythema over joints associated with intramammary silicone breast implants with serum sickness-like syndrome *JAAD 50:450–454, 2004*

*Mycobacterium haemophilum BJD 149:200–202, 2003; AD 138:229–230, 2002*

*Mycobacterium kansasii* – swollen fingers *JAAD 45:620–624, 2001*

*Mycobacterium marinum J Clin Microbiol 28:2570–2572, 1990*

*Mycobacterium tuberculosis* – lichen scrofulosorum – dactylitis *Rook p.1200, 1998, Sixth Edition;* yellow to red–brown flat-topped papules, slightly scaly, surmounted with minute pustule; trunk scrofulosorum *Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976;* lupus vulgaris; dactylitis; presenting as tophaceous gout *J Rheumatol 16:700–702, 1989*

Mycotic aneurysm, femoral – arthritis and purpura *Br J Rheumatol 24:364–366, 1985*

*Nocardia asteroides*

Ockelbo disease – arthritis, exanthem – due to Dindbis-virus like agent *Lancet 1* (*8275*):*795–796, 1982*

Onchocerciasis *Cutis 65:293–297, 2000*

Parvovirus B19 (erythema infectiosum, fifth disease) *JAAD 27:466, 1992; J Clin Inf Dis 21:1424–1430, 1995*
Adults seldom have typical 'slapped cheeks'
Papular–purpuric glove and socks syndrome
Macular, lacy or reticulate erythema on the extremities
Pruritus, sometimes severe, with or without rash in a patient with acute onset arthritis
Sudden onset, symmetric polyarthritis, particularly of hands
Lupus-like presentation *J Rheumatol 19:169–171, 1992*

*Pasteurella multocida* – periocular abscess and cellulitis; tenosynovitis, septic arthritis *Am J Ophthalmol 128:514–515, 1999; JAAD 33:1019–1029, 1995*

Pogost disease – alphavirus infection with rash and arthritis *J Clin Lab Immunol 21:77–82, 1986*

Rat bite fever (*Streptococcus moniliformis*) – acral hemorrhagic pustules *JAAD 38:330–332, 1998;* septic arthritis *MMWR 53:1198–1202, 2005; Clin Orthop 380:173–176, 2000*
Erythematous macules, papules 2–3 days after symptoms:
Most marked on the extremities, particularly about joints;
Measles-like, involves palms and soles
Fever, chills, headache, myalgias, arthritis after rat bite healed
Haverhill fever – erythema arthriticum epidemicum ('Sodoku') – *Spirillium minus*

Relapsing fever (tick-borne relapsing fever) – *Ornithodoros* soft ticks transmitting *Borrelia hermsii*, *B.turicata*, or *B. parkeri;* 1–2-cm rose-colored macules, papules, petechiae, purpura, facial flushing; arthralgias, iritis, myalgia *JAAD 49:363–392, 2003;* diffuse macular rash *Tyring p.438, 2002*

Rheumatic fever *JAAD 8:724–728, 1983*
Abrupt onset polyarthritis, fever in adults
One-third of adults have no recollection of pharyngitis
Spreading erythematous rings (erythema marginatum)
Duration of rash – few hours; pattern changing hourly
Trunk and extremities
Carditis
Migratory arthritis
Dramatic response to salicylates

Rocky Mountain spotted fever *Ghatan p.244, 2002, Second Edition*

Roseola – adults *Ghatan p.244, 2002, Second Edition*

Ross River virus disease (togavirus) *Clin Rheum Dis 12:369–388, 1986*

Rubella, rubella vaccination
- 1–2 days' fever, respiratory symptoms, sub-occipital lymphadenopathy
- Pink–red macular-papular rash
- Mean duration of rash 3.5 days
- Generalized eruption, top to bottom
- Additive symmetric polyarthritis
- Arthritis, predilection young adult females

Scarlet fever with septic arthritis – *Streptococcus pyogenes*; scarlatiniform (sandpaper) rash *JAAD 39:383–398, 1998; JAAD 21:891–903, 1989*

Schistosomiasis (*S. japonicum*) – Katayama fever – purpura, arthralgia, systemic symptoms *BJD 135:110–112, 1996; Dermatol Clin 7:291–300, 1989*

Seal finger – painful, swollen red finger; synovitis *J Rheumatol 13:647–648, 1986*

Sporotrichosis *JAAD 28:879–884, 1993;* tenosynovitis *J Rheumatol 16:550–553, 1989;* bursitis *Br J Rheumatol 37:461–462, 1998;* prepatellar bursal sporotrichosis *Clin Inf Dis 31:615–616, 2000*

Subacute bacterial endocarditis
- Petechiae
- Splinter hemorrhages, proximal
- Cryoglobulins causing purpura
- Vasculitis causing palpable purpura
- Osler's node
  - A painful erythematous nodule with a pale center; suddenly appears, usually on the fingertips; persists for hours to days
- Janeway lesion
  - Hemorrhagic and non-tender; may be nodular and commonly occurs on the palms and soles *JAAD 22:1088–1090, 1990*

Syphilis – secondary *Infect Dis Clin North Am 1:83–85, 1987;* congenital – osteochondritis – tibia and fibula at birth; later see osteomyelitis syphilitica (syphilitic dactylitis); Clutton's joint – painless synovitis of the knees; sabre shins *Rook p.1254–1255, 1998, Sixth Edition;* Higoumenakis' sign – sternoclavicular swelling in congenital syphilis

Varicella – 1–5 large joints, may last up to 3 years *J Clin Pathol 45:267–269, 1992*

West Nile virus *JAAD 51:820–823, 2004*

Whipple's disease – septal panniculitis associated with Whipple's disease *BJD 151:907–911, 2004;* subcutaneous Whipple's disease *JAAD 16:188–190, 1987*

Yaws – primary, secondary *Clin Dermatol 18:687–700, 2000; Rook p.1268–1269, 1998, Sixth Edition;* tertiary – osteitis, periostitis of long bones, metacarpals, metatarsals; sabre shins; synovial inflammation and tendinous synovitis of elbows, knees, ankles *Rook p.1270–1271, 1998, Sixth Edition*

Yersiniosis *Rook p.2738, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic; $\beta_2$-microglobulin amyloidosis – shoulder pain, carpal tunnel syndrome, flexor tendon deposits of hands, lichenoid papules, hyperpigmentation, subcutaneous nodules (amyloidomas) *Int J Exp Clin Inves 4:187–211, 1997*

Mastocytosis – arthralgias *Ghatan p.171, 2002, Second Edition*

Scleromyxedema *Dermatol Clin 20:493–501, 2002; JAAD 33:37–43, 1995;* linear papules, leonine facies, arthritis and rash, sclerodermoid changes *JAAD 44:273–281, 2001*

Self-healing (papular) juvenile cutaneous mucinosis – arthralgias *JAAD 50:S97–100, 2004; JAAD 44:273–281, 2001; Ped Derm 20:35–39, 2003; Ped Derm 14:460–462, 1997; AD 131:459–461, 1995; JAAD 11:327–332, 1984; Ann DV 107:51–57, 1980*
- Acute onset, polyarthritis, young age; rapid spontaneous resolution
- Non-tender ivory white papules of the head, neck, trunk; periarticular
- Deep nodules on face and periarticular regions
- Hard periorbital edema, cheek bone areas

## INFLAMMATORY DISEASES

Angioimmunoblastic lymphadenopathy – polyarthritis, rash, and lymphadenopathy *Clin Rheumatol 17:148–151, 1998*

Aphthous stomatitis, recurrent *Clin Exper Rheumatol 14:407–412, 1996*

Eosinophilic fasciitis – symmetric polyarthritis *JAAD 49:1170–1174, 2003; AD 131:1329–1334, 1995*

Erythema multiforme, Stevens-Johnson syndrome – polyarthritis *Rook p.2084, 1998, Sixth Edition*

Erythema nodosum *Rook p.2200, 1998, Sixth Edition; Ann Rheum Dis 19:174–180, 1960*; Lofgren's syndrome – erythema nodosum with sarcoidosis and arthralgias *Ped Derm 22:366–368, 2005*

Hidradenitis suppurativa spondyloarthropathy

Interstitial granulomatous dermatitis with plaques (aka linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare) – red, linear plaques with arthritis *JAAD 46:892–899, 2002;* linear erythematous cords *JAAD 45:286–291, 2001; JAAD 34:957–961, 1996*

Pruritic linear urticarial rash, fever, and systemic inflammatory disease of adolescents – urticaria, linear lesions, periorbital edema and erythema, and arthralgia *Ped Derm 21:580–588, 2004*

Pyoderma gangrenosum – association with rheumatoid arthritis, Behçet's disease with polyarthritis *Rook p.2188, 1998, Sixth Edition;* inflammatory bowel disaese *AD 125:57–64, 1989;* pyoderma gangrenosum, palmoplantar pustulosis, and chronic recurrent multifocal osteomyelitis *Ped Derm 15:435–438, 1998*

SAPHO syndrome (pustulosis palmaris plantaris with arthrosteitis) (sternoclavicular osteitis and palmoplantar pustulosis) *AD 128:699–700, 1992; JAAD 18:666–671, 1988*

Sarcoid *AD 111:362, 1975 Clinics in Chest Medicine 18:663–679, 1997; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997*
- Papules
  - Eyelids, alae nasi
  - Bright red, blue red, brown
  - Annular, lichenoid
  - Maculopapular
- Nodules
  - Subcutaneous (Darier-Roussy) *Am J Med 85:731–736, 1988*
- Plaques
  - Lupus pernio
  - Destructive, disfiguring
  - Violaceous
  - 'Turkey ears'
  - Associated with chronic progressive fibrotic pulmonary disease, upper respiratory mucosal disease, bone cysts of the fingers, fusiform swelling of the digits; nasal ulceration, septal perforation
  - Verrucous papillomatous

- Infiltrated scar
  - Scars of abdomen, neck, TB skin test sites
  - In tattooed areas with onset of systemic sarcoid *Cutis 36:423, 1985*
- Hypopigmentation *AD 108:249, 1973*
- Scaling
  - Erythroderma
  - Psoriasiform *AD 106:896, 1972*
  - Ichthyosiform
- Cicatricial alopecia *AD 107:758, 1973*
- Ulcerative sarcoid
  - Tender punched-out ulcers
  - Ulcers within generalized papules or nodules
- Mucosal involvement
- Angiolupoid sarcoid of Brocq and Pautrier
- Erythema nodosum, Lofgren's syndrome
- Heerfordt's syndrome – uveoparotid fever *JAAD 13:314, 1985*
- Juvenile sarcoid *JAAD 48:S99–102, 2003*

Scleromyxedema *JAAD 43:403–408, 2000*

Ulcerative colitis, regional enteritis

## METABOLIC DISEASES

Angiokeratoma corporis diffusum (Fabry's disease (alpha galactosidase A) – X-linked recessive; arthritis of terminal phalanges *JAAD 17:883–887, 1987; NEJM 276:1163–1167, 1967*

Complement deficiency – deficiency of beta subunit of the eighth component of complement – arthritis and exanthem *Arthritis Fheum 37:1704–1706, 1994*

Cryoglobulinemia *JAAD 48:311–340, 2003*

Diabetes – neuropathy – Charcot joint; diabetic cheiropathy (stiff joints and waxy skin) *NEJM 305:191–194, 1981*

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Hemochromatosis – arthropathy *JAAD 51:205–211, 2004; Hum Molec Genet 9:2377–2382, 2000; Schweiz Med Wochenschr 122:842–849, 1992; AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Homocystinuria – joint dysplasia

Hyperlipidemia
- Type II hyperlipoproteinemia
  - Tendinous xanthomas or nodules
    - Achilles tendon, patella tendon, extensor tendons of hands and feet
    - Migratory polyarthritis that affects large joints
    - Acute episodes of Achilles tendonitis

Mixed cryoglobulinemia

Nephrogenic fibrosing dermopathy (scleromyxedema-like cutaneous fibrosing disorder) – stiff joints and flexion contractures; associated with chronic renal failure with or without hemodialysis *JAAD 48:55–60, 2003; JAAD 48:42–47, 2003; Am J Med 114:563–572, 2003; AD 139:903–906, 2003; Am J Dermatopathol 23:383–393, 2001; Lancet 356:1000–1001, 2000*

Ochronosis (alkaptonuria) – autosomal recessive; homogentisic acid dioxygenase deficiency *JAAD 52:122–124, 2005; NEJM 347:2111–2121, 2002; Rook p.2649, 1998, Sixth Edition; Am J Med 34:813–838, 1963*
- Diaper discoloration with alkaline soap
- Brown–black cerumen, apocrine, eccrine sweat
- Gray–blue discoloration of thin skin overlying pigmented cartilage, tendon; nose tip, extensor tendons, ears
- Scleral discoloration
- Onset of arthritis in 40s
- Males > females
- Shoulders, knees, hips
- Spine
  - Calcified intervertebral discs
  - Lumbar pain, kyphosis, lordosis, sciatica

Oxaluria – primary hyperoxaluria *JAAD 49:725–728, 2003;* livedo and arthritis) *AD 125:551–556, 1989; AD 116:213–214, 1980*

Pancreatic panniculitis – periarticular subcutaneous nodules *JAAD 45:325–361, 2001; Rook p.2414, 1998, Sixth Edition; JAAD 34:362–364, 1996; J Rheumatol 19:630–632, 1992; Arthritis Rheum 22:547–553, 1979*
- Subcutaneous erythematous nodules
- Often tender
- Legs – posterior, lateral not tibial
- Buttocks, trunk
- Occasionally fluctuant
- Spontaneous breakdown, drain creamy sterile material
- Arthritis, periarthritis
- Ankles, feet
- Fat necrosis
  - Periarticular
  - Synovial membrane
  - Marrow cavity

Scurvy – hemarthrosis or subperiosteal hemorrhage *JAAD 41:895–906, 1999; NEJM 314:892–902, 1986*

Sickle cell anemia – dactylitis with unequal growth of digits *Rook p.2736, 1998, Sixth Edition*

Sitosterolemia – arthritis and tuberous xanthomas *J Lipid Research 33:945–955, 1992*

Vitamin A intoxication – bone aches in children *Rook p.2656, 1998, Sixth Edition*

Waldenström's hypergammaglobulinemic purpura

## NEOPLASTIC DISEASES

Giant cell tumor of the tendon sheath – strong association with osteoarthritis; multilobulated single or multiple *JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996; J Bone Joint Surg Am 66:76–94, 1984*

Inflammatory linear verrucous epidermal nevus (ILVEN) – arthritis typical of psoriatic arthritis (asymmetric large and small joints with dactylitis) but skin lesion unresponsive to methotrexate *J Pediatr 138:602–604, 2001*

Juvenile hyaline fibromatosis *JAAD 18:881–883, 1987*
- Progressive and disabling
- Gingival hypertrophy, stunted growth
- Osteolytic defects
- Flexion contractures of the joints

Lymphoma, including cutaneous T-cell lymphoma (CTCL) – rheumatoid arthritis-like *JAAD 51:111–117, 2004; Ann Intern Med 114:571, 1991;* Sézary syndrome and seronegative polyarthritis *JAAD 48:220–226, 2003*

Metastases – metastatic breast cancer presenting with fever, rash, and arthritis *Cancer 75:1608–1611, 1995;* acrometastases – initial presentation as diffuse ankle pain *J Am Podiatr Med Assoc 84:625–627, 1994*

Myelodysplastic syndrome – polyarthritis, mononeuritis multiplex, dermatitis *Clin Exp Rheumatol 9:629–633, 1991*

## PARANEOPLASTIC DISORDERS

Paraneoplastic vasculitis *J Rheumatol 18:721–727, 1991*; in chronic myelogenous leukemia *Am J Med 80:1027–1030, 1986*

## PRIMARY CUTANEOUS DISEASES

Acne conglobata *Ann Intern Med 97:520–525, 1982*

Acne fulminans *JAAD 28:572–579, 1993; Clin Rheumatol 5:118–123, 1986*

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha-Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Ainhum

Cutis laxa – lax joints with hypermobility *JAAD 46:161–183, 2002*

Delayed pressure urticaria – arthralgia *Rook p.2130, 1998, Sixth Edition; JAAD 29:954–958, 1993*

Erythema elevatum diutinum – arthralgias *Cutis 67:381–384, 2001; Ped Derm 15:411–412, 1998; Cutis 93:124–126, 1994*

Febrile ulceronecrotic pityriasis lichenoides et varioliformis acuta *J Rheumatol 16:387–389, 1989*

Lamellar ichthyosis – limitation of joint movement, flexion contractures, digital sclerodactyly *Rook p.1500, 1998, Sixth Edition*

Lipoatrophia semicircularis – anterolateral thighs; band-like circular depression; lipoatrophy of ankles *BJD 105:591–593, 1981; JAAD 39:879–881, 1998*

Pachydermodactyly – benign superficial fibromatosis *Ped Derm 13:288–291, 1996*

Pityriasis rubra pilaris *Arthr Rheum 42:1998–2001, 1999*

Psoriasis – psoriatic arthritis – peripheral asymmetric oligoarthritis, distal interphalangeal arthritis, symmetrical rheumatoid arthritis-like polyarthritis, arthritis mutilans, spondylitis or sacroiliitis *Rook p.1645–1646, 1998, Sixth Edition; Semin Arthritis Rheum 3:55–78, 1973;* pustular palmoplantar – chronic recurrent multifocal osteomyelitis *JAAD 12:927–930, 1985; Dermatologica 159:37–45, 1979;* sternoclavicular hyperostosis (SAPPHO) *J Bone Joint Surg Am 68:103–112, 1986*

Psoriatic onycho-pachydermo-periostitis *AD 132:176–180, 1996*

Pustulosis palmaris plantaris *JAAD 18:666–671, 1988*

Scleredema of Buschke (pseudoscleroderma) – stiffness and restricted movement of joints *JAAD 11:128–134, 1984*

## SYNDROMES

AHA syndrome (arthritis or arthralgia, hives, angioedema) *Rheumatol Int 7:277–279, 1987*

Anti-phospholipid antibody syndrome (anticardiolipin antibody syndrome) *Lupus 4Suppl1:S27–31, 1995*

Apert's syndrome

Behçet's disease *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997; Ped Derm 11:95–101, 1994*
- Major – Oral ulceration
  - Genital ulceration
  - Ocular lesions
  - Skin lesions
- Minor – Gastrointestinal lesions
  - Thrombophlebitis
  - Cardiovascular lesions
  - Arthritis
  - CNS lesions
  - Family history
- Oral ulcers *J Oral Pathol 7:347, 1978*
  - Minor aphthous ulcers
    - 1–5 painful
    - Lip, tongue, cheeks, floor of mouth
  - Major aphthous ulcers
    - 1–10 very painful
    - 10–30 mm
    - Fauces, soft palate
    - Last up to 6 weeks
    - Heal with scarring
- Genital ulcers
  - Male, superficial, painful
  - Scrotum, rarely glans penis
  - Female, often painless
  - Vagina, cervix
- Ocular lesions
  - Iridocyclitis with hypopion
  - Conjunctivitis
  - Choroiditis
  - Blindness
- Skin lesions
  - Ulcerations
  - Folliculitis, acneform eruption
  - Pathergy
  - 'Erythema nodosum'
  - Erythema multiforme
- Arthritis
  - Asymmetric, non-destructive polyarthritis
  - Poor response to standard therapy
  - Knees >> ankles, elbows, wrists

Benign joint hypermobility syndrome – arthralgia, joint dislocation, hyperextensible skin, laxity of eyelids, normal skin texture and thickness (unlike Ehlers–Danlos syndrome) *J Rheumatol 13:239–243, 1986*

Blau syndrome – autosomal dominant; generalized papular eruption with granuloma formation; granulomatous arthritis, synovial cysts, iritis, rash; resembles childhood sarcoid – red papules, uveitis; chromosome 16p12-q21 *JAAD 49:299–302, 2003; Am J Hum Genet 76:217–221, 1998; Am J Hum Genet 59:1097–1107, 1996*

Borrone dermatocardioskeletal syndrome – autosomal recessive or X-linked; gingival hypertrophy, coarse facies, late eruption of teeth, loss of teeth, thick skin, acne conglobata, osteolysis, large joint flexion contractures, short stature, brachydactyly, camptodactyly, mitral valve prolapse, congestive heart failure *Ped Derm 18:534–536, 2001*

Buschke–Ollendorff syndrome – joint stiffness *BJD 144:890–893, 2001; JID 99:129–137, 1992*

Camptodactyly – flexion deformity of PIP joint of one or more fingers; may be associated with inflammatory arthritis; Blau's syndrome – familial camptodactyly, granulomatous arthritis, uveitis, red rash *Am J Dis Child 147:842–848, 1993;* Weaver syndrome – camptodactyly with unusual facies, hoarse low-pitched cry, hypertonia *J Pediatr 84:547–552, 1974*

Chromosome 6q deletion syndrome – joint laxity *Hum Hered 27:242–246, 1977*

Chronic infantile neurological cutaneous articular syndrome (CINCA) (neonatal onset multisystem inflammatory disorder (NOMID)) – urticarial rash at birth, arthropathy, uveitis, mental retardation, short stature *Ped Derm 22:222–226, 2005; AD 136:431–433, 2000; Eur J Ped 156:624–626, 1997; J Pediatr 99:79–83, 1981;* IOMID – infantile-onset multisystem inflammatory disease – arthropathy, rash, and central nervous system involvement *AD 136:1487–1494, 2000*

Congenital fascial dystrophy (stiff skin syndrome) – hirsutism, limited joint mobility, localized areas of stony hard skin of buttocks and legs *JAAD 21:943–950, 1989;* restrictive dermopathy – autosomal recessive – joint contractures *AD 134:577–579, 1998*

Conradi's disease (chondrodysplasia punctata) – stiff joints *Hautarzt 30:590–594, 1979*

Costello syndrome – hyperextensible fingers, warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low-set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Aust Paediat J 13:114–118, 1977*

Ehlers–Danlos syndrome – joint hypermobility and laxity *Rook p.2032–2038, 1998, Sixth Edition*
- Hyperextensibility of skin
- Soft velvety skin
- Poor wound healing
  - Thinned atrophic scars, cigarette paper scars
  - Pseudotumor
- Thin, translucent skin
- Easy bruisability
- Varicose veins
- Joint laxity, hyperextensible joints, scoliosis
  - Pes planus (flat feet)
  - Osteoarthritis – age 30–40

Familial cold autoinflammatory syndrome (familial cold urticaria) *BJD 150:1029–1031, 2004*

Familial dysautonomia (Riley–Day syndrome) (hereditary sensory and autonomic neuropathy type III) – Charcot joints *BMJ iv:277–278, 1967*

Familial histiocytic dermatoarthritis syndrome – uveitis, destructive arthritis; papulonodular eruption *Am J Med 54:793–800, 1973*

Familial Mediterranean fever *Medicine 77:268–297, 1998; AD 134:929–931, 1998; QJMed 75:607–616, 1990;* autosomal recessive; erysipelas-like erythema – mutation in pyrin/marenostrin *JAAD 42:791–795, 2000; AD 136:1487–1494, 2000*

Familial partial lipodystrophy, mandibuloacral dysplasia variety – autosomal recessive; short stature, high pitched voice, mandibular and clavicular hypoplasia, dental anomalies, acro-osteolysis, stiff doints, cutaneous atrophy, alopecia, nail dysplasia *Am J Med 108:143–152, 2000*

Farber's disease (lipogranulomatosis) – deformed or stiff joints and periarticular subcutaneous nodules; coarse facial features *Ped Derm 21:154–159, 2004; Eur J Ped 157:515–516, 1998; AD 130:1350–1354, 1994*

Fibroblastic rheumatism – symmetric sero-negative destructive polyarthritis; cutaneous nodules, 5–20 mm of palmar or dorsal surface of hands always present; always resolve in 6 months to years *Ped Derm 19:532–535, 2002; AD 131:710–712, 1995; JAAD 14:1086–1088, 1986*

François syndrome

GEMSS syndrome – autosomal dominant; glaucoma, lens ectopia, microspherophakia, stiff joints, shortness, gingival hypertrophy, flexion contractures of joints, osteolytic defects, stunted growth, stocky pseudoathletic build, sclerosis of upper back and extremities *AD 131:1170–1174, 1995*

Granulomatous synovitis, uveitis, and cranial neuropathies – JABS syndrome – autosomal dominant *J Pediatr 117:403–408, 1990*

Hyper-IgD syndrome – autosomal recessive; red macules or papules, urticaria, red nodules, urticaria, combinations of periodic fever, arthritis, arthralgias, and rash, annular erythema, and pustules, abdominal pain with vomiting and diarrhea, lymphadenopathy; elevated IgD and IgA – mevalonate kinase deficiency *Ped Derm 22:138–141, 2005; AD 136:1487–1494, 2000; AD 130:59–65, 1994; Medicine 73:133–144, 1994; Lancet 1:1084–1090, 1984*

Hystrix-like keratosis with nail and joint involvement *Dermatology 192:321–324, 1996*

Infantile restrictive dermopathy – autosomal recessive; taut shiny skin with flexion of joints *Eur J Ped 155:987–989, 1996; Am J Med Genet 24:631–648, 1986*

Infantile systemic hyalinosis – autosomal recessive; synophrys, thickened skin, red papules, focal skin nodularity with perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, with failure to thrive, diarrhea, recurrent infections, death in infancy *JAAD 50:S61–64, 2004; Ped Derm 18:534–536, 2001*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – nodular perianal lesions, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, osteolytic defects, stunted growth *Ped Derm 18:400–402, 2001; Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994; AD 112:86–88, 1976*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Kawasaki's disease

Kindler's syndrome – joint laxity *AD 140:939–944, 2004*

MAGIC syndrome

Marfan's syndrome – joint hypermobility, tight joints with contractures *JAAD 46:161–183, 2002; Int J Dermatol 28:291–299, 1989*

McCune–Albright's syndrome (polyostotic fibrous dysplasia) *Rook p.2739, 1998, Sixth Edition*

Moore–Federman syndrome – short stature, stiffness of joints, characteristic facies *J Med Gen 26:320–325, 1989*

Muckle–Wells syndrome – aching joints, deafness, amyloid neuropathy, cold air urticaria, conjunctivitis *BJD 151:99–104, 2004; JAAD 39:290–291, 1998, BJD 100:87–92, 1979*

Multicentric reticulohistiocytosis (reticulohistiocytoma cutis – destructive arthritis with rheumatoid-like nodules) *AD 140:919–921, 2004; Rook p.2325–2326, 1998, Sixth Edition; Clin Exp Dermatol 15:1–6, 1990; Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*
- Brown papulonodules
- Face and hands common; coral beads around nail folds
- Periarticular areas characteristic
- Nodules decrease in cephalocaudal direction
- One-half with mucosal lesions
- Non-pruritic
- One-third with xanthelasma
- Arthritis and joint damage rapidly progressive
- One-half with arthritis mutilans
- Burnt out after 6–8 years

Nail–patella syndrome *Rook p.2833, 1998, Sixth Edition*

NERDS – nodules, eosinophilia, rheumatism, dermatitis, and swelling *Dermatology 191:133–138, 1995*

Oligodontia, keratitis, skin ulceration, and arthroosteolysis *Am J Med Genet 15:205–210, 1983*

Osteogenesis imperfecta *Rook p.2739, 1998, Sixth Edition*

Pachydermodactyly – swollen fingers (fibromatosis) *JAAD 38:359–362, 1998*

Pachydermoperiostosis *JAAD 38:359–362, 1998*
- Spade-like enlargement of hands and feet
- Warmth of fingertips, paronychia
- Excessive sweating of hands and feet
- Coarsening facial features mimicking acromegaly
  - Leonine facies, worried or angry look
  - Cutis verticis gyrata
- Palmar plantar keratoderma
- Greasiness to skin
- Clubbing + periostitis + acromegalic features
- Asymptomatic periosteal reaction
- Mild arthralgia
- Severe deep-seated aching or burning pain, aggravated by dependency
  - Tenderness over distal long bones
  - Insidious onset, mild rheumatic complaints
  - Idiopathic, suppurative pulmonary disease
  - Rapidly progressive, prominent joint pain
  - Malignant disease

PAPA syndrome – pyoderma gangrenosum, cystic acne, aseptic arthritis; sterile abscesses at injection sites; mutation in CD2 binding protein-1 *Ped Derm 22:262–265, 2005; Proc Natl Acad Sci USA 100:13501–13506, 2003; Mayo Clin Proc 72:611–615, 1997*

Papular–purpuric gloves and socks syndrome *Ped Derm 15:413, 1998*

Periodic fever *BJD 151:99–104, 2004*

POEMS syndrome – bilateral Charcot joints *Dtsch Med Wochenschr 124:346–350, 1999*

Progeria (Hutchinson–Guilford syndrome) *AD 125:540–544, 1989*

Proteus syndrome – skeletal overgrowth of arms and legs limiting joint mobility *AD 140:947–953, 2004*

Pseudoacromegaly – autosomal recessive; skin ulcers, arthro-osteolysis, keratitis, oligodontia *Am J Med Genet 15:205–210, 1983*

Reflex sympathetic dystrophy – limited joint mobility *Cutis 68:179–182, 2001*

Reiter's syndrome
- Circinate balanitis
- Asymptomatic oral mucosal erosions
- Keratoderma blenorrhagica
- Pustular psoriasis
- Psoriasiform plaques
- Nail changes
- Geographic tongue
- Seronegative non-suppurative arthritis – polyarticular knees, ankles, metatarsophalangeal, sacroiliac joints; relative sparing of hands and wrists; occasionally monoarticular *Rook p.2764, 1998*
- Spondylitis
- Achilles tendonitis
- Plantar fasciitis
- Sausage digits – dactylitis

Relapsing polychondritis – may mimic rheumatoid arthritis *Clin Rheumatol 6:453–457, 1987; Medicine 55:193–216, 1976*

REM syndrome (reticular erythematous mucinosis syndrome) *Acta DV 66:442–445, 1986*

Rosai–Dorfman syndrome *Am J Clin Pathol 82:515–525, 1984*

SAPHO syndrome – palmoplantar pustulosis with sternoclavicular hyperostosis; acne fulminans, acne conglobata, hidradenitis suppurativa, psoriasis, multifocal osteitis *Cutis 71:63–67, 2003; Cutis 64:253–258, 1999; Cutis 62:75–76, 1998; Rev Rheum Mal Osteoarthritic 54:187–196, 1987; Clin Rheumatol 5:118–123, 1986; Ann Rev Rheum Dis 40:547–553, 1981*

Schnitzler's syndrome – monoclonal IgM kappa light chain macroglobulinemia, intermittent fever, bone pain, lymphadenopathy, hyperostosis, peripheral neuropathy *J Eur Acad Dermatol Venereol 16:267–270, 2002*

Schopf–Schulze–Passarges syndrome

Self-healing juvenile mucinosis *Ped Derm 14:460–462, 1997*

SHORT syndrome – short stature, hyperextensible joints, ocular depression, Reiger (ocular and dental) anomaly, teething delay, loss of subcutaneous fat of face, upper extremities, chest and Sjögren's syndrome *Rook p.2572, 1998, Sixth Edition*

Soto's syndrome – joint hyperextensibility; cutis laxa; cerebral gigantism *J Med Genet 36:51–56, 1999*

Stiff skin syndrome – joint contractures *Ped Derm 20:339–341, 2003; Ped Derm 19:67–72, 2002*

Sweet's syndrome *JAAD 23:494–498, 1990; Arthritis Rheum 18:35–41, 1975; BJD 76:349–356, 1964;* including drug-induced Sweet's syndrome – red plaques, nasal ulcers, perianal ulcers – celecoxib, G-CSF, all-trans retinoic acid *JAAD 45:300–302, 2001*

Trichorhinophalangeal syndrome I – autosomal dominant; pear-shaped nose, tubercle of normal skin below the lower lip, fusiform swelling of the PIP joints; fine brittle sparse hair, eyebrows sparse laterally, dense medially, short stature *JAAD 31:331–336, 1994*

Tuberous sclerosis – pseudocysts of the phalanges *Rook p.2739, 1998, Sixth Edition*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55kDa TNF receptor *AD 136:1487–1494, 2000*

Tricho-rhino-phalangeal syndrome *J Ped Orthop 6:133–138, 1986*

Weill–Marchesani syndrome

Wells' syndrome *JAAD 52:187–189, 2005; Trans St. Johns Hosp Dermatol Soc 57:46–56, 1971*

Werner's syndrome *Rook p.2739, 1998, Sixth Edition*

Winchester syndrome – systemic hyalinosis with joint contractures *JAAD 50:S53–56, 2004*
- Dwarfism, osteolysis, corneal opacities
- Osteoporosis
- Rheumatoid-like joint destruction
- Hyperpigmentation
- Hypertrichosis
- Thickening of the skin
- Widespread nodular lesions *Am J Med Genet 26:123–131, 1987J Pediatr 84:701–709, 1974; Pediatrics 47:360–369, 1971*

## TOXINS

Eosinophilia myalgia syndrome (L-tryptophan related) – arthralgia *Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990*

Hypervitaminosis A – bone pain *Arch Intern Med 112:462–466, 1963*

Polychlorinated biphenyl poisoning – chloracne, goiter, arthritis, and anemia *Environ Health Perspect 107:715–719, 1999*

### TRAUMA

Familial cold urticaria – autosomal dominant *AD 129:343–346, 1993*

Pachydermodactyly due to obsessive compulsive behavior *AD 130:387, 1994*
- vs. spina ventosa, osteitis multiplex cystoides Jungling, true knuckle pads, tuberous sclerosis

### VASCULAR

Acute hemorrhagic edema of infancy

Churg–Strauss disease – arthralgia *BJD 127:199–204, 1992*

Henoch–Schönlein purpura *JAAD 48:311–340, 2003; Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995; Am J Dis Child 99:833–854, 1960*

Lymphostasis verrucosa cutis (chronic lymphedema, multiple causes) – brawny edema with impaired small joint mobility *Rook p.2285, 1998, Sixth Edition*

Multifocal lymphangioendotheliomatosis – congenital appearance of hundreds of flat vascular papules and and plaques associated with gastrointestinal bleeding, thrombocytopenia with bone and joint involvement; spontaneous resolution *J Pediatr Orthop 24:87–91, 2004*

Polyarteritis nodosa, systemic or cutaneous *Ped Derm 15:103–107, 1998*; *Ann Rheum Dis 54:134–136, 1995;* cutaneous (livedo with nodules) – arthritis; arthralgias; painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *BJD 146:694–699, 2002;* microscopic PAN *JAAD 48:311–340, 2003*

Urticarial vasculitis, including urticarial vasculitis associated with mixed cryoglobulins, hepatitis B or C infection, IgA multiple myeloma, infectious mononucleosis, monoclonal IgM gammopathy (Schnitzler's syndrome), fluoxetine ingestion, metastatic testicular teratoma, serum sickness, Sjögren's syndrome, systemic lupus erythematous – arthralgias, arthritis *JAAD 49:S283–285, 2003; JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992;* hypocomplementemic vasculitis (urticarial vasculitis) – arthralgias *JAAD 48:311–340, 2003*

Vasculitis – leukocytoclastic vasculitis *AD 134:309–315, 1998*

Venous leg ulcers and arthropathy *Br J Rheumatol 29:142–144, 1990*

Wegener's granulomatosis *Br Med J ii:265–270, 1958*

## ATRICHIA AND NAIL ABNORMALITIES

***Ped Derm 5:236–342, 1988***

Agammaglobulinema, dwarfism, ectodysplasia

Alopecia, onychodysplasia, hypohidrosis, deafness

Alopecia, onychodysplasia, hypohidrosis

Arthrogryphosis and ectodermal dysplasia

Atrichia with nail dystrophy, abnormal facies and retarded psychomotor development

Atrichia with papular lesions – autosomal recessive

Atrichia – isolated atrichia – autosomal dominant; autosomal recessive

Dermotrichic syndrome

Ectodysplasia with severe mental retardation

GAPO – autosomal recessive

Hayden's syndrome

Hidrotic ectodermal dysplasia of Clouston – autosomal dominant

Infantile progeria – autosomal recessive

Odonto-onychodysplasia with alopecia

Palmoplantar hyperkeratosis and alopecia

Skeletal anomalies, ectodermal dysplasia, growth and mental retardation

Tricho-onychodysplasia with keratoderma

X-linked hypohidrotic ectodermal dysplasia

## ATROPHIC GLOSSITIS

Acrodermatitis enteropathica *Ped Derm 19:180–182, 2002; J Oral Pathol Med 23:168–171, 1994; AD 116:562–564, 1980; Dermatologica 156:155–166, 1978;* acquired zinc deficiency

AIDS

Alcoholism – chronic alcoholism *Rook p.3095, 1998, Sixth Edition; Diseases of the Tongue 1986, Van der Waal/Pinburg*

Amyloidosis *Dermatol Clin 21:123–124, 2003*

Betel nut chewing – smooth tongue *JAAD 37:81–88, 1998*

Bidi smokers in India *J Oral Pathol Med 18:475–480, 1989*

Bullous diseases, chronic

Cancer chemotherapy

Candidiasis *Rook p.3101, 1998, Sixth Edition;* post-open heart surgery atrophic glossitis *Scand J Thorac Cardiovasc Surg 22:143–144, 1988*

Celiac disease *Dermatol Clin 21:123–124, 2003*

Coliform bacteria – *Pseudomonas*, *Klebsiella* species, *Proteus J Oral Pathol Med 23:168–171, 1994*

Congenital erosive and vesicular dermatosis healing with reticulated supple scarring – atrophic tongue, anonychia *AD 121:361–367, 1985*

Corticosteroids – inhaled *Am Rev Resp Dis 141:S89–96, 1990*

Cronkhite–Canada syndrome – smooth tongue *Cutis 61:229–232, 1998*

Deficiency of:
- Folic acid *Rook p.3057, 1998, Sixth Edition; J Gen Intern Med 6:137–140, 1991*
- Iron *J Nutrition 120:28, 1999; Rook p.2666, 1998, Sixth Edition;* transferrin deficiency
- Niacin – pellagra *Int J Derm 43:1–5, 2004; JCI 31:533–542, 1952*
- Pyridoxine ($B_6$)
- Riboflavin ($B_2$) – tongue is purple, red, and smooth *Clinics in Derm 17:457–461, 1999; J Gen Intern Med 6:137–140, 1991; AD 112:70–72, 1976*
- Thiamine *J Gen Intern Med 6:137–140, 1991; JCI 31:533–542, 1952*
- Vitamin A *J Gen Intern Med 6:137–140, 1991*
- Vitamin $B_{12}$ – pernicious anemia *Ann DV 130:191–194, 2003; Bolognia p.1095, 2003; Rook p.3096, 1998, Sixth Edition*
- Vitamin E *J Am College Nutrition 12:14–20, 1993*
- Zinc

Dyskeratosis congenita

Epidermolysis bullosa, recessive dystrophic – symblepharon *Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer p.135–151, 1992*

Familial dysautonomia (Riley–Day syndrome) (hereditary sensory and autonomic neuropathy type III) – absent fungiform papillae *AD 89:190–195, 1964*

Geographic tongue *J Am Dent Assoc 115:421–424, 1987*

Glucagonoma syndrome – alpha cell tumor in the tail of the pancreas; 50% of cases have metastasized by the time of diagnosis; skin rash, angular stomatitis, cheilosis, beefy red glossitis, blepharitis, conjunctivitis, alopecia, crumbling nails; rarely, associated with MEN I or IIA syndromes *AD 133:909, 912, 1997; JAAD 12:1032–1039, 1985; Ann Intern Med 91:213–215, 1979*

Graft vs. host reaction, chronic *AD 134:602–612, 1998*

Lichen planus – loss of filiform papillae *J Oral Pathol 14:431–458, 1985*

Lichen sclerosus et atrophicus *Ghatan p.93, 2002, Second Edition*

Lingual nerve damage *Br Dent J 167:332, 1989*

Malabsorption *Rook p.3095,3120, 1998, Sixth Edition*

Malnutrition

Median rhomboid glossitis (central papillary atrophy of the tongue) *Rook p.3107–3108, 1998, Sixth Edition; Int J Oral Maxillofac Surg 15:32–325, 1986*

Morphea, linear (en coup de sabre) *Rook p.2505–2506, 1998, Sixth Edition*

Pernicious anemia *Rook p.3120, 1998, Sixth Edition*

Plummer–Vinson syndrome – iron deficiency

Protein/calorie deficiency *Age Aging 29:47–50, 2000; J Gen Intern Med 6:137–140, 1991*

Pseudoglucagonoma syndrome due to malnutrition *AD 141:914–916, 2005*

Riley–Day Syndrome – smooth tongue; absent fungiform papillae *Cesk Pediatrics 46;347–348, 1991*

Romberg syndrome *Arch Neurol 39:44–49, 1982*

Scleroderma

Sjögren's syndrome *Dermatol Clin 21:123–124, 2003; Rook p.2572, 1998, Sixth Edition*

Squamous cell carcinoma *Ghatan p.93, 2002, Second Edition*

*Staphylococcus aureus J Oral Pathol Med 23:168–171, 1994*

Submucous fibrosis

Syphilis, tertiary *Diseases of the Tongue 1986, Van der Waal/Pinburg*; *OSOMOP 30:192–195, 1970*

Toxic epidermal necrolysis, healed

Traumatic atrophic glossitis (Riga-Fede disease) *Cesk Pediatr 46:347–348, 1991*

Vitamin A intoxication

Xerostomia in terminally ill patients *Oral Oncol 34:123–126, 1998*

# ATROPHIC LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Common variable immunodeficiency (Gottron-like papules) – granulomas presenting as acral red papules and plaques with central scaling, scarring, atrophy, ulceration *Cutis 52:221–222, 1993*

Dermatomyositis – panniculitis; nodules and plaques on arms, thighs, buttocks, abdomen with lipoatrophy *AD 127:1846–1847, 1991; JAAD 23:127–128, 1990;* association with hypocomplementemia (C3 nephritic factor) *NEJM 294:461–465, 1976;* associated with partial lipodystrophy *JAAD 28:348–351, 1993;* asymmetric lipoatrophy *JAAD 22:966–969, 1990;* longstanding dermatomyositis – lipodystrophy-like appearance (hirsutism, loss of subcutaneous fat, acanthosis nigricans); lipoatrophy in juvenile dermatomyositis *JAAD 22:966–969, 1990*

Epidermolysis bullosa acquisita *JAAD 24:706–714, 1991;* extensive scarring and mutilation in EBA *AD 131:590–595, 1995*

Graft vs. host disease, chronic – atrophic plaques *JAAD 38:369–392, 1998;* anetoderma *AD 138:924–934, 2002*

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; DLE with spindly atrophy of fingers with hyperextension of distal phalanges *Rook p.2448, 1998, Sixth Edition;* lupus panniculitis (lupus profundus) – atrophic scarring *J Cutan Pathol 28:235–247, 2001; Lupus 10:514–516, 2001; J Rheumatol 26:68–72, 1999; AD 103:231–242, 1971*; lupus profundus with secondary anetoderma *Rook p.2451, 1998, Sixth Edition;* neonatal lupus *Ped Derm 15:38–42, 1998;* generalized elastolysis with SLE *JAAD 8:869–873, 1983;* nodular cutaneous lupus mucinosis – atrophie blanche-like lesions *J Dermatol 21:674–679, 1994;* secondary anetoderma with SLE, DLE, or lupus profundus *Ann DV 115:679–685, 1988;* partial lipodystrophy – association with hypocomplementemia (C3 nephritic factor) *NEJM 294:461–465, 1976;* tumid lupus (lupus erythematosus telangiectoides) – reticulate telangiectasias of face, neck ears, hands, breasts, heels, sides of feet; punctate atrophy *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition;* discoid lupus with annular atrophic plaques of face, neck, behind ears *AD 112:1143–1145, 1976;* neonatal lupus *Ped Derm 22:240–242, 2005*

Mixed connective tissue disease

Morphea – subcutaneous morphea leading to deep atrophy *Rook p.2504, 1998, Sixth Edition;* linear (en coup de sabre) *Rook p.2505–2506, 1998, Sixth Edition;* generalized morphea *Rook p.2511, 1998, Sixth Edition;* pansclerotic morphea – marked decrease of subcutaneous fat; reduced acral bone density *Ped Derm 19:151–154, 2002*

Rheumatoid arthritis – generalized thinning of skin (transparent skin) *JAAD 53:191–209, 2005; Rook p.2004,2006, 1998, Sixth Edition; Am J Med 54:445–452, 1973; Ann Rheum Dis 24:219–223, 1965*

Scleroderma – atrophy of skin of face, hands; sclerodactyly with tapered fingers; atrophy of terminal phalanges *Rook p.2528, 1998, Sixth Edition;* pitted scars of finger tips (acral pits), ulnar border of thumb, radial borders of second and third fingers, dorsal fingers over joints; sclerosis with atrophic phalanges; mandibular atrophy *Dermatology 187:104–108, 1993;* atrophie blanche around ankles

## CONGENITAL

Acromial dimples P*ed Derm 9:321–323, 1992;* autosomal dominant *Hum Genet 76:206, 1987*

- Supraspinous (acromial) dimples
  - Chromosome 18 long arm deletion syndrome
  - Generalized atrophic benign epidermolysis bullosa (GABEB)
  - Russell Silver syndrome
  - Trisomy 9p

Amniocentesis – punctate scars and dimples *Ped Derm 2:140–142, 1984; Am J Obstet Gynecol 126:247–252, 1976*

Atrophic linear bands (acquired raised bands of infancy) – associated with amniotic bands *Ped Derm 22:346–349, 2005*

Atrophic nails, congenital *Ghatan p.114, 2002, Second Edition*

Congenital anetoderma in twins *JAAD 36:483–485, 1997*

Congenital constriction band of the trunk (variant of amniotic band syndrome) *Ped Derm 14:470–472, 1997*

Congenital enteric sinus cyst (split notochord syndrome) – pit *Ped Derm 20:221–224, 2003*

Congenital erosive and vesicular dermatitis with reticulate supple scarring *JAAD 32:873–877, 1995, Ped Derm 15:214–218, 1998; JAAD 17:369–376, 1987; AD 121:361–367, 1985*

Congenital varicella syndrome – atrophic scarred limb

Congenital cutis laxa – abdomen; dysplasia of abdominal muscles *Rook p.2017, 1998, Sixth Edition*

Dorsal dermal sinus

Facial fusion defect

Linear telangiectatic erythema and mild atrophoderma *Cutis 39:69–70, 1987*

Melanocytic nevus – hypoplasia underlying a giant congenital melanocytic nevus *Ped Derm 17:387–390, 2000*

Midline cervical clefts – vertically oriented atrophic area of lower anterior neck, associated skin tags or sinus tracts, fibrous bands connect to platysma muscle *AD 141:1161–1166, 2005; Int J Derm 19:479–486, 1980*

Myelomeningocoele

Pre-auricular skin defects *AD 133:1551–1554, 1997*

Ring chromosome 13 syndrome – scalp defect

Sacral dimples

Spinal dysraphism with overlying dimple, sinus, lipoma, faun tail nevus, dermoid cyst, hemangioma, port wine stain *AD 112:1724–1728, 1976*

Sternal cleft (congenital midline presternal atrophic defect of the chest) – congenital atrophic dimple or scar of upper chest Supraumbilical cleft *Textbook of Neonatal Dermatology, p.120, 2001*

Trisomy 13 – scalp defects

Varicella – scarring over dermatomes, limb hypoplasia, low birth weight, mild mental retardation, cataract, chorioretinitis *Lancet i:1547–1550, 1994*

## DEGENERATIVE

Age-related fine wrinkling (crinkling) and laxity *Rook p.2004,2019, 1998, Sixth Edition*

## DRUG-INDUCED

Atrophic scars secondary to drug eruption

Bleomycin – scaly linear erythema of dorsa of hands with atrophy and telangiectasia (dermatomyositis-like) *JAAD 48:439–441, 2003*

Corticosteroid atrophy – systemic, intralesional, topical corticosteroids *Rook p.2006–2007,3550, 1998, Sixth Edition; AD 126:1013–1014, 1990;* perilesional linear atrophic streaks *Ped Derm 4:259–260, 1987;* linear atrophy due to intralesional corticosteroid injections of de Quervain tendonitis *Cutis 73:197–198, 2004;* oral, inhaled, topical-induced acne rosacea – papules, pustules, atrophy, telangiectasia *Clin Exp Dermatol 18:148–150, 1993; AD Forsch 247:29–52, 1973;* multifocal lipoatrophy due to intravenous cortisol *JAAD 46:S130–132, 2002;* striae; intra-articular corticosteroid injection

Hydroxyurea – atrophic, scaling, poikilodermatous patches with erosions on the backs of the hands, sides of the feet *JAAD 45:321–322, 2001;* atrophy of skin and subcutaneous tissue *JAAD 36:178–182, 1997*

Indinivir (protease inhibitor) – striae *JAAD 41:467–469, 1999;* lipodystrophy and abnormal fat distribution (crix belly – central adiposity) *JAAD 46:284–293, 2002*

Insulin injection lipoatrophy – dimple or more extensive area of atrophy *Ped Derm 11:310–314, 1994*

Methimazole and carbimazole – aplasia cutis congenita *Ped Derm 3:327–330, 1986*

Methotrexate – semicircular lipoatrophy *Ped Derm 19:432–435, 2002*

Misoprostol – extensive frontotemporal defects of scalp and temporal bones *Clin Dysmorphol 2:76–80, 1993*

Nelfinavir (protease inhibitor) – lipodystrophy and abnormal fat distribution (crix belly – central adiposity); striae *JAAD 46:284–293, 2002*

Penicillamine dermatopathy *AD 125:92–97, 1989*

Phytonadione (fat soluble vitamin K) injection – sclerodermiform atrophic plaques *AD 137:957–962, 2001; AD 121:1421–1423, 1985; Cutis 43:364–368, 1989; JAAD 38:322–324, 1998; Cutis 61:81–83, 1998*

Protease inhibitors – facial lipoatrophy *BJD 142:496–500, 2000;* lipodystrophy of face, arms, legs, and buttocks with central fat accumulation of abdomen, breasts, and dorsocervical fat pad *JAAD 50:809–810, 2004*

Saltpeter-induced PXE like changes

Saquinavir (protease inhibitor) – lipodystrophy and abnormal fat distribution (crix belly – central adiposity); striae *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Coal tar products – pitch, asphalt, creosote – diffuse melanosis of exposed skin; evolves to atrophy, telangiectasia, lichenoid papules, follicular keratosis *Rook p.1791, 1998, Sixth Edition*

Smoker's face – linear wrinkling and atrophy *AD 128:255–262, 1992*

## INFECTIONS AND INFESTATIONS

AIDS – lipoatrophy of face, arms, and legs (associated with increase fat of abdomen) *JAAD 42:727–730, 2000*

Botryomycosis – granulomatous reaction to bacteria with granule formation; single or multiple abscesses of skin and subcutaneous tissue break down to yield multiple sinus tracts; small papule; heals with atrophic scars; extremities, perianal sinus tracts, face *Int J Dermatol 22:455–459, 1983; AD 115:609–610, 1979*

Chronic tropical folliculitis

Herpes simplex; congenital herpes simplex infection due to intrauterine infection – generalized cigarette paper atrophy *J Pediatr 110:97–101, 1987; Ped Derm 4:336–340, 1987*

HIV disease – anetoderma *AD 128:661–662, 1992*

Leprosy – secondary anetoderma; Lucio's phenomenon – atrophic scars *JAAD 48:958–961, 2003*

Lyme borreliosis (*Borrelia burgdorferi*) – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees; subcutaneous nodules of elbows and knees, with ulnar fibrous bands; sclerosis of lower legs with ulceration *JAAD 49:363–392, 2003; BJD 121:263–269, 1989; Int J Derm 18:595–601, 1979*

Molluscum contagiosum, healed – cribriform scarring *BJD 144:1094–1095, 2001*

Onchocerciasis – atrophic changes earliest of buttock, shoulders, and legs; fine wrinkling and xerotic skin *AD 140:1161–1166, 2004; JAAD 45:435–437, 2001; BJD 121:187–198, 1989;* atrophic white macules, 'hanging groin' due to destruction of elastic fibers *Cutis 65:293–297, 2000*

Pinta – late secondary phase hypopigmented, depigmented hyperpigmented atrophic skin *Rook p.1274, 1998, Sixth Edition;* tertiary (late phase) – atrophy with thinning and wrinkling of skin overlying large joints *Rook p.1274, 1998, Sixth Edition*

Pustular dermatitis atrophicans of the legs – folliculitis in Lagos, West Africa

Rubella, congenital – deep dimples over bony prominences (patellae); blueberry muffin baby *J Pediatr 39:291–292, 1967*

Syphilis – secondary anetoderma; tertiary syphilis – atrophic scars *Rook p.2009, 1998, Sixth Edition*

Tuberculosis – secondary anetoderma; varioliform scars of papulonecrotic tuberculid *JAAD 14:815–826, 1986*

Varicella – congenital (fetal) varicella syndrome – infection between first and second trimester; dermatomal scars; low birth weight, localized absence of skin, papular lesions resembling connective tissue nevi, limb paresis, limb hypoplasia, malformed digits, ocular anomalies (chorioretinitis), central nervous system abnormalities *BJD 150:357–363, 2004; Rook p.487–488, 1998, Sixth Edition;* varicella scars – small circular atrophic scars *Rook p.2009, 1998, Sixth Edition*

Yaws – primary red papule, ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (raspberry-like) (framboesia); heals with large atrophic scar with white center with dark halo *Rook p.1268–1271, 1998, Sixth Edition;* tertiary – gumma; multiple subcutaneous nodules; overlying skin ulcerates with purulent discharge; atrophic pigmented scars (tissue paper scars) *Rook p.1271, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloid – atrophic outpouchings of abdominal skin (nodular cutanous amyloidosis) *AD 132:223–224, 226–227, 1996;* wrinkling of the fingers with hemodialysis-induced cutaneous amyloid *Am J Dermatopathol 16:179–184, 1994;* nodular amyloid *AD 122:1425–1439, 1986*; familial amyloid polyneuropathy – atrophic scars *BJD 152:250–257, 2005*

Benign cephalic histiocytosis – after clearing *Ped Derm 11:164–167, 1994*

Congenital self-healing reticulohistiocytosis – generalized scaling atrophic and erosive patches *BJD 149:191–192, 2003*

Juvenile xanthogranuloma – congenital giant xanthogranuloma after resolution *Ped Derm 21:121–123, 2004*

Langerhans cell histiocytosis – urticating Langerhans cell histiocytosis (Hashimoto–Pritzker disease) – atrophic chicken pox-like scars *Ped Derm 18:41–44, 2001*

Urticaria pigmentosa (mastocytosis) with secondary anetoderma *AD 128:105–110, 1992*

## INFLAMMATORY DISEASES

Connective tissue panniculitis – nodules, atrophic linear plaques of face, upper trunk, or extremities *AD 116:291–294, 1980;* connective tissue panniculitis of the ankles (annular atrophy) *JAAD 21:1152–1156, 1989*

Erythema multiforme – atrophic nails *Ghatan p.114, 2002, Second Edition*

Granulomatous slack skin *JAAD 50:S4–8, 2004*

Lipoatrophic panniculitis (mimics atrophoderma of Pasini and Pierini) *AD 123:1662–1666, 1987;* primary lipophagic panniculitis of adults *BJD 124:291–295, 1991;* and children *JAAD 21:971–978, 1989*

Lipoatrophy in lipophagic panniculitis of childhood *JAAD 21:971–978, 1989*

Nodular panniculitis, idiopathic – heals with atrophic pigmented patch *Rook p.2410–2411, 1998, Sixth Edition; Medicine 64:181–191, 1985*

Post-inflammatory elastolysis and cutis laxa (PECL) in children – severe variant of anetoderma in black girls; begins as indurated annular plaque with collarette of scale; progress to finely wrinkled skin *JAAD 51:165–185, 2004; JAAD 22:40–48, 1990; S Afr Med J 40:1016–1022, 1966*

Pyoderma gangrenosum with cigarette paper atrophy *JAAD 18:559–568, 1988;* cribriform atrophic scarring *Rook p.2186, 1998, Sixth Edition*

Sarcoid – atrophic sarcoid *AD 122:320–322, 1986; BJD 83:255–262, 1970*

Subcutaneous fat necrosis of the newborn *Cutis 54:383–385, 1994*

## METABOLIC DISEASES

Acrodermatitis enteropathica – atrophic nails *Ghatan p.109, 2002, Second Edition*

Cachexia in cancer *NEJM 351:2124–2125, 2004*

Complement deficiency (C3) disorders – partial lipodystrophy *Clin Exp Dermatol 21:131–134, 1996*

Cushing's disease – striae *Ped Derm 15:253–258, 1998;* slender wasted extremities *Semin Dermatol 3:287–294, 1984*

Diabetes mellitus – diabetic dermopathy; atrophic brown scars *Rook p.2674, 1998, Sixth Edition; Cutis 3:955–958, 1967*

Hepatocutaneous syndrome – in chronic active hepatitis; firm red papules leaving atrophic scars *Br Med J i:817, 1977*

Homocystinuria – cystathionine-beta synthase deficiency; tissue paper scarring of hands *JAAD 46:161–183, 2002; JAAD 40:279–281, 1999*

Hypophosphatasia – shallow depressions to deep pits of skin *Ghatan p.159, 2002, Second Edition*

Hypopituitarism – fine wrinkling with aged appearance *Rook p.2704–2705, 1998, Sixth Edition*

Hypothyroidism – pale, cold, scaly, wrinkled skin *JAAD 26:885–902, 1992*

Malabsorption – generalized atrophic skin *Rook p.2653, 1998, Sixth Edition*

Marasmus – severe protein and caloric deprivation; wrinkled, loose, dry skin; extensive loss of subcutaneous fat *JAAD 21:1–30, 1989*

Menopause – atrophic vulvovaginitis *Rook p.3277, 1998, Sixth Edition*

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Nephrogenic fibrosing dermopathy – generalized elastolysis following resolution of nephrogenic fibrosing dermopathy *JAAD 53:174–176, 2005*

Osteogenesis imperfecta

Phenylketonuria – morphea resulting in atrophoderma of Pasini and Pierini with subcutaneous atrophy *JAAD 49:S190–192, 2003*

Porphyria – porphyria cutanea tarda *Am J Med 67:277–286, 1979;* congenital erythropoietic porphyria – atrophic scarring *Ped Derm 20:498–501, 2003; Semin Liver Dis 2:154–63, 1982*

Pregnancy – striae *Rook p.3273, 1998, Sixth Edition*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; JAAD 29:819–821, 1993; AD 127:124–125, 1991; AD 123:493–497, 1987*

## NEOPLASTIC DISEASES

Basal cell carcinoma, morphea-like *Ghatan p.5, 2002, Second Edition*

Basal cell nevus (linear basal cell nevus) – resemble comedones; usually linear translucent telangiectatic papules, may ulcerate; macular hypopigmentation, alopecia, cysts, striae *Cutis 46:493–494, 1990; BJD 74:20–23, 1962*

Becker's nevus – with underlying lipoatrophy *BJD 129:213, 1993*

Connective tissue nevus

Dermal dendrocyte hamartoma – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004*

Dermatofibroma – atrophic dermatofibroma *Dermatol Surg 28:1085–1087, 2002; J Dermatol 22:334–339, 1995; JAAD 25:1081–1082, 1991;* dermatofibroma with secondary anetoderma

Dermatofibrosarcoma protuberans – atrophic variant *Cutis 74:237–242, 2004; JAAD 49:761–764, 2003; BJD 139:719–725, 1998;* congenital – atrophic blue patch *AD 139:207–211, 2003*

Desmoplastic trichoepithelioma – atrophic scar-like lesions

Extramammary Paget's disease *Ghatan p.5, 2002, Second Edition*

Granulomatous slack skin syndrome – due to $CD30^+$ T-cell lymphoproliferative disorder *BJD 147:998–1002, 2002*

Infantile myofibromatosis – dimple *Ped Derm 8:306–309, 1991;* atrophic scarring after resolution *Ped Derm 19:520–522, 2002; Curr Prob Derm 14:41–70, 2002; JAAD 41:508, 1999*

Lymphoma – cutaneous T-cell lymphoma (CTCL) *Rook p.2376, 1998, Sixth Edition;* granulomatous slack skin syndrome *AD 141:1178–1179, 2005; JAAD 51:165–185, 2004; AD 107:271–274, 1973; BJD 82:397–401, 1970;* secondary anetoderma; acquired localized cutis laxa due to lymphoplasmacytoid lymphoma *AD 131:110–111, 1995;* lymphomatoid granulomatosis (angiocentric lymphoma) – red, brown, or violaceous plaques with epidermal atrophy and purpura *JAAD 20:571–578, 1989; AD 124:571–576, 1988;* B-cell lymphoma overlying acrodermatitis chronica atrophicans associated with *Borrelia burgdorferi* infection *JAAD 24:584–590, 1991*

Melanocytic nevus – atrophy underlying giant congenital melanocytic nevus *Ped Derm 17:387–390, 2000; Rook p.1733–1735, 1998, Sixth Edition; Ped Derm 12:272–274, 1995;* giant congenital melanocytic nevus with atrophy of an extremity *Ped Derm 15:287–289, 1998;* anetoderma associated with congenital melanocytic nevi *JAAD 39:843–845, 1998;* atrophic nevi *Rook p.2004, 1998, Sixth Edition*

Myeloma – acral acquired cutis laxa with myeloma *AD 112:835–835, 1976*

Myofibroma, infantile – congenital area of atrophy *Textbook of Neonatal Dermatology, p.398, 2001*

Neurofibroma – pseudoatrophic macular variant *Cutis 57:100–102, 1996*

Nevus anelasticus *Int J Dermatol 25:171–173, 1986*

Nevus lipomatosis *Ghatan p.5, 2002, Second Edition*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) – one case of facial hemiatrophy *Rook p.1731, 1998, Sixth Edition; BJD 67:317–319, 1955*

Pilomatrixoma – secondary anetoderma *JAAD 39:191–195, 1998; JAAD 25:1072–1076, 1991*

Primary cutaneous meningioma – scalp or paraspinal region of children and teenagers with central depression epidermal atrophy *Cancer 34:728–744, 1974*

Seborrheic keratosis *Ghatan p.5, 2002, Second Edition*

Sequestrated meningioma of scalp with overlying atrophy *Ped Derm 14:315–318, 1994*

Smooth muscle hamartoma – linear atrophic plaque *Ped Derm 13:222–225, 1996*

## PARANEOPLASTIC

Necrobiotic xanthogranuloma with paraproteinemia – atrophy and ulceration of xanthomatous plaques of trunk and extremities *Hautarzt 46:330–334, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.143, 1999; JAAD 3:257–270, 1980*

## PHOTODERMATITIS

Actinic cheilitis *J Derm Surg Oncol 7:289–295, 1981*

Actinic granuloma (annular elastolytic giant cell granuloma, Miescher's granuloma) – central atrophy *AD 111:460–466, 1975; JAAD 1:413–421, 1979; Eur J Dermatol 9:647–649, 1999; Cutis 62:181–187, 1998*

Dermatoheliosis (actinic damage) (photoaging) *Rook p.2004–2005, 1998, Sixth Edition*

Stellate pseudoscars *AD 105:551–554, 1972*

## PRIMARY CUTANEOUS DISEASES

Abdominal lipoatrophy *JAAD 45:325–361, 2001*

Acne vulgaris – scarring *Rook p.1949–1951, 1998, Sixth Edition;* follicular atrophoderma *Ped Derm 21:14–17, 2004;* secondary anetoderma S/P acne vulgaris

Acquired generalized lipodystrophy – acromegalic features *JAAD 32:130–133, 1995*

Acral localized acquired cutis laxa (palms and soles) *JAAD 21:33–40, 1989*

Acrodermatitis chronica atrophicans – bluish-red edema of extremities *BJD 147:375–378, 2002*

Anetoderma of Jadassohn–Pellizari (primary anetoderma) *AD 120:1032–1039, 1984;* anetoderma of Schweninger-Buzzi

- Anetodermas, secondary *Dermatology 13:123–125, 1998*
  - Acne vulgaris
  - Amyloid, nodular *AD 122:1425–1430, 1986*
  - Angular cheilitis – linear anetoderma *BJD 138:923–924, 1998*
  - Antiphospholipid antibody syndrome *JAAD 36:149–168, 970–982, 1997*
  - B-cell lymphoma
  - Benign cutaneous lymphoid hyperplasia
  - Cutaneous B-cell lymphoproliferative disease *Am J Dermatopathol 23:124–132, 2001*
  - Dermatofibroma *Bolognia p.1542, 2003*
  - Down's syndrome *Ann DV 79:245, 1999*
  - Exocytoses with anetoderma and brachydactyly
  - Folliculitis *Bolognia p.1542, 2003*
  - Graft vs. host disease *AD 138:924–934, 2002*
  - Granuloma annulare *JAAD 42:335–338, 2000*
  - Hamartomatous congenital melanocytic nevus
  - Hepatitis B immunization *Bolognia p.1542, 2003*
  - Human immunodeficiency virus

Immunocytoma, multiple cutaneous *BJD 143:165–170, 2000*
Juvenile xanthogranuloma *Ann DV 128:291, 2001; BJD 140:541–542, 1999*
Langerhans cell histiocytosis, vesicular (Hashimoto-Pritzker disease) *Clin Exp Dermatol 19:350–352, 1994*
Leeches *Int J Derm 35 (3):226–227, 1996*
Leprosy – lepromatous *Dermatologica 135:329, 1967*
Lichen planus *Bolognia p.1542, 2003*
Lupus erythematosus – systemic or DLE *Rook p.2012, 1998, Sixth Edition*
Lyme disease *JAAD 48:S86–88, 2003*
Lymphocytoma cutis *Bolognia p.1542, 2003*
Lymphoma – B-cell lymphoma, CTCL
Mastocytosis *Bolognia p.1542, 2003*
Melanocytic nevi *Bolognia p.1542, 2003*
Overlying inflammatory processes
Penicillamine *Bolognia p.1542, 2003*
Perifolliculitis
Pilomatrixoma *JAAD 25:1072–1076, 1991*
Plasmacytoma or benign cutaneous lymphoid hyperplasia *AD131:365–6, 1995*
Porphyria (congenital poikiloderma and anetoderma) *Arch Argent Dermatol 16:190–194, 1966*
Post-inflammatory elastolysis and cutis laxa (PECL) *BJD 92:183–190, 1975*
Anetoderma of prematurity *Eichenfeld, p.105, 2001; AD 133:789, 1997; AD 132:671–674, 1996;* anetoderma of prematurity in association with ECG electrodes *JAAD 40:479–481, 1999*
Prurigo nodularis *Bolognia p.1542, 2003*
Sarcoid *Bolognia p.1542, 2003*
*Staphylococcus epidermidis* – perifollicular macular atrophy
Syphilis – congenital, secondary, tertiary, latent *Rook p.2012, 1998, Sixth Edition*
Takayasu's arteritis
Tinea versicolor *Textbook of Pediatr Derm; Ed. Harper p.1295*
Tuberculosis *Bolognia p.1542, 2003*
Upper respiratory infection *AD 79:516–518, 1959*
Urticaria pigmentosa (mastocytosis) *Ann DV 108:269–275, 1981*
Varicella *Bolognia p.1542, 2003*
Xanthomas *Bolognia p.1542, 2003*

Annular and semicircular lipoatrophies *JAAD 20:433–436, 1989*

Annular atrophic plaques of the face *AD 100:703–716, 1969*

Aplasia cutis congenita (ACC) *Ped Derm 19:326–329, 2002; Textbook of Neonatal Dermatology, p.126, 2001*; giant variant *Ped Derm 21:150–153, 2004*
I – ACC without multiple anomalies
II – Scalp ACC with associated limb anomalies; hypoplastic or absent distal phalanges, syndactyly, club foot, others (most cases are Adams–Oliver syndrome)
III – Scalp ACC with associated epidermal and organoid nevi
IV – ACC overlying embryologic malformations, such as gastroschisis, omphalocele, meningomyelocele, and others
V – ACC with associated fetus papyraceus or placental infarcts
VI – ACC with epidermolysis bullosa
Junctional EB with pyloric atresia; ACC with gastrointestinal atresia
VII – ACC localized to extremities without blistering
VIII – ACC caused by specific teratogens
IX – ACC asociated with malformation syndromes, such as Goltz syndrome, trisomy 13, ectodermal dysplasia, others
Cranial stenosis (Spear–Mickle syndrome) *Plast Reconstr Surg 71:413–417, 1983*
4p deletion syndrome (chromosome 4 short arm deletion syndrome)
Delleman–Orthuys syndrome
Focal facial dermal dysplasia
Johanson–Blizzard syndrome
Goltz syndrome
Amniotic band syndrome
XY gonadal dysgenesis
Adams–Oliver syndrome

Atrophia maculosa varioliformis cutis – linear, varioliform scars *BJD 153:821–824, 2005; Ped Derm 18:230–233, 2001; JAAD 30:837–840, 1994; JAAD 21:309, 1989; BJD 115:105–109, 1986; AD 64:59–61, 1951; J Cutan Dis 36:285–288, 1918*

Atrophoderma elastolytica discreta *Am J Dermatopathol 18:212–217, 1996*

Atrophoderma of Moulin (linear atrophoderma of Moulin) – acquired atrophic pigmented band-like lesions following Blaschko's lines *JAAD 49:492–498, 2003; Eur J Dermatol 10:611–613, 2000; Int J Dermatol 39:846–852, 2000; JAAD 38:366–368, 1998; BJD 135:277–279, 1996; Ann DV 119:729–736, 1992*

Atrophoderma of Pasini and Pierini *Dermatol 190:203–206, 1995; JAAD 30:441–446, 1994; Int J Derm 10:643–645, 1984*

Atrophoderma vermiculatum (folliculitis ulerythematosa reticulata) – scarring with cribriform depressions *JAAD 43:310–312, 2000; JAAD 18:538–542, 1988; AD 124:1101–1106, 1988*

Balanitis xerotica obliterans

Barraquer–Simons (partial cephalothoracic) lipodystrophy – involves face and trunk *JAAD 49:768–769, 2003; JAAD 32:130–133, 1995*

Blepharochalasis *Br J Ophthalmol 72:863–867, 1988; AD 115:479–481, 1979*

Brauer lines – associated with aplasia cutis congenita *Bolognia p.924, 2003*

Centrifugal lipodystrophy – of abdomen in Japanese children *AD 126:206–209, 1990;* of face *BJD 127:407–410, 1992;* of neck *Dermatology 188:142–144, 1994*

Circumscribed palmar or plantar hypokeratosis – red depressed or atrophic patch with ridged border *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Congenital total lipodystrophy (Seip–Berardinelli) *JAAD 32:130–133, 1995*

Congenital vertex alopecia

Cutis laxa – congenital; acquired – with amyloidosis, myeloma *AD 112:853–855, 1976;* lupus erythematosus, hypersensitivity reaction to penicillin *Hautarzt 26:191–198, 1975;* complement deficiency, penicillamine, inflammatory skin disease*;* sarcoidosis, syphilis, Klippel–Trenaunay syndrome *JID 75:399–403, 1980;* after urticaria and angioedema *AD 103:661–669, 1971;* generalized cutis laxa – autosomal dominant or autosomal recessive *Rook p.2019–2020, 1998, Sixth Edition;* post-inflammatory elastosis and cutis laxa in African children *BJD 92:183–190, 1975*

Dimples – acromial, facial, sacral

Dunnigan–Cobberling lipodystrophy – involves trunk, spares face *JAAD 49:768–769, 2003*

Elastoderma – cutis laxa-like changes *JAAD 33:389–392, 1995*

Elastosis perforans serpiginosa with pseudoxanthoma elasticum-like changes in Moya-Moya disease (bilateral stenosis and occlusion of basa intracranial vessels and carotid arteries) *BJD 153:431–434, 2005*

Epidermolysis bullosa, recessive dystrophic – symblepharon *Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:135–151;* dominant dystrophic – atrophic scars

*BJD 146:267–274, 2002*; junctional EB, mitis type; epidermolysis bullosa progressiva – cigarette paper atrophy (junctional EB) *JAAD 16:195–200, 1987;* cicatricial junctional EB; generalized atrophic benign epidermolysis bullosa (GABEB) – atrophic scarring and follicular atrophy *Dermatologica 176:83–90, 1988;* epidermolysis bullosa superficialis – atrophic scarring, oral, conjunctival blisters *AD 125:633–638, 1989;* epidermolysis bullosa simplex with or without associated neuromuscular disease; thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Familial anetoderma (hereditary anetoderma) *JAAD 35:999–1000, 1996*

Focal facial dermal dysplasia – scar-like depressions of pre-auricular regions of face *JAAD 27:575–582, 1992*

Folliculitis ulerythematosa reticulata

Generalized lipodystrophy

Granuloma gluteale infantum with atrophic scars *Clin Exp Dermatol 6:23–29, 1981*

Inflammatory lipoatrophies
- Connective tissue panniculitis
- LE profundus
- Morphea
- Rothman-Makai
- Weber Christian

Non-inflammatory lipoatrophies
- Annular atrophy of the ankles
- Atrophic connective tissue panniculitis
- Lipoatrophia annularis
- Lipoatrophia semicircularis
- Localized involutional lipoatrophy *JAAD 35:523–528, 1996*
- Partial lipodystrophy with glomerulonephritis and complement abnormalities
- Panatrophy of Gowers

Keratosis follicularis spinulosa decalvans

Keratosis pilaris atrophicans

Lateral facial clefts (macrostomia) – isolated; associated with Treacher Collins syndrome, oculo-auriculo-vertebral spectrum, Nager acrofacial dysostosis, amniotic rupture sequence *Syndromes of the Head and Neck, p.709, 1990; J Laryngol Otol 87:309–313, 1973*

Lichen planus – annular atrophic lichen planus *AD 141:93–98, 2005; JAAD 25:392–394, 1991;* atrophic variant *JAAD 12:844–851, 1985;* secondary anetoderma *Rook p.1904–1912, 1998, Sixth Edition;* atrophic nails *Ghatan p.114, 2002, Second Edition*

Lichen sclerosus et atrophicus – wrinkled lesions, atrophic vulvar with shrinkage *Cutis 67:249–250, 2001; Rook p.2549–2551,3231–3232, 1998, Sixth Edition; Trans St John's Hosp Dermatol Soc 57:9–30, 1971*

Linear focal elastosis (striae) – yellow linear bands of lower back *JAAD 20:633–636, 1989*

Lipoatrophia semicircularis – anterolateral thighs; band-like circular depression; lipoatrophy of ankles *BJD 105:591–593, 1981; JAAD 39:879–881, 1998*

Lipodystrophia centrifugalis abdominalis infantilis – annular, atrophic patches and plaques *Ped Derm 18:13–16, 2001; JAAD 11:203–209, 1984; AD 104:291–298, 1971*

Lipodystrophia centrifugalis abdominalis infantilis - malformations of face, skull, hands *Ped Derm 19:365–367, 2002;* hypopigmented and vulvar lesions *Ped Derm 21:538–541, 2004; AD 104:291–298, 1971*

Lipodystrophy *Am J Med 108:143–152, 2000; JAAD 32:130–133, 1995*
- Congenital total lipodystrophy (congenital generalized lipodystrophy) (Berardinelli syndrome, Seip syndrome) – extreme muscularity and generalized loss of body fat from birth, acanthosis nigricans, acromegalic features, umbilical hernia, hyperinsulinemia (fasting and postprandial), early onset diabetes mellitus or glucose intolerance, hypertriglyceridemia/low HDL-C level, hirsutism, clitoromegaly *Cutis 70:65–69, 2002; J Clin Endocrinol Metab 85:1776–1782, 2000*
- Familial partial lipodystrophy of the limbs and lower trunk (Kobberling–Dunnigan syndrome, Dunnigan variety) – onset of lipoatrophy at puberty, extreme muscularity and lack of subcutaneous fat in all extremities, excess fat of face and neck, acanthosis nigricans, mild to moderate fasting or postprandial hyperinsulinemia, impaired glucose tolerance or diabetes mellitus after age 20 years, hypertriglyceridemia/low HDL-C levels *Cutis 70:65–69, 2002; J Clin Endocrinol Metab 85:1776–1782, 2000*
- Familial partial lipodystrophy, mandibuloacral dysplasia variety – autosomal recessive; short stature, high pitched voice, mandibular and clavicular hypoplasia, dental anomalies, acro-osteolysis, stiff doints, cutaneous atrophy, alopecia, nail dysplasia *Am J Med 108:143–152, 2000*
- Familial lipodystrophies, other – autosomal dominant; acromegalic features *Am J Med 108:143–152, 2000*
- Acquired total lipodystrophy (acquired generalized lipodystrophy) (Lawrence–Seip syndrome) – extreme muscularity; generalized lack of fat during childhood or later, loss of subcutaneous fat from palms and soles, severe fasting or postprandial hyperinsulinemia, impaired glucose tolerance or diabetes mellitus, hypertriglyceridemia/low HDL-C levels; presence of other autoimmune diseases *Cutis 70:65–69, 2002; J Clin Endocrinol Metab 85:1776–1782, 2000*
- Acquired partial lipodystrophy (progressive lipodystrophy, partial lipoatrophy, Barraquer–Simons syndrome) – gradual onset loss of subcutaneous fat from face, neck, trunk, and upper extremities in childhood, normal or increased fat of hips and lower extremities, proteinuria or mesangiocapillary glomerulonephritis, low C3 and presence of C3 nephritic factor, absence of insulin resistance; presence of other autoimmune diseases *Cutis 70:65–69, 2002; J Clin Endocrinol Metab 85:1776–1782, 2000*
- Lipodystrophy of AIDS *Am J Med 108:143–152, 2000*
- Drug-induced lipodystrophy – insulin, corticosteroids, antibiotics *Am J Med 108:143–152, 2000*
- Generalized lipodystrophy *JAAD 45:325–361, 2001*
- Pressure-induced lipodystrophy *Am J Med 108:143–152, 2000*
- Panniculitis and localized lipodystrophy *Am J Med 108:143–152, 2000*
- Centrifugal lipodystrophy *Am J Med 108:143–152, 2000*

Mid-dermal elastolysis (perifollicular atrophy) (wrinkled skin) *JAAD 48:846–851, 2003; Cutis 71:312–314, 2003; J Cut Med Surg 4:40–44, 2000; JAAD 26:490–492, 1992; JAAD 26:169–173, 1992; AD 125:950–951, 1989*

Multiple benign annular creases of the extremities – deep creases around arms and legs *Eur J Paediatr 138:301–303, 1982*

Panatrophy of Gowers – irregular sharply defined areas of atrophy; trunk and extremities *Rook p.2015, 1998, Sixth Edition*

Papular elastorrhexis – wrinkled skin-colored papules *Dermatology 205:198–200, 2002; Clin Exp Dermatol 27:454–457, 2002; JAAD 19:409–414, 1988; AD 123:433–434, 1987*

Parakeratosis variegata – reticulated and atrophic *Dermatology 201:54–57, 2000; BJD 137:983–987, 1997; Dermatology 190:124–127, 1995*

Partial face-sparing lipodystrophy (Kobberling–Dunnegan syndrome) *AD 132:223–228, 1996; JAAD 32:130–133, 1995*

Partial lipodystrophy (Barraquer-Simons disease) – disappearance of facial fat; upper half of body (Seir–Mitchell

type); hypertrophy of lower part of body (Laignel–Lavastine and Viard type) *Q J Med 41:343–354, 1972;* association with hypocomplementemia (C3 nephritic factor) *NEJM 294:461–465, 1976*

Perifollicular atrophoderma

Perifollicular macular atrophy (perifollicular elastolysis) – gray-white follicular papules or finely wrinkled round areas of atrophy with central hair follicle; upper trunk, neck, earlobes, arms *JAAD 51:165–185, 2004; BJD 83:143–150, 1970*

Periodic nail shedding – thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Perioral pigmented follicular atrophoderma *BJD 139:713–718, 1998*

Periumbilical pseudoxanthoma elasticum

Pohl–Pinkus constriction of hair *BJD 79:43–50, 1967*

Poikiloderma vasculare atrophicans

Porokeratosis – of Mibelli – central atrophy *AD 122:586–587, 1986*; disseminated superficial (actinic) porokeratosis *Int J Dermatol 34:71–72, 1998; BJD 123:249–254, 1996; Cutis 42:345–348, 1988;* palmoplantar porokeratosis *JAAD 21:415–418, 1989*

Prurigo nodularis – anetodermic prurigo nodularis *JAAD 25:437–442, 1991*

Reactive perforating collagenosis – early childhood, precipitated by trauma; skin-colored umbilicated papules; heal with hypopigmentation or scar *AD 121:1554–1555, 1557–1558, 1985*

Reticulated atrophoderma

Rudimentary meningocoele and membranous aplasia cutis with hair collar *AD 131:1427–31, 1995*

Sacral dimples

Sclerotic panatrophy – may follow morphea or occur spontaneously; linear or annular or circumferential bands around limbs *Rook p.2016, 1998, Sixth Edition*

SHORT syndrome – short stature, hyperextensible joints, ocular depression, Reiger (ocular and dental) anomaly, teething delay, loss of subcutaneous fat of face, upper extremities, chest and abdomen *Am J Med 108:143–152, 2000*

Spontaneous atrophic patches in extremely premature infants *AD 132:671–674, 1996*

Striae distensae (striae atrophicans) *Rook p.2004,2008, 1998, Sixth Edition*

Ulerythema ophryogenes

Upper dermal elastolysis – yellow papules of neck with coarse furrows or wrinkles *JAAD 51:165–185, 2004*

Vermiculate atrophoderma – honeycomb atrophy *Rook p.2011, 1998, Sixth Edition*

X-linked dominant ichthyosis (Happle's syndrome) (Conradi-Hünermann syndrome) – chondrodysplasia punctata, ichthyosis, cataract syndrome; collodion baby or ichthyosiform erythroderma; Blaschko pattern of erythroderma and scaling; plantar hyperkeratosis; resolves with time to reveal swirls of fine scale, linear hyperpigmentation, follicular atrophoderma of arms and legs, cicatricial alopecia; skeletal defects with short stature severe autosomal rhizomelic type; X-linked recessive variant *Rook p.1520, 1998, Sixth Edition*

## PSYCHOCUTANEOUS DISEASES

Factitial traumatic panniculitis mimicking acrodermatitis atrophicans *JAAD 13:988–994, 1985*

Neurotic excoriations – atrophic scars *Compr Psychiatry 27:381–386, 1986*

## SYNDROMES

Achenbach's syndrome (paroxysmal hematoma of the finger) – mimics bruising or steroid atrophy *Rook p.2007, 1998, Sixth Edition; BJD 132:319, 1995*

Acquired partial lipodystrophy (progressive lipodystrophy, partial lipodystrophy, Barraquer–Simons syndrome) – gradual-onset loss of subcutaneous fat from face, neck, trunk, and upper extremities during childhood; normal or excess amount of subcutaneous fat in hips and lower extremities, proteinuria or mesangiocapillary glomerulonephritis, low C3, presence of C3-nephritic factor, no insulin resistance; presence of other autoimmune diseases *J Clin Endocrinol Metab 85:1776–1782, 2000*

Acrocephalopolysyndactyly

Acrogeria – atrophy and mottled hyperpigmentation of acral skin; thick or thin nails, micrognathia, atrophic tip of nose *BJD 151:497–501, 2004; BJD 142:178–180, 2000; BJD 103:213–223, 1980; Arch Dermatol Syphiligr 181:571–583, 1941*

Adams–Oliver syndrome – congenital scalp ACC and amniotic bands with reduction of terminal phalanges of fingers and toes (terminal transverse limb defects) *Textbook of Neonatal Dermatology, p.127, 2001; Clin Genet 47:80–84, 1995; J Hered 36:3–7, 1945*

Amniotic band syndrome *Int J Dermatol 27:312–4, 1988*

Anhidrotic ectodermal dysplasia

Anonychia with ectrodactyly

AREDYLD syndrome – ectodermal dysplasia, lipoatrophy, diabetes, mellitus, amastia *Am J Med Genet 44:374–377, 1992; Am J Med Genet 16:29–33, 1983*

Ascher's syndrome – periorbital edema; edema of lips, double lip, blepharochalasis *AD 139:1075–1080, 2003; Rook p.2984, 1998, Sixth Edition; Klin Monatsbl Augenheilkd 65:86–97, 1920*

Ataxia telangiectasia – lipoatrophy *JAAD 42:939–969, 2000; JAAD 10:431–438, 1984;* atrophic plaque of cutaneous granuloma of ataxia telangiectasia *AD 134:1145–1150, 1998;* atrophy of skin *Rook p.2095, 1998, Sixth Edition*

Baraitser syndrome (premature aging with short stature and pigmented nevi) – lack of facial subcutaneous fat, fine hair, hypospadias, dental abnormalities, hepatomegaly *J Med Genet 25:53–56, 1988*

Barber–Say syndrome – autosomal dominant or X-linked; macrostomia, hypertelorism, atrophic skin, hypertrichosis *Am J Med Genet 73:366–367, 1997*

Bart's syndrome – aplasia cutis congenita of the legs with dystrophic epidermolysis bullosa *Caputo p.131, 2000*

Bazex–Dupre–Christol syndrome (X-linked dominant) – milia and comedo-like papules, congenital hypotrichosis, anhidrosis, X-linked dominant, follicular (vermiculate) atrophoderma of the face, elbows and hands, hypohidrosis, basal cell nevi and basal cell carcinomas, pinched nose, keratosis pilaris, scrotal tongue, joint hypermobility *BJD 153:682–684, 2005; Dermatol Surg 26:152–154, 2000; Ped Derm 16:108–110, 1999; JAAD 39:853–857, 1998; AD 130:337–342, 1994; Hautarzt 44:385–391, 1993; Ann Dermatol Syphilgr (Paris) 93:241–254, 1966; Bull Soc Franc Derm Syph 71:206,1964*

Beckwith–Wiedemann syndrome (exomphalos–macroglossia–gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, circular depressions of helices, exomphalos, macroglossia, visceromegaly, facial nevus flammeus and gigantism; earlobe grooves, punched-out depressions of posterior pinna *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Bencze syndrome – hemifacial atrophy with esotropia, amblyopia, and submucous cleft palate *Clin Genet 16:301–304, 1979*

Berardinelli's (Berardinelli–Seip) syndrome (congenital generalized lipodystrophy) – congenital total lipodystrophy; extreme muscularity and generalized loss of body fat from birth, acanthosis nigricans, acromegalic features, umbilical hernia, hirsutism and clitoromegaly, severe fasting and postprandial hyperinsulinemia, early onset diabetes mellitus, hypertriglyceridemia *J Clin Endocrinol Metab 85:1776–1782, 2000*

Berlin syndrome – fine wrinkling aroung the eyes and mouth (similar to Christ–Siemens ectodermal dysplasia); no vellus hairs; mottled pigmentation and leukoderma, flat saddle nose, thick lips, stunted growth, bird-like legs, mental retardation *Dermatologica 123:227–243, 1961*

Branchio-oculo-facial syndrome – linear atrophic patches of neck, ears, eyes, mouth; hemangiomatous aplastic skin overlying branchial or supraauricular defects *Ped Derm 12:24–27, 1995; Am J Med Genet 56:42–59, 1995*

Carbohydrate-deficient glycoprotein syndrome – emaciated appearance; lipoatrophy over buttocks; lipoatrophic streaks extend down legs; high nasal bridge, prominent jaw, large ears, inverted nipples, fat over suprapubic area and labia majora, fat pads over buttocks; hypotonia *Textbook of Neonatal Dermatology, p.432, 2001*

Cardio-facio-cutaneous syndrome *Dev Med Child Neurol 35:727–732, 1993*

Chromosome 16–18 defect – large scalp defects; scalp arteriovenous malformation with underlying bony defect *Textbook of Neonatal Dermatology, p.127, 2001*

Cockayne's syndrome (cachectic dwarfism) – autosomal recessive; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes (enophthalmos with loss of periorbital fat), lipoatrophy of temples; canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *Ped Derm 20:538–540, 2003; Textbook of Neonatal Dermatology, p.493, 2001; J Med Genet 18:288–293, 1981*

Congenital erosive and vesicular dermatosis with reticulate scarring – thin and translucent skin *Ped Derm 15:214–218, 1998; JAAD 32:873–877, 1995*

Congenital ichthyosis, follicular atrophoderma, hypotrichosis, and hypohidrosis *Am J Med Geneet 13:186–189, 1998*

Conradi–Hünermann syndrome – X-linked dominant ichthyosis; mutation in gene encoding 8–7 sterol isomerase; collodion baby or generalized ichthyosiform erythroderma; Blaschko erythroderma and scaling; palmoplantar keratoderma; follicular atrophoderma and cicatricial alopecia in adults; short stature; asymmetric shortening of limbs; chondrodysplasia punctata, cataracts *Eur J Dermatol 10:425–428, 2000; Hum Genet 53:65–73, 1979*

Curry Jones syndrome – streaks of atrophy with craniosynostosis, preaxial polysyndactyly, agenesis of the corpus callosum *Clin Dysmorphol 4:116–129, 1995*

DeBarsy syndrome – autosomal recessive progeroid syndrome; lax wrinkled skin; cloudy corneas, mental retardation, pseudoathetoid movements, synophrys, pinched nose, thin skin, lack of subcutaneous tissue, sparse hair *Ped Derm 19:412–414, 2002; Eur J Pediatr 144:348–354, 1985*

Delleman–Oorthuys syndrome – oculocerebrocutaneous syndrome – membranous aplasia cutis, eyelid tag, periorbital tags, facial tags, orbital cysts, focal punched-out skin defects of the ala nasi, cerebral malformations, developmental delay *Textbook of Neonatal Dermatology, p.127, 2001; Clin Dysmorphol 7:279–283, 1998; Clin Genetics 19:191–198, 1981*

Dermatopathia pigmentosa retularis – autosomal dominant, reticulate hyperpigmentation of trunk, onychodystrophy, alopecia, oral hyperpigmentation, punctate hyperkeratosis of palms and soles, hypohidrosis; atrophic macules over joints with hypertrophic scarring *Semin Cut Med Surg 16:72–80, 1997; AD 126:935–939, 1990; Hautarzt 6:262, 1960*

Diffuse and macular atrophic dermatosis – generalized poikilodermatous prematurely aged (sun-damaged) appearance *Clin Exp Dermatol 5:57–60, 1980*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flexures) – pitted atrophic scars at corners and around mouth, reticulated pigmentation of axillae, groin, and other intertrigenous areas, freckles of vulva, comedo-like lesions *BJD 147:568–571, 2002; JAAD 40:462–467, 1999; Clin Exp Dermatol 9:439–350, 1984*

Dunnigan syndrome – autosomal recessive; acanthosis nigricans, decreased subcutaneous fat, enlarged clitoris, insulin-resistant diabetes mellitus, thickened nails, pineal hyperplasia, premature eruption of teeth, macrodontia, enlarged filiform and fungiform papillae of the tongue *J Med Genet 23:128–130, 1986*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28 *J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981;* thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Ectodermal dysplasia – X-linked anhidrotic ectodermal dysplasia; thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Ehlers–Danlos syndrome – EDS I, II – atrophic fish-mouth and cigarette paper scarring; redundant folds around eyes; EDS II with features of cutis laxa *Rook p.2032–2038, 1998, Sixth Edition;* type VII – lax facial skin giving chubby appearance *J Med Genet 24:698–701, 1987*

Ellis van Creveld syndrome – thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Exostoses with anetoderma and brachydactyly

Familial anetoderma *JAAD 16:341–345, 1987*

Familial mandibuloacral dysplasia (craniomandibular dermatodysostosis) – atrophy of skin over hands and feet with club shaped terminal phalanges and acro-osteolysis, mandibular dysplasia, delayed cranial suture closure, short stature, prominent eyes and sharp nose *BJD 105:719–723, 1981; Birth Defects x:99–105, 1974*

Familial partial lipodystrophy (Kobberling–Dunning syndrome, Dunnigan variety) – extreme muscularity and lack of subcutaneous fat in all extremities with onset at puberty; normal at birth; excess adipose tissue of face and neck, acanthosis nigricans, post-prandial hyperinsulinemia, diabetes mellitus after age 20, hypertriglyceridemia and pancreatitis *J Clin Endocrinol Metab 85:1776–1782, 2000*

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp, abnormal ears and teeth, nail dystrophy, syndactyly, reduced apocrine secretion *Bolognia p.924, 2003*

Focal facial dermal dysplasia; bitemporal atrophy with scar-like atrophic macules on one or both temples (Brauer's syndrome) *JAAD 25:389–391, 1991; JAAD 18:1203–1207, 1988*

Flynn–Aird syndrome – atrophy of shins and dorsae of feet, ulceration, alopecia, dental caries *J Neurol Sci 2:161–182, 1965*

Focal dermal hypoplasia, morning glory anomaly, and polymicrogyria – swirling pattern of hypopigmentation, papular hypopigmented and herniated skin lesions of face, head, hands, and feet, basaloid follicular hamartomas, mild mental retardation, macrocephaly, microphthalmia, unilateral morning glory optic disc anomaly, palmar and lip pits, and polysyndactyly *Am J Med Genet 124A:202–208, 2004*

Follicular atrophoderma
- Bazex–Dupre–Christol syndrome, X-linked dominant *AD 130:337–342, 1994*
- Conradi–Hünermann syndrome *JAAD 21:248–256, 1989, Ped Derm 15:299–303, 1998; Hum Genet 53:65–73, 1979*
- Happle syndrome – X-linked dominant chondrodysplasia puntata – streaks *Ped Derm 13:1–4, 1996*
- Rasmussen's syndrome *AD 111:610–614, 1975*
- Rombo syndrome

4p (–) syndrome – aplasia cutis, mental retardation, deafness, seizures, ocular abnormalities *Textbook of Neonatal Dermatology, p.127, 2001*

Fragile X syndrome – fine skin, hyperextensible joints, flat feet *Lancet 338:289–292, 1991*

Geroderma osteodysplastica – jowly sad face, drooping eyelids *Ped Derm 16:113–117, 1999*

Goldenhar syndrome (oculo–auriculo–vertebral syndrome) – facial hemiatrophy *Syndromes of the Head and Neck, p.641–649, 1990;* aplasia cutis congenita *JAAD 50:S11–13, 2004*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow-red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Goltz's syndrome (focal dermal hypoplasia); also thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Granddad syndrome – *Am J Hum Gen 45 (suppl) A53, 1989*

Haber's syndrome – rosacea-like acneform eruption with erythema, telangiectasia, prominent follicles, comedones, small papules, atrophic pitted scars; with keratotic plaques of the trunk and extremities *AD 103:452–455, 1971; BJD 77:1–8, 1965*

Haim-Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon-Lefevre syndrome); atrophic nails, palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Hallermann–Streiff syndrome – central facial atrophy and telangiectasia *Ped Derm 13:255–257, 1996;* atrophic alopecia *Clin Exp Dermatol 14:250–252, 1989*

Happle syndrome (X-linked dominant chondrodysplasia punctata) – scalp dermatitis at birth; Blaschko hyperkeratoses, follicular atrophoderma, cicatricial alopecia *Ped Derm 18:442–444, 2001*

Hereditary acrokeratotic poikiloderma

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa with generalized cutaneous atrophy, Corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2000*

Hereditary perioral pigmented follicular atrophoderma associated with milia and epidermoid cysts *BJD 139:713–718, 1998*

Hereditary sclerosing poikiloderma

Hutchinson–Gilford syndrome (progeria) – loss of subcutaneous tissue, hyper and hypomelanosis, alopecia, mid-facial cyanosis around mouth and nasolabial folds, decreased sweating, sclerodermoid changes, cobblestoning of soft pebbly nodules *Am J Med Genet 82:242–248, 1999*

Hypertrichosis, pigmentary retinopathy, and facial anomalies – lipoatrophy of buttocks *Am J Med Genet 62:386–390, 1996*

Hypohidrotic ectodermal dysplasia – facial wrinkling

Ichthyosis, follicular atrophoderma, eyebrow hypotrichosis, woolly hair *BJD 147:604–606, 2002; Am J Med Genet 75:186–189, 1998*

Incontinentia pigmenti – pale atrophic hairless patches in stage 4 *AD 139:1163–1170, 2003; JAAD 47:169–187, 2002;* atrophic vermiculate scarring of legs *Atlantic Derm Society Meeting, 2000; Dermatol 191* (*2*)*:161–163, 1995;* thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Johanson–Blizzard syndrome – small stellate defects of frontal scalp and membranous aplasia cutis, dwarfism, mental retardation, deafness, hypothyroidism, pancreatic insufficiency, midline skin dimples or defects *Textbook of Neonatal Dermatology, p.127, 2001; J Med Genet 19:302–303, 1981*

Juvenile hyaline fibromatosis (Murray–Puretic–Drescher syndrome) – autosomal recessive; gingival fibromatosis, multiple subcutaneous tumors, sclerodermiform atrophy, osteolytic skeletal lesions, recurrent suppurative infections, flexural joint contractures, stunted growth, early death *Ped Derm 18:400–402, 2001*

Kindler syndrome – diffuse atrophy or cigarette paper atrophy of hands; atrophied gingival; atrophic nail plates *AD 140:939–944, 2004; BJD 144:1284–1286, 2001; JAAD 46:447–450, 2001; Ped Derm 6:91–101, 1989, AD 133:1111–1117, 1997*

Klippel–Trenaunay–Weber syndrome – atrophy of limb; venous malformation, arteriovenous fistula, or mixed venous lymphatic malformation *Br J Surg 72:232–236, 1985; Arch Gen Med 3:641–672, 1900*

Koraxitrachitic syndrome – self-healing collodion baby with residual dappled atrophy *Am J Med Genet 86:454–458, 1999*

Lawrence–Seip syndrome (acquired total lipodystrophy – extreme muscularity and generalized lack of fat during childhood or later, loss of fat from palms and soles, severe fasting or post-prandial hyperinsulinemia, lipoatrophic diabetes, hypertriglyceridemia, panniculitis at onset of lipodystrophy, other autoimmune diseases, insulin resistance *J Clin Endocrinol Metab 85:1776–1782, 2000; AD 91:326–334, 1965*

Lenz–Majewski syndrome – loose, wrinkled atrophic skin of hands with short digits and partial syndactyly *Radiology 149:129–131, 1983*

Leprechaunism (Donohue's syndrome) – decreased subcutaneous tissue and muscle mass (lipoatrophy), characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Lipoid proteinosis – pock-like annular scars *Ped Derm 19:359–362, 2002; Ped Derm 18:21–26, 2001;* weathered appearance of face *Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Macrostomia, ectropion, atrophic skin, hypertrichosis and growth retardation

Mandibuloacral dysplasia – acral poikiloderma over hands and feet, subcutaneous atrophy *Am J Med Genet 95:293–295, 2000; Clin Genet 26:133–138, 1984*

Marfan's syndrome – striae atrophicae *Rook p.2030–2031, 1998, Sixth Edition*

Marshall's syndrome – Sweet's syndrome followed by acquired cutis laxa *AD 131:1175–1177, 1995*

Mendenhall's syndrome – pineal hyperplasia, insulin resistant diabetes mellitus, lipodystrophy

Mendes da Costa syndrome (dystrophia bullosa, typus maculatus) – X-linked recessive; tense bullae, alopecia, coarse reticulated hyperpigmentation of face and extremities with atrophy, mental retardation *Acta DV (Stockh) 18:265, 1937*

Metageria

Metaphyseal dysplasia, anetoderma, optic atrophy

Microphthalmia with linear skin defects syndrome (MLS syndrome) (microphthalmia, dermal aplasia, and sclerocornea (MIDAS) syndrome) – X-linked dominant; atrophic Blaschko linear scars of face and neck; linear red atrophic skin (resembles aplasia cutis) *Am J Med Genet 124A:202–208, 2004; Textbook of Neonatal Dermatology, p.466–467, 2001; Am J Med Genet 49:229–234, 1994*

Multiple benign annular creases of the extremities

Multiple follicular hamartomas with sweat gland and sebaceous differentiation, vermiculate atrophoderma, milia, hypotrichosis, and late development of basal cell carcinomas *JAAD 39:853–857, 1998*

Nail–patella syndrome – hypoplasia of distal phalanges *Ped Derm 19:454–456, 2002;* thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Neurofibromatosis type 1 – pseudoatrophic macules *AD 118:577–581, 1982;* congenital reddish neurofibromatous dermal hypoplasia with follicular papules *Cutis 68:253–256, 2001*

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome – atrophic scars *AD 138:361–365, 2002*

Nicolau–Balus syndrome – vermiculate atrophoderma of cheeks, eruptive syringomas and milia on trunk and extremities

Noonan's syndrome – ulerythema ophryogenes

Oculocerebrocutaneous syndrome – regional skin hypoplasia *Am J Med Genet 124A:202–208, 2004*

Oculo-ectodermal syndrome – macrocephaly, cutis aplasia, abnormal pigmentation, scalp nodules, corneal epibulbar dermoid cysts *BJD 151:953–960, 2004; Bolognia p.924, 2003*

Odonto-onycho-dermal dysplasia – telangiectatic atrophic patches of face, sparse hair, conical teeth, hyperkeratosis of palms and soles, dystrophic nails *Am J Med Genet 14:335–346, 1983*

Opitz syndrome – membranous aplasia cutis with hypertelorism, cleft lip/palate, hypospadias, cryptorchidism *Textbook of Neonatal Dermatology, p.127, 2001*

Osteodysplastic geroderma (Walt Disney dwarfism) – short stature, cutis laxa-like changes with drooping eyelids and jowls, osteoporosis and skeletal abnormalities *Am J Med Genet 3:389–395, 1979*

Osteogenesis imperfecta – blue sclerae; thin fragile skin *J Med Genet 16:101–116, 1979*

Panhypopituirary dwarfism – short stature, excess subcutaneous fat, high pitched voice, soft, wrinkled skin, child-like facies *Birth Defects 12:15–29, 1976*

Parry–Romberg syndrome *Ped Derm 21:48–50, 2004; JAAD 22:531–533, 1990*

Partial lipodystrophy, complement abnormalities, vasculitis – macroglossia, polyarthralgia, mononeuritis, hypertrophy of subcutaneous tissue *Ann DV 114:1083–1091, 1987*

Patau syndrome (Trisomy 13) – capillary hemangiomas of the forehead, localized scalp defects *G Ital DV 121:25–28, 1986*

Patterson David syndrome – pseudoleprechaunism

Premature aging and short stature syndrome (Mulvihill–Smith syndrome) – loss of facial subcutaneous tissue

Proteus syndrome – lipohypoplasia and patchy dermal hypoplasia *AD 140:947–953, 2004; AD 133:77–80, 1997*

Prune belly syndrome – wrinkled abdominal skin with abdominal muscle absence and urogenital malformations *J Urol 139:335–337, 1988*

Pseudoxanthoma elasticum *Rook p.2022–2026, 1998, Sixth Edition;* penicillamine-induced pseudoxanthoma elasticum *JAAD 30:103–107, 1994; Dermatology 184:12–18, 1992;* saltpetre-induced pseudoxanthoma elasticum *Acta DV 58:323–327, 1978*

Rapp–Hodgkin ectodermal dysplasia

Reflex sympathetic dystrophy *Cutis 68:179–182, 2001; AD 127:1541–1544, 1991; JAAD 22:513–520, 1990*

Restrictive dermopathy (stiff skin syndrome) – rigid transluecent inelastic skin; severe intrauterine growth retardation; micrognathia, fixed facial expression, low-set ears, pinched nose, O-shaped mouth, flexion contractures *AD 138:831–836, 2002*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Roberts syndrome (pseudothalidomide syndrome, SC phocomelia syndrome) – facial midline capillary malformation with limb defects; bony abnormalities, cleft lip and palate, unusual facies (hypoplastic nares, micrognathia, malformed ears, hypertelorism); marked growth retardation; silvery hair *Curr Probl Dermatol 3:69–107, 1995*

Romberg syndrome (facial hemiatrophy) *Arch Neurol 39:44–46, 1982*

Rombo syndrome – acral erythema, cyanotic redness, follicular atrophy (atrophoderma vermiculata), milia-like papules, telangiectasias, red ears with telangiectasia, thin eyebrows, sparse beard hair, basal cell carcinomas, short stature *BJD 144:1215–1218, 2001; Acta DV* (*Stockh*) *61:497–503, 1981*

Rothmund–Thomson syndrome (poikiloderma congenitale)

Ruvalcaba syndrome – atrophic plaques on trunk

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Say–Barber syndrome – short stature, microcephaly, large ears, flexion contractures, decreased subcutaneous fat; dermatitis in infancy with transient hypogammaglobulinemia *Am J Med Genet 86:165–167, 1999*

Scleroatrophic and keratotic dermatosis of limbs (scleroatrophic syndrome of Huriez) – autosomal dominant; scleroatrophy of hands, sclerodactyly, palmoplantar keratoderma, xerosis, hypoplastic nails *BJD 143:1091–1096, 2000; BJD 134:512–518, 1996; Bull Soc Fr Dermatol Syphiligr 70:24–28, 1963*

Setleis syndrome (focal facial dermal dysplasia) – aged leonine appearance, bi-temporal scar-like defects, absent or multiple rows of upper eyelashes, eyebrows slanted up and out, scar-like median furrow of chin *BJD 130:645–649, 1994; Pediatrics 32:540–548, 1963*

SHORT syndrome *Syndromes of the Head and Neck, p.826, 1990*

Sjögren's syndrome – atrophic vulvitis, anal mucosa *Rook p.2572, 1998, Sixth Edition*

Terminal osseous dysplasia and pigmentary defects – regional skin hypoplasia *Am J Med Genet 124A:202–208, 2004*

Thoracic outlet syndrome

Treacher Collins syndrome

Tricho-odonto-onycho-ectodermal dysplasia (linear dermal hypoplasia) – hypotrichosis, hypodontia, focal linear dermal hypoplasia of the tip of the nose, irregular hyperpigmentation of the back, bilateral amastia and athelia, nerve hearing loss *AD 122:1047–1053, 1986*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – facial hemiatrophy, lipoatrophy, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

Trisomy D (13–15) – membranous aplasia cutis, holoprosencephaly, seizures, ocular abnormalities, deafness, neural tube defects *Textbook of Neonatal Dermatology, p.127, 2001*

Trisomy 13/18 – scalp defects *BJD 151:953–960, 2004;* thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Tuberous sclerosis – hypoplasia of the hand *BJD 135:1–5, 1996*

Turner's syndrome – thinning and wrinkling of palmar skin; thin or atrophic nails *Ghatan p.109, 2002, Second Edition*

Twenty nail syndrome – atrophic nails *Ghatan p.114, 2002, Second Edition*

Unusual facies, lipodystrophy, joint contractures (Werner-like disorder) *Hum Genet 83:209–216, 1989*

Van der Woude syndrome – congenital lower lip pits

Vertebral and eye anomalies, cutis aplasia, and short stature (VECS) *Am J Med Genet 77:225–227, 1998*

Werner's syndrome – loss of subcutaneous tissue; bird-like facies, spindly legs *Am J Med 108:143–152, 2000; AD 124:90–101, 1988*

Wiedemann–Rautenstrauch (neonatal progeroid syndrome) – generalized lipoatrophy, macrocephaly, premature aging, wide open sutures, hypoplasia of facial bones, low-set ears, beak shaped nose, neonatal teeth, slender limbs, large hands and feet with long fingers, large penis *J Med Genet 34:433–437, 1997*

Williams syndrome – premature laxity of skin, congenital heart disease (supravalvular aortic stenosis), baggy eyes, full cheeks, prominent lips, dental malocclusion, delayed motor skills, cocktail party personality *J Pediatr 113:318–326, 1988*

Wolf–Hirschhorn syndrome (del (4p) syndrome) – midline scalp defect *BJD 151:953–960, 2004; Am J Med Genet 21:351–358, 1985*

Wrinkly skin syndrome – wrinkled skin on abdomen and dorsal aspects of hands and feet, increase palmoplantar creases, prominent venous pattern on chest, mental retardation, microcephaly, hypotonia, musculoskeletal abnormalities *Am J Med Genet 101:213–220, 2001; Ped Derm 16:113–117, 1999*

X-p22 microdeletion syndrome – bilateral reticulated and linear defects of malar region of face, microphthalmia, sclerocornea *Textbook of Neonatal Dermatology, p.127, 2001*

Xeroderma pigmentosum *Ghatan p.5, 2002, Second Edition*

### TRAUMA

Acupuncture – atrophic round scars *BJD 150:364, 2004*

Amniocentesis dimples *Am J Obstet Gynecol 126:247–252, 1976; JAAD 39:888–890, 1998; AD 120:1360–1362, 1984*

Compression from tight fitting clothes – lipoatrophy *JAAD 45:325–361, 2001*

IVDA – skin popping *BJD 150:1–10, 2004*

Injury due to obstetric forceps or scalp electrodes

Physical trauma – atrophic nails *Ghatan p.114, 2002, Second Edition*

Post-injection lipoatrophy *JAAD 45:325–361, 2001*

Radiation dermatitis, chronic

Scars

### VASCULAR

Acrocyanosis with atrophy *AD 124:263–268, 1988*

Atherosclerosis and other vascular disorders – atrophic nails *Ghatan p.114, 2002, Second Edition*

Atrophie blanche (livedo with ulceration) – ivory white plaque of sclerosis with stippled telangiectasias and surrounding hyperpigmentation; venous insufficiency, thalassemia minor *Acta DV (Stockh) 50:125–128, 1970;* cryoglobulinemia, systemic lupus erythematosus, scleroderma *Rook p.2216,2249, 1998, Sixth Edition; Arch Pathol Lab Med 110:517–519, 1986; JAAD 8:792–798, 1983; AD 119:963–969, 1983*

Cutis marmorata telangiectatica congenita – facial or limb hypoplasia *JAAD 48:950–954, 2003; Ped Derm 17:100–104, 2000; JAAD 20:1098–1104, 1989*

Degos' disease (malignant atrophic papulosis) – white atrophic papules *BJD 139:708–712, 1998; AD 128:255–260, 1992;* lower extremity hypoplasia *Turk J Pediatr 43:159–161, 2001*

Edema – acute leg edema; stria-like distension of skin *AD 138:641–642, 2002*

Glomerulovenous malformation – atrophic patch with redundant skin *Soc Ped Derm Annual Meeting, July 2005*

Hemangiomas, resolved – atrophy, telangiectasia, redundant skin *Rook p.554, 1998, Sixth Edition*

Rapidly involuting congenital hemangioma (RICH) – residual patch of thing skin with prominent veins after involution *JAAD 50:875–882, 2004*

Raynaud's phenomenon – atrophic nails *Ghatan p.114, 2002, Second Edition*

Servelle–Martorell syndrome – association of capillary stains and dysplastic veins with undergrowth of affected limb *Curr Prob Dermatol 13:249–300, 2002; Textbook of Neonatal Dermatology, p.333, 2001*

Takayasu's arteritis – post-granulomatous anetoderma *AD 123:796–800, 1987*

Varicose veins – acquired localized elastolysis *Clin Exp Dermatol 20:492–495, 1995*

## BASAL CELL CARCINOMA – SYNDROMES

Bazex–Dupré–Christol syndrome (X-linked dominant) – milia and comedo-like papules, hypotrichosis, anhidrosis of face and head, follicular (vermiculate) atrophoderma of the face, elbows and hands; basal cell carcinomas resemble nevi; multiple follicular hamartomas with sweat gland and sebaceous differentiation *Derm Surg 26:152–154, 2000; Ped Derm 16:108–110, 1999; JAAD 39:853–857, 1998; AD 130:337–342, 1994; Ann Dermatol Syphilgr (Paris) 93:241–254, 1966*

Coarse sparse hair and milia syndrome *JAAD 50:489–494, 2004*

Multiple hereditary non-syndromic basal cell carcinomas *JAAD 50:489–494, 2004*

Nevoid basal cell carcinoma syndrome (Gorlin's syndrome) – autosomal dominant; papules of the face, neck, and trunk, calcifications of the brain, palmoplantar pits, mandibular keratocysts, skeletal anomalies, basal cell carcinomas; also

medulloblastomas, ovarian tumors, astrocytomas, meningiomas, craniopharyngiomas, fibrosarcomas, ameloblastomas *JAAD 39:853–857, 1998; Dermatol Clin 13:113–125, 1995; JAAD 11:98–104, 1984;* linear unilateral nevoid basal cell nevus syndrome *JAAD 50:489–494, 2004*

Nevus sebaceus syndrome

Oculocutaneous albinism

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, hypotrichosis, trichoepitheliomas, peripheral vasodilatation with cyanosis *BJD 144:1215–1218, 2001; JAAD 39:853–857, 1998*

Xeroderma pigmentosum *JAAD 50:489–494, 2004*

# 'BLACK' DERMATOLOGIC ENTITIES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – 'black' poison ivy due to oxidation of resin *JAAD 45:246–249, 2001;* black lacquer dermatitis

Autoimmune blistering disorders – blisters with central black dots

Dermatitis herpetiformis – black palmar lesions in purpuric dermatitis herpetiformis *Ped Derm 14:319–322, 1994*

Dermatomyositis – epidermal necrosis

Graft vs. host disease – linear epidermal necrosis with black line *JAAD 1/94*

Lupus erythematosus – lupus profundus; LE hypertrophicus et profundus – verrucous brown–black plaque *BJD 96:75–78, 1977*

## DRUG-INDUCED

Bismuth subsalicylate – black dots after oral ingestion of Pepto-Bismol *JAAD 37:489–490, 1997*

Black hairy tongue – multiple antibiotics

Calcium gluconate, extravasated – linear and dot-like black necrosis

Clofazamine – red to purple black *Ghatan p.231, 2002, Second Edition*

Cyclophosphamide – black nails

Daunorubicin – black nails

Diltiazem – blue–black, photodistributed hyperpigmentation *JAAD 46:468–469, 2002*

Gold salts – black nails *Ghatan p.77, 2002, Second Edition*

Hydroxychloroquine – blue–black pigmentation *Ghatan p.231, 2002, Second Edition*

Lanoprazole (proton pump inhibitor) – black tongue *AD 137:968–969, 2001; BJD 144:1293–1294, 2001*

Methyldopa – black tongue *AD 137:968–969, 2001; AD 136:427–428, 2000*

Minocycline – black galactorrhea *AD 121:417–418, 1985;* black tongue *AD 137:968–969, 2001; BJD 134:943–944, 1996; AD 131:620, 1995; AD 121:417–418, 1985;* black nails

Phenothiazine – black galactorrhea *Rook p.3154, 1998, Sixth Edition; AD 121:417–418, 1985*

Zidovudine – black nails

## EXOGENOUS AGENTS

Acupuncture beads

Anthralin staining

Black dermatographism – blackening of skin by metals; rubbing of metal with zinc oxide, ferric oxide, pumice, titanium dioxide *Cutis 52:17–19, 1993; JAMA 121:485–490, 1943*

Black tattoos – carbon (India ink), iron oxide, or logwood – tattoo reaction *JAAD 35:477–479, 1996*

Cactus – dome shaped skin-colored papules with central black dot *Bolognia p.1477, 2003*

Coal tar – black nails *Ghatan p.77, 2002, Second Edition*

Clothing dyes – released by sweating *Rook p.2001, 1998, Sixth Edition*

Ebony workers – black nails

Foreign body, including foreign body granuloma; delayed reaction to graphite pencil *Cutis 42:199–201, 1988;* black thorn granuloma; sea urchin spines of the soles

Ink stain

Mercury-containing cosmetics – black nails

Photographic developing (methyl or p-methyl aminophenyl sulfate hydroquinone) – black nails

Sea urchin spicules

Shoe polish – black nails

Silver nitrate – black nails

Skin graft – pseudomelanoma

Wine – black nails

## INFECTIONS AND INFESTATIONS

Anthrax – eschar

Aspergillosis – primary cutaneous – blisters with central black dots *JAAD 31:344–347, 1994;* black eschar *AD 141:633–638, 2005*

Bed bugs (*Cimex lectularis*) *Ped Derm 22:183–187, 2005*

Black blowfly (maggot, genus *Phormia*)

Black death (plague, *Yersinia pestis*) and kala-azar

Black dot ringworm

Blackflies

Black piedra

Black widow spider bite

Condyloma acuminata *Tyring p.263, 2002*

Fungal melanonychia (onychomycosis) *JAAD 31:311–316, 1994*
- *Acrotherium nigrum*
- *Alternaria grisea tenuis*
- *Alternaria numiocola*
- *Blastomyces*
- *Candida*
- *Chaetomium kunze*
- *Fusarium oxysporum*
- *Homodendrum elatum*
- *Phyllostictina sydow*
- *Scytalidium dimidiatum* – superficial black onychomycosis *AD 140:696–701, 2004*
- *Trichophyton rubrum*
- *Trichophyton sudanense*
- *Wangiella dermatiditis*

Insect bite reaction – blister with central black dot

Lyme disease – blister with central black dot; necrotic bulla

Molluscum contagiosum – involuting

Mycetoma – black grains *Caputo p.153, 2000*

Myiasis due to *Cordylobia anthropophaga JAAD 126:199–202, 1990*

Necrotizing fasciitis – periorbital blue–black necrosis *AD 140:664–666, 2004*

Onychomycosis – black nail *Ghatan p.77, 2002, Second Edition*

Osteomyelitis – subungual black macules associated with osteomyelitis of distal phalanges *AD 124:418–423, 1988*

Pinta – black nails

Pitted keratolysis

Pseudochromhidrosis – colorless sweat becomes pigmented due to chromogenic bacteria (*Corynebacterium*) *Rook p.2001, 1998, Sixth Edition*

Rickettsial pox – eschar (tache noir) *JAAD 2:359–373, 1980*

Scrub typhus (*Rickettsia tsutsugamuchi*) (mites) – headache and conjunctivitis; eschar with black crust; generalized macular or morbilliform rash *JAAD 2:359–373, 1980*

Tick, engorged or non-engorged *Rook p.1456, 1998, Sixth Edition; Br Med J 309:1693, 1994*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980*

Tinea capitis – endothrix (T. tonsurans and T. violaceum) – black dots of swollen hair shafts as hairs break at surface of scalp *JAAD 8:322–330, 1983*

Tinea nigra palmaris – *Phaeoannelomyces werneckii Ped Derm 20:315–317, 2003; AD 11:904–905, 1975*

Trichomycosis axillaris

Tungiasis with central black pit or dot *AD 141:389–394, 2005; JAAD 20:941–944, 1989; JAAD 15:117–119, 1986*

Zygomycosis – black eschar; edema with black discoloration *J Pediatr Surg 37:1607–1611, 2002*

## INFILTRATIVE

Dorsal mucoid cysts of the finger *AD 129:633–638, 1993*

## INFLAMMATORY DISEASES

Erythema multiforme with epidermal necrosis

## METABOLIC

Aspartylglucosaminuria – angiokeratoma corporis diffusum *BJD 147:760–764, 2002*

Diabetes mellitus – finger sticks

Fabry's disease – angiokeratomas *AD 140:1440–1446, 2004*

Metastatic calcification

Ochronosis – black or blue–black cerumen, urine, cartilage of nose, sclerae, skin of axillae, around areolae, ends of fingers, cheeks, scleral deposits *NEJM 347:2111–2121, 2002; Am J Med 34:813–838, 1963;* black nails

Vitamin $B_{12}$ deficiency – black nails

## NEOPLASMS

Aneurysmal fibrous histiocytomas (variant of dermatofibroma) *BJD 153:664–665, 2005*

Atypical nevus

Basal cell carcinoma, pigmented *Cutis 71:404–406, 2003; Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Blue nevus *JAAD 49:924–929, 2003*; multiple congenital blue nevi *BJD 152:391–393, 2005*

Bowenoid papulosis – black papules *Tyring p.266, 2002; Ped Derm 2:297–301, 1985; Proc R Soc Med 68:345–346, 1975*

Combined spindle and melanocytic nevus

Combined type blue nevus *Ped Derm 14:358–360, 1994*

Dermatofibrosarcoma protuberans – congenital blue–black patch *JAAD 42:907–913, 2000*

Dermatosis papulosa nigra *AD 89:655–658, 1964*

Eccrine hidrocystomas *JAAD 35:480–482, 1996*

Eccrine poroma – blue–black pedunculated tumor of chin *BJD 152:1070–1072, 2005*

Epidermal nevus

Granular cell schwannoma

Hemangioma

Hidroacanthoma, pigmented *AD 130:913–918, 1994*

Hidrocystoma – apocrine or eccrine – clear or blue or blue–black *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins pp.153–155, 1999;* eyelid or facial cyst *AD 137:657–662, 2001; AD 134:1627–1632, 1998; AD 115:194–200, 1979*

Infantile myofibromatosis – purple–black papules and macules *AD 136:597–600, 2000; JAAD 41:508, 1999*

Ink spot lentigo *AD 128:934–940, 1992*

Kaposi's sarcoma

Lymphoma – intravascular large cell lymphoma – black macules *JAAD 39:318–321, 1998*

Melanocytic nevus – black nail *Ghatan p.77, 2002, Second Edition;* traumatized nevus

Melanoma – nodular, congenital malignant melanoma *BJD 151:693–697, 2004*; of lip *BJD 152:1324–1326, 2005*

Nevus comedonicus *AD 139:93–98, 2003*

Nevus sebaceus *AD 140:1393–1398, 2004*

Pilomatrixoma *AD 110:773–774, 1974*

Psammomatous melanotic schwannoma (Carney complex) *AD 129:202–204, 1993*

Seborrheic keratosis *Rook p.1659–1660, 1998, Sixth Edition*

Skin tag – necrosed due to torsion

Spindle cell nevus of Reed – black papule or plaque *Ped Derm 47:137–139, 2002*

Spitz nevus, including agminated Spitz nevi – black or black–pink nodule *JAAD 52:S48–50, 2005*

Syringocystadenocarcinoma papilliferum – black cauliflower-like verrucous plaque *JAAD 45:755–759, 2001*

Trichofolliculoma – black pore

## PHOTODERMATOSES

Ephelides

Melasma

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Acne vulgaris – open comedones (blackheads) *Rook p.1949–1951, 1998, Sixth Edition*

Alopecia areata – black dots (exclamation point hairs)

Chromhidrosis *JAAD 52:89–91, 2005; Rook p.2001, 1998, Sixth Edition*

Galactorrhea *Rook p.2001, 1998, Sixth Edition*

Giant comedone

Hidradenitis suppurativa

Hyperkeratosis of the nipple

Ichthyosis – X-linked ichthyosis

Lichen planopilaris *Rook p.1586,1904–1912, 1998, Sixth Edition*

Mal de Meleda – black pits *Cutis 56:235–238, 1995*

Reactive perforating collagenosis – black line

Trichostasis spinulosa *BJD 84:311–316, 1971*

### PSYCHOCUTANEOUS DISORDERS

Delusions of parasitosis – debris presented by the patient

### SYNDROMES

Atypical nevus syndrome

Nevoid basal cell carcinoma syndrome *Summer Meeting, American Academy of Dermatology, July 31, 2004; Int J Oral Maxillofac Surg 33:117–124, 2004; Am J Med Genet 69:299–308, 1997*

Universal acquired melanosis (carbon baby) – deep black color of entire integument *Textbook of Neonatal Dermatology, p.381, 2001*

### TOXINS

Lead – black nails

### TRAUMA

Black dot heel (talon noir) – hemorrhage in stratum corneum or dermal papillae *Trans St John's Hosp Dermatol Soc 51:80–84, 1965*

Black palm

Blast tattoos from black powder firearms *JAAD 17;819–825, 1987*

Burn blister with central necrosis

Collier's stripes (traumatic tattoos of coal miners) *JAAD 20:137–138, 1989*

Frostbite – epidermal necrosis

Hemorrhage – black nails *Ghatan p.77, 2002, Second Edition*

Lead pencil injury

Radiation – black nails; post-radiation angiosarcoma

Trauma with hemorrhagic crust

### VASCULAR

Angiokeratoma, solitary papular

Angiosarcoma of the breast post-irradiation for breast cancer; black nodules *JAAD 49:532–538, 2003*

Cherry angioma, traumatized (Campbell de Morgan spots) *Rook p.2092, 1998, Sixth Edition*

Disseminated intravascular coagulopathy – epidermal necrosis

Gangrene – black nails

Intravascular thrombosis (e.g. cryoglobulins) – epidermal necrosis

Lymphangioma circumscriptum – blue–black *Rook p.2292, 1998, Sixth Edition; BJD 83:519–527, 1970*

Polyarteritis nodosa – in children; fever, peripheral gangrene, black necrosis, livedo reticularis, ulcers, nodules, vesiculobullous lesions, arthralgia, nodules of face and extremities, conjunctivitis *JAAD 53:724–728, 2005; Ann Rheum Dis 54:134–136, 1995*

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition*

Thrombosed capillary aneurysm

Vascular insufficiency – epidermal necrosis

Verrucous hemangioma – linear along Blaschko's lines *JAAD 42:516–518, 2000*

## BLACK ORAL LESIONS

Addison's disease

Antimalarials (blue–gray)

AZT

Blue nevus

Hemangioma

Hemochromatosis

HIV disease

Intramucous nevus

Kaposi's sarcoma

Laugier–Hunziker syndrome

Melanocytic nevi

Melanoma

Minocycline

Neurofibromatosis – intraoral café au lait macule

Oral melanotic macule

Peutz–Jegher's syndrome

Silver amalgam tattoos

Submucous hemorrhage

Tattoos, ornamental

Varicose veins

## BLASCHKO-ESQUE ENTITIES

***Am J Med Genet 85:324–329, 1999***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Localized unilateral chronic graft vs. host eruption after bone marrow transplant *JAAD 28:888–892, 1993*

Intra-epidermal IgA dermatosis

Lupus erythematosus – discoid LE *Ped Derm 18:396–399, 2001; Ped Derm 16:128–133, 1999; BJD 139:307–310, 1998; Hautarzt 37:335–337, 1986;* bullous LE *Ped Derm 12:138–144, 1995*

Pemphigus vulgaris

Scleroderma – linear scleroderma; linear morphea *Clin Exp Dermatol 24:467–468, 1999; JAAD 38:366–368, 1998; BJD 134:594–595, 1996*

### CONGENITAL DISEASES

Aplasia cutis congenita *Human Genet 90:467–471, 1992*

Linear telangiectatic erythema and mild atrophoderma *Cutis 39:69–70, 1987*

Psoriasis *Ped Derm 13:219–221, 1996*

Unilateral congenital linear atrophoderma (?atrophoderma of Moulin) *Ped Derm 22:350–354, 2005*

## DRUG ERUPTIONS

Linear fixed drug eruption *Bolognia p.873, 2003*

Lichenoid drug eruption *Dermatology 193:66–67, 1996;* nicergoline (alpha blocker)

## INFECTIONS AND INFESTATIONS

Measles

Scarlet fever in hypomelanosis of Ito *Ped Derm 19:423–425, 2002*

## INFILTRATIVE DISORDERS

Amyloidosis – primary cutaneous amyloidosis with Blaschko-esque hyperpigmentation *BJD 127:641–644, 1992;* X-linked cutaneous amyloidosis (female carriers) *Curr Prob Derm VII:143–198, 1995;* macular amyloid in incontinentia pigmenti-like pattern *BJD 142:371–373, 2000*

## INFLAMMATORY DISEASES

Blaschkitis (acquired relapsing self-healing Blaschko dermatitis) *J Dermatol 23:639–642, 1996; JAAD 31:849–852, 1994*

Erythema multiforme *J Eur Acad Dermatol Venereol 14:203–204, 2000*

## METABOLIC DISEASES

Xanthomas with hyperlipidemia

## NEOPLASMS

Achromic nevus

Acquired dermal melanocytosis *JAAD 31:157–190, 1994*

Adnexal tumors

Basal cell nevus

Basaloid follicular hamartoma – guttate macules

Becker's nevus *Cutis 75:122–124, 2005*

Café au lait macules *Acta DV 78:378–380, 1998*

Eccrine nevus

Eccrine poromas *JAAD 31:157–190, 1994*

Eccrine spiradenoma *Cutis 70:73–75, 2002; Ann DV 119:897–898, 1992*

Epidermal nevi – linear and systematized (ichthyosis hystrix) (linear epidermolytic hyperkeratosis) *BJD 122:417–422, 1990; JAAD 16:899–906, 1987; AD 120:223–236, 1984*

Follicular mucinosis

Hair follicle nevus – skin-colored facial papules *JAAD 46:S125–127, 2002*

Hamartoma of follicular infundibulum

Inflammatory linear verrucous epidermal nevus (ILVEN) *JAAD 49:976, 2003*

Linear progressive fibromatosis *Bull Soc Fr Derm Syph 83:278–279, 1976*

Leiomyomas (piloleiomyomas) *Bolognia p.873, 2003*

Melanocytic nevi – congenital, Spitz, blue, speckled lentiginous *Acta DV 78:378–380, 1998; JAAD 27:853–854, 1992*

Metastatic pancreatic cancer – inflammatory red plaque *JAAD 31:877–80, 1994*

Nevus angiolipomatosis *Ghatan p.251, 2002, Second Edition*

Nevus comedonicus *Ped Derm 21:432–439, 2004; Bolognia p.873, 2003*

Nevus corniculatus *BJD 122:107–112, 1990*

Nevus depigmentosus *Bolognia p.873, 2003*

Nevus lipomatosus superficialis *Bolognia p.873, 2003*

Nevus sebaceus and nevus sebaceous syndrome *JAAD 44:612–615, 2001*

Nevus spilus *Acta DV 78:378–380, 1998; JAAD 31:157–190, 1994*

Organoid nevus phakomatosis

Palmoplantar verrucous nevus *Bolognia p.873, 2003*

Porokeratosis, linear *J Dermatol 20:489–492, 1993;* congenital linear porokeratosis *Ped Derm 17:466–468, 2000;* porokeratosis of Mibelli

Porokeratotic eccrine and hair follicle nevus *BJD 141:1092–1096, 1999*

Porokeratotic eccrine ostial and dermal duct nevus *J Cutan Pathol 15:393–395, 1988; BJD 101:717–722, 1979*

Syringomas *JAAD 31:157–190, 1994*

Syringocystadenoma papilliferum *JAAD 31:157–190, 1994*

Trichodiscomas

Trichoepitheliomas *Bolognia p.873, 2003*

Verruciform xanthoma in epidermal nevus or CHILD syndrome

## PRIMARY CUTANEOUS DISEASES

Acne vulgaris – mosaic acne *Lancet 352:704–705, 1998*

Alopecia mucinosa *Acta DV 72:155–156, 1992*

Atopic dermatitis – loss of heterozygosity *JAAD 53:S221–224, 2005*

Atrophoderma of Moulin – acquired atrophic pigmented band-like lesions following Blaschko's lines *JAAD 49:492–498, 2003; Eur J Dermatol 10:611–613, 2000; Int J Dermatol 39:850–852, 2000; JAAD 38:366–368, 1998; BJD 135:277–279, 1996; Ann DV 119:729–736, 1992*

Atrophoderma vermiculata *Ped Derm 16:165, 1999*

Linear bullous ichthyosiform erythroderma *Bolognia p.873, 2003*

Coexistent hyper- and hypopigmentation *AD 132:1167–1179, 1996*

Darier's disease *BJD 149; 185–188, 2003; JAAD 32:284–286, 1995; BJD 105:207–214, 1981*

Grover's disease *JAAD 47:319–320, 2002; JAAD 33:920–922, 1995*

Hailey–Hailey disease *Bolognia p.873, 2003*

Ichthyosis hystrix – epidermolytic hyperkeratosis with diffuse or striate PPK *Rook p.1510, 1998, Sixth Edition*

Kerinokeratosis papulosa (waxy keratoses of childhood) (nevus kerinokeratoticus) *JAAD 50:S84–85, 2004; Clin Exp Dermatol 19:173–176, 1994*

Lentigines within segmental achromic nevi *JAAD 39:330–331, 1998*

Lichen planus *JAAD 49:1190–1191, 2003; Ped Derm 19:541–545, 2002; Dermatology 202:340, 2001; BJD 135:275–276, 1996*

Lichen planus pigmentosus *JAAD 50:S78–80, 2004*

Lichen sclerosus et atrophicus *J Korean Med Sci 19:152–154, 2004; JAAD 38:831–833, 1998; JAAD 43:903–904, 2000; JAAD 38:831–833, 1998*

Lichen striatus *Ped Derm 21:197–204, 2004; Ped Derm 13:95–99, 1996; Int J Dermatol 25:584–585, 1986*

Lichen striatus-like leukoderma *J Eur Acad DV 10:152–154, 1998*

Linear and whorled nevoid hypermelanosis *Ped Derm 10:156–158, 1993; JAAD 19:1037–1044, 1988*

Pigmentary mosaicism

Psoriasis *JAAD 50:S81–83, 2004; Ped Derm 21:70–73, 2004; Cutis 65:167–170, 2000; Ped Derm 13:219–221, 1996;* pustular psoriasis *JAAD 42:329–331, 2000;* psoriasis occurring at site of previous episode of lichen striatus

Relapsing linear acantholytic dermatosis *Rook p.1847, 1998, Sixth Edition; JAAD 33:920–922, 1995; BJD 112:349–355, 1985*

Vitiligo, segmental *Bolognia p.873, 2003*

## SYNDROMES

Bart's syndrome – congenital localized absence of skin with dominant dystrophic epidermolysis bullosa *Ped Derm 17:179–182, 2000*

Brooke–Spiegler syndrome – linear papular eruption of eccrine spiradenomas *Australas J Dermatol 44:144–148, 2003*

CHILD syndrome (hemidysplasia, ichthyosiform erythroderma, unilateral limb defects (hypoplasia)) – X-linked dominant; unilateral inflammatory epidermal nevus or unilateral ichthyosiform erythroderma with skeletal abnormalities *AD 123:503–509, 1987*

Chimerism (human chimera) – Blaschko hyperpigmentation *Bolognia p.873, 2003; Textbook of Neonatal Dermatology, p.376, 2001; Curr Prob Derm VII:143–198, 1995; BJD 103:489–498, 1980*

Chromosomal mosaicism (segmental hypermelanosis) *Textbook of Neonatal Dermatology, p.376–377, 2001; Curr Prob Derm VII:143–198, 1995*

Conradi–Hünermann syndrome (chondrodysplasia punctata – X-linked dominant) – follicular atrophoderma in Blaschko distribution – X-linked *Curr Prob Derm VII:143–198, 1995; AD 121:1064–1065, 1985;* ichthyotic and psoriasiform lesions (Blaschko hyperkeratotic scaling), nail defects, cicatricial alopecia, follicular pitted scars, skeletal anomalies *JAAD 33:356–360, 1995; Hum Genet 53:65–73, 1979*

Depigmented hypertrichosis with dilated follicular pores, short stature, scoliosis, short broad feet, macrocephaly, dysmorphic facies, supernumery nipple, and mental retardation (cerebral-ocular malformations) *BJD 142:1204–1207, 2000*

Ectodermal dysplasia with immune deficiency *Bolognia p.873, 2003*

Encephalo-cranio-cutaneous lipomotosis *Bolognia p.873, 2003*

Focal dermal hypoplasia, morning glory anomaly, and polymicrogyria – swirling pattern of hypopigmentation, papular hypopigmented and herniated skin lesions of face, head, hands, and feet, basaloid follicular hamartomas, mild mental retardation, macrocephaly, microphthalmia, unilateral morning glory optic disc anomaly, palmar and lip pits, and polysyndactyly *Am J Med Genet 124A:202–208, 2004*

Franceschetti–Jadassohn syndrome

Goltz's syndrome (focal dermal hypoplasia) *JAAD 44:612–615, 2001; JAAD 28:86–89, 1993*

Happle syndrome (X-linked chondrodysplasia punctata) – scalp dermatitis at birth; Blaschko hyperkeratoses, follicular atrophoderma, cicatricial alopecia *Ped Derm 18:442–444, 2001;* whorled ichthyosis *Ped Derm 13:1–4, 1996*

Hypohidrotic ectodermal dysplasia – X-linked anhidrotic ectodermal dysplasia – female carrier or post-zygotic mutation in a male *AD 136:217–224, 2000; Clin Genet 27:468–471, 1985*

Hypomelanosis of Ito (incontinentia pigmenti achromians) – whorled depigmented patches in Blaschko pattern; associated musculoskeletal, teeth, eye, and central nervous system abnormalities *Ped Derm 19:536–540, 2002; Indian J Ped 63:573–575, 1996; JID 103:141S-143S, 1994; JAAD 19:217–255, 1988; AD 119:391–395, 1983; J Pediatr 90:236–240, 1977; Jpn J Dermatol 61:31–32, 1951*

Hypophosphatemic vitamin D-resistant rickets, precocious puberty, and epidermal nevus syndrome *AD 133:1557–1561, 1997*

Ichthyosis follicularis with atrichia and photophobia (IFAP) syndrome – linear lesions in heterozygous women *Am J Med Genet 85:365–368, 1999*

Incontinentia pigmenti – X-linked dominant *AD 139:1163–1170, 2003; JAAD 47:169–187, 2002; Ped Derm 19:550–552, 2002; Curr Prob Derm VII:143–198, 1995;* involvement of NF-kappaB signalling *Cell Signal 15:1–7, 2003*

Killian–Teschler–Nicola syndrome (tetrasomy 12p) – Blaschko hyperpigmentation – coarse facial features (prominent forehead, flat broad nasal root with short nose, anteverted nostrils, chubby cheeks, long philtrum, protruding lower lip, large low-set ears with thick lobules), localized alopecia, streaks of hyper, and hypopigmentation, mental retardation *Ped Derm 17:151–153, 2000*

Maffucci's syndrome

McCune–Albright's syndrome – melanotic macules in Blaschko's lines *BJD 130:215–220, 1994; Int J Derm 23:370–375, 1984*

Menke's kinky hair syndrome – female carrier – X-linked recessive *Bolognia p.873, 2003*

MIDAS syndrome – atrophic Blaschko linear scars of face and neck; linear red atrophic skin (resembles aplasia cutis); microphthalmia, sclerocornea *JAAD 44:612–615, 2001; Textbook of Neonatal Dermatology, p.466–467, 2001; Am J Med Genet 49:229–234, 1994*

Mosaicism *AD 129:1460–1470, 1993; Am J Hum Genet 45:193–205, 1989*

Neurofibromatosis, segmental (type V) *Bolognia p.873, 2003*

Nevoid basal cell carcinoma syndrome, including unilateral nevoid basal cell carcinoma syndrome *Bolognia p.873, 2003*

Nevus comedonicus syndrome

Nevus sebaceus syndrome (Schimmelpenning syndrome)

Oculo-cerebro-cutaneous syndrome *Bolognia p.873, 2003*

Oral–facial–digital syndrome – X-linked dominant oral–facial–digital syndrome – hairless streaks along Blaschko's lines *Am J Med Genet 85:324–329, 1999; Ped Derm 16:367–370, 1999*

Partington syndrome – X-linked reticulate pigmentary disorder (amyloid) (amyloidosis carrier) *Bolognia p.873, 2003*

Phakomatosis pigmentokeratotica – hemiatrophy *AD 134:333–337, 1998*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis; type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus; types II,III, and IV may also have nevus anemicus *Ped Derm 21:642–645, 2004; J Dermatol 26:834–836, 1999; Ped Derm 15:321–323, 1998; Ped Derm 13:33–35, 1996; AD 121:651–653, 1985; Jpn J Dermatol 52:1–3, 1947*

Proteus syndrome – Blaschko epidermal nevi *JAAD 52:834–838, 2005;* port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *AD 140:947–953, 2004; Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules,

linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Soto's syndrome *AD 132:1167–1170, 1996*

Trisomy 13 – phylloid pigmentary pattern *Ped Derm 14:278–280, 1998*

Tuberous sclerosis – segmental ash leaf spot; leukodermic macules

Well's syndrome (eosinophilic cellulitis) *Clin Exp Dermatol 24:449–451, 1999*

X-linked hypohidrotic ectodermal dysplasia – female carriers
X-linked reticulate pigmentary disorder with systemic manifestations (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation (dyschromatosis) with hypopigmented corneal dystrophy (dyskeratosis), coarse unruly hair, unswept eyebrows, silvery hair, hypohidrosis, recurrent pneumonia with chronic obstructive disease, clubbing; failure to thrive, female carriers with linear macular nevoid Blascko-esque hyperpigmentation *Ped Derm 22:122–126, 2005; Textbook of Neonatal Dermatology, p.376, 2001; Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65, 1981*

### VASCULAR

Angiofibromas *Bolognia p.873, 2003*

Angiokeratoma circumscriptum/verrucous hemangioma

Angioma serpiginosum *Ped Derm 20:167–168, 2003*

Glomus tumors

Lymphangioma circumscriptum

Pigmented purpuric eruptions – lichen aureus

Unilateral nevoid telangiectasia

Venous malformations

Verrucous hemangioma *JAAD 42:516–518, 2000; AD 132:703–708, 1996*

## BLUE SPOTS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Autoerythrocyte sensitization

Graft vs. host disease

Lupus erythematosus, neonatal

### CONGENITAL ANOMALIES

Branchial cleft cyst (cystic papule) *AD 128:1395–1400, 1992*

Cephalocoele – includes anterior encephalocele *JAAD 51:577–579, 2004;* meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Congenital hemangioma of the eccrine sweat gland *Ped Derm 10:341–343, 1993*

Dermoid cyst – blue nodule *JAAD 46:934–941, 2002*

Heterotopic brain tissue (heterotopic meningeal nodules) – blue–red cystic mass with overlying alopecia *Dermatol Therapy 18:104–116, 2005; JAAD 46:934–941, 2002;* bald cyst of scalp with surrounding hypertrichosis *AD 131:731, 1995; JAAD 28:1015, 1993; BJD 129:183–185, 1993; AD 125:1253–1256, 1989*

Mucocele of lacrimal sac – blue cystic swelling below medial canthus *Textbook of Neonatal Dermatology, p.485, 2001*

Nasal encephalocele *Dermatol Therapy 18:104–116, 2005*

Nasal glioma *Dermatol Therapy 18:104–116, 2005*

### DEGENERATIVE DISEASES

Digital mucous pseudocyst – *Arthr Rheum 20:997–1002, 1977*

### DRUG-INDUCED

Amiodarone – blue, blue–gray, slate gray *Clin Cardiol 19:592–594, 1996; JAAD 11:898–900, 1984; BJD 110:451–456, 1984*

Antimalarials – blue–gray pigmentation of face, neck, forearms, lower legs *AD 88:419–426, 1963;* yellow and blue pigmentation of pretibial areas and hard palate *JAAD 39:524–525, 1998;* blue nails *Ghatan p.78, 2002, Second Edition*

AZT – blue nails

Bismuth – blue linear hyperpigmentation of gingival margin, soft palate, lead *JAAD 37:489–490, 1997; AD 129:474–476, 1993*

Bleomycin – blue nails *Ghatan p.78, 2002, Second Edition*

Combination chemotherapy – cyclophosphamide, vincristine, doxorubicin, dacarbazine; blue lunulae *JAAD 32:296, 1995*

Chloroquine – blue–gray pigmentation of shins *Ghatan p.231, 2002, Second Edition*; blue–black nail beds *AD 88:419–426, 1963*

Chlorpromazine *JAAD 53:S105–107, 2005*

Clofazimine in DLE *JAAD 17:867–871, 1987*

Clomipramine *Am J Psychiatry 146:552–553, 1989*

Desipramine photopigmentation *AD 129:474–476, 1993*

Diltiazem – reticulated, blue–gray, photodistributed hyperpigmentation *JAAD 46:468–469, 2002; AD 137:179–182, 2001*

Fixed drug eruptions

Gold (chrysiasis) *BJD 133:671–678, 1995*

Hydroxychloroquine – blue–black pigmentation *Ghatan p.231, 2002, Second Edition*

Imipramine *JAAD 25:357–361, 1991*

Iron

Lead *JAAD 37:489–490, 1987*

Mepacrine – blue nails *BJD 130:794–795, 1994*

Mercury

Methylene blue by intravenous injection – blue macules or blue skin; mimics cyanosis *Cutis 63:103–106, 1999; NEJM 320:1756–1757, 1989*

Minocycline – blue–black scleral, dental, and cutaneous pigmentation *Rook p.1960, 1998, Sixth Edition; Am J Ophthalmol 125:396–397, 1998;* including pseudo-Mongolian spot *AD 128:565–566, 1992;* post-acne osteoma cutis treated with minocycline *JAAD 24:851–853, 1991;* blue nails *Ghatan p.78, 2002, Second Edition;* blue epithelial buds

Perfloxin – blue-black pretibial hyperpigmentation *JAAD 37:365–381, 1997*

Phenolphthalein (X-Lax) – blue lunulae *Ghatan p.80, 2002, Second Edition*

Phenothiazine

Quinacrine

Quinidine *AD 122:1062–1064, 1986*

Quinine – exogenous ochronosis from quinine injections *JAAD 15:357–361, 1986*

Tetracycline – blue–green pigmentation of legs following trauma *Ped Derm 21:164–166, 2004*

Thorazine ochronosis

Vitamin K injection reaction

Zidovudine – blue lunulae, blue nails *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Accidental tattoos – collier's stripes *Br J Dermatol Syphilol 52:129–130, 1940;* silversmith, IVDA

Argyria – blue–gray generalized hyperpigmentation; cutaneous blue pigmentation and blue lunulae – silver salts, colloidal silver dietary supplements, nose drops (Argyrol); topical silver sulfadiazine *Cutis 66:373–374, 2000;* blue nails *Ghatan p.78, 2002, Second Edition;* occupational – blue nevus-like annulus; from silver ring traumatically implanted *AD 132:459–464, 1996;* blue nevi-like dotted occupational argyria *JAAD 27:1015–1016, 1992;* localized argyria and chrysiasis from implanted silver and gold tipped acupuncture needles *JAAD 29:833–837, 1993; AD 122:1550–1552, 1985;* exogenous argyria due to silver mining, manufacture of silverware and metal alloys, electroplating solutions, photographic processing, jewelry, surgical and dental procedures, silver earrings, acupuncture needles *JAAD 46:222–227, 2002*

Black dermatographism

Blue suede shoes

Butyl nitrate inhalation – blue nose *AD 135:90–91, 1999*

Carbolic acid dressings – for chronic ulcers *JAAD 52:122–124, 2005*

Chrysiasis (gold) – Q-switched laser-induced chrysiasis *AD 138:1012–1014, 2002*

Clothing dye

Cutaneous pili migrans (embedded hair) – resembling cutaneous larva migrans *BJD 144:219, 2001; AD 76:254, 1957*

Earring-induced localized iron tattoo *JAAD 24:788–789, 1991;* silver earrings; blue macules of posterior earlobe *Dermatologica 177:189–191, 1988*

Exogenous ochronosis – hydroquinone, phenol, resorcinol, picric acid, chloroquine (intramuscular or oral) *BJD 93:613–622, 1975*

FD&C blue dye no. 1 – blue discoloration of entire cutaneous surface due to enteral feedings tinted with blue dye *NEJM 343:1047–1048, 2000*

Foreign bodies (gravel, shrapnel)

Formaldehyde nail hardeners – blue discoloration of nails *Rook p.2867, 1998, Sixth Edition*

Mercury-containing bleaching agents – blue–gray pigmentation *Cutis 61:248, 1998*

Metal sutures

Silversmith – traumatic silver tattoos

Tattoo pigment fanning – blue periorbital hyperpigmentation *Cutis 68:53–55, 2001*

Textile dyes, staining *Cutis 66:287–288, 2000*

## INFECTIONS AND INFESTATIONS

AIDS – blue nails without AZT *Cutis 57:243–244, 1996;* blue fingernails and toenails *Int J STD AIDS 10:479–482, 1999*

Brown recluse spider bite – blue–gray halo around bite

Brucellosis (panniculitis and fasciitis of legs) *Int J Derm Jan 1994*

Gram-negative web space infection

*Haemophilus influenzae* facial cellulitis of children *Ped Derm 21:90–91, 2004*

Leprosy

*Listeria monocytogenes* – neonatal purpuric, bluish papules of trunk and legs, pustular and morbilliform eruptions *AD 130:245,248, 1994;* red papules with central pustulation in veterinarians *Hautarzt 11:201–204, 1960*

Lyme borreliosis (*Borrelia burgdorferi*) – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees *JAAD 49:363–392, 2003; BJD 121:263–269, 1989; Int J Derm 18:595–601, 1979;* lymphocytoma cutis – bluish-red plaque of earlobes in children and nipple or areola in adults *JAAD 49:363–392, 2003*

Measles – Koplik spots (blue–white spots on buccal mucous membrane with red areola) *Rook p.1089, 1998, Sixth Edition*

*Mycobacterium tuberculosis* – miliary tuberculosis; large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969*

Pediculosis pubis – maculae cerulae *Int J Dermatol 25:383–384, 1986*

Pinta – slate blue hyperpigmentation *AD 135:685–688, 1999*

*Pneumocystis carinii* (macule) *AD 127:1699–1701, 1991*

Rubella, congenital – blueberry muffin baby

Sea urchin spines – initial edema; delayed onset of bluish papules and nodules (granulomas); fusiform swelling of digits *Clin Exp Dermatol 2:405–407, 1977*

Seal finger

Sepsis, neonatal – extramedullary hematopoiesis

Sporotrichosis (blue nodules)

Syphilis – macular syphilid

TORCH syndrome – extramedullary hematopoiesis, blueberry muffin baby

## INFILTRATIVE DISEASES

Congenital self-healing histiocytosis (Hashimoto–Pritzker disease) – congenital crusted red or blue nodules *Skin and Allergy News, Feb 2001, p.31*

Langerhans cell histiocytosis; urticating Langerhans cell histiocytosis (Hashimoto–Pritzker disease) – red–blue papules *Ped Derm 18:41–44, 2001; JAAD 14:867–873, 1986*; blueberry muffin baby *JAAD 53:S143–146, 2005*

Urticaria pigmentosa

## INFLAMMATORY DISEASES

Neutrophilic eccrine hidradenitis

Post-inflammatory hyperpigmentation

Subcutaneous fat necrosis – blue plaques *BJD 150:357–363, 2004*

## METABOLIC DISEASES

Addison's disease *JAAD 53:S105–107, 2005*

Blueberry muffin baby – widespread blue, purple, or red macules papules or nodules of trunk, head, and neck; may develop petechiae on surface *Rook p.478–479, 1998, Sixth Edition*

Carcinoid syndrome – flushing, patchy cyanosis (blue nose), hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *Acta DV(Stockh) 41:264–276, 1961*; *AD 77:86–90, 1958*

Chronic nutritional dictionary

Cyanosis *JAAD 53:S105–107, 2005*

Dermal erythropoiesis (extramedullary hematopoiesis) *JAAD 20:1104–1110, 1989*
- Congenital infections
  - Herpes simplex *JAAD 53:S143–146, 2005*
  - Rubella
  - Coxsackie $B_2$
  - Cytomegalovirus
  - Syphilis
  - Toxoplasmosis
- Hereditary spherocytosis
- Rh incompatibility
- ABO blood-group incompatibility
- Twin–twin transfusion syndrome *Pediatrics 74:527–529, 1984*
- Neoplastic infiltrates
  - Congenital leukemia
  - Neuroblastoma
  - Congenital rhabdomyosarcoma
- Other disorders
  - Langerhans cell histiocytosis *JAAD 53:S143–146, 2005; Ann DV 119:111–117, 1992*
  - Neonatal lupus erythematosus

Endometriosis – blue cutaneous nodule *duVivier p.686, 2003;* firm blue nodules of vulva *Obstet 40:28–34, 1972*

Gangliosidosis type 1 – extensive Mongolian spots *BJD 104:195–200, 1981*; GM 1 gangliosidosis type 1 – angiokeratoma corporis diffusum *Clin Genet 36:59–64, 1989*

Hemochromatosis *JAAD 53:S105–107, 2005*

Hemoglobin M disease – blue lunulae

Hereditary spherocytosis – extramedullary hematopoiesis

Lysosomal storage disease – anterior and posterior dermal melanocytosis in Hurler's disease, GM, gangliosidosis type 1, Neimann-Pick disease, Hunter's disease, $\alpha$-mannisidosis *AD 139:916–920, 2003*

Methemoglobinemia *JAAD 53:S105–107, 2005*

Myelofibrosis – extramedullary hematopoiesis

Nutritional deficiency, chronic

Ochronosis (alkaptonuria) – homogentisic acid dioxygenase deficiency; autosomal recessive; blue–black earwax, urine, cartilage of nose and ear, blue tarsal plates of eyelids, blue–black patches of sclerae; skin of axillae, around areolae, ends of fingers, cheeks, scleral deposits; blue pigmentation overlying extensor tendons of knuckles *JAAD 52:122–124, 2005; NEJM 347:2111–2121, 2002; Am J Med 34:813–838, 1963*

Osteoma cutis – blue papules *BJD 146:1075–1080, 2002;* osteoma cutis with minocycline *AD 134:861–866, 1998;* multiple miliary osteoma cutis of chest *AD 141:389–394, 2005*

Pernicious anemia, congenital – blue nails *Ghatan p.78, 2002, Second Edition*

Progressive osseous heteroplasia *AD 132:787–791, 1996*

Wilson's disease – blue lunulae *Rook p.2725, 1998, Sixth Edition*

## NEOPLASTIC

Acrospiroma – blue–red nodule *Cutis 58:349–351, 1996*

Alveolar rhabdomyosarcoma, congenital

Angioleiomyoma *JAAD Dec 1993*

Angiolipoma (nodule) *AD 126:666–667, 669, 1990; AD 82:924–931, 1960*

Aneurysmal fibrous histiocytomas (variant of dermatofibroma) *BJD 153:664–665, 2005*

Apocrine hidrocystoma – blue cystic papule *AD 115:194–200, 1979*

Basal cell carcinoma – cystic – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.26, 1999;* pigmented basal cell carcinoma

Blueberry muffin baby with congenital leukemia or neuroblastoma

Blue nevi *JAAD 49:924–929, 2003; JID 22:225–236, 1954*
- Acquired multiple blue nevi *BJD 144:440–442, 2001*
- Agminated *Dermatology 186:144–148, 1993; JAAD 4:50–53, 1981*
- Cellular *Cancer 21:393–405, 1968*
- Combination blue nevus and neurocristic hamartoma *JAAD 49:924–929, 2003*
- Common
- Compound
- Congenital
- Eruptive *JAAD 4:50–53, 1981*
- Familial multiple blue nevi *Clin Exp Dermatol 16:308–309, 1991*
- Large congenital combined nevus – plaque-type blue nevus with a nevus spilus-like background
- Malignant *JAAD 19:712–722, 1988, Cutis 58:40–42, 1996*
- Plaque-type *AD 127:587, 1991*

Carcinoid – primary cutaneous carcinoid of chest *Virchows Arch 408:99–103, 1985*

Chordoma, metastatic *Cutis 54:250–252, 1994*

Clear cell hidradenoma *Ped Derm 17:235–237, 2000; Cancer 23:641–657, 1969*

Combined nevus – blue–black *Rook p.1732, 1998, Sixth Edition; Ped Derm 14:358–360, 1994*

Congenital hamartoma of the eccrine sweat gland – blue painless swelling *JAAD 47:429–435, 2002*

Congenital primitive neuroectodermal tumors

Congenital segmental dermal melanocytosis *AD 128:521–525, 1992*
- vs. Acquired bilateral nevus of Ota-like macules
  - Blue nevus
  - Mongolian spot
  - Nevus of Ito
  - Nevus of Ota

Cylindromas – bluish, pink, red, or skin-colored nodules of scalp, face, nose, and around ears and neck

Cystic hidradenoma

Dermal melanocytic hamartoma *AD 117:102–104, 1981*

Dermal melanocytosis within an angiosarcoma *J Cutan Pathol 16:149–153, 1989*

Dermatofibrosarcoma protuberans – congenital blue–black patch *JAAD 42:907–913, 2000*

Disseminated dermal melanocytosis *BJD 101:197–205, 1979*

Eccrine acrospiroma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.55, 1999;* giant *JAAD 23:663–668, 1990*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *Ped Derm 22:175–176, 2005; JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 13:139–142, 1996;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine hidrocystoma (cystic) *AD 124:935–940, 1988; AD 108:676–679, 1973*

Eccrine poroma – blue–black pedunculated tumor of chin *BJD 152:1070–1072, 2005*

Eccrine spiradenoma – solitary, painful, blue nodule of anterior trunk and proximal extremities *Dermatol Surg 26:877–882, 2000; JAAD 2:59–61, 1980*

Embryonal rhabdomyosarcoma – blueberry muffin baby *AD 138:689–694, 2002*

Cutaneous endometriosis *J Cutan Pathol 13:89, 1986*

Epidermoid cyst *JAAD 52:921–922, 2005; Rook p.1667, 1998, Sixth Edition*

Eruptive vellus hair cysts *AD 131:341–6, 1995; AD 124:1101–1106, 1988; JAAD 3:425–429, 1980*

Extraosseous Ewing's sarcoma – red–blue congenital sacral mass *Soc Ped Derm Annual Meeting, July 2005*

Fibrous histiocytoma

Generalized eruptive histiocytoma – hundreds of skin-colored, brown, blue–red papules; resolve with macular pigmentation; face, trunk, proximal extremities *JAAD 20:958–964, 1989; JAAD 17:499–454, 1987; AD 117:216–221, 1981; AD 116:565–567, 1980; Proc R Soc Med 56:1175–1178, 1973; AD 96:11–17, 1967*

Hamartoma of neural origin (blue blebs) *JAAD 13:1046–1047, 1985*

Hidrocystoma – eccrine or apocrine; eyelid cyst *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.153–155, 1999*

Histiocytic lymphoma (reticulum cell sarcoma) – blue–red nodules *Am J Dermatopathol 14:511–517, 1992; Cancer 62:1970–1980, 1988*

Kaposi's sarcoma *Tyring p.227, 2002; Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995;* intraoral bluish macule or nodule *JAAD 41:860–862, 1999; Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Leiomyoma

Leiomyosarcoma – blue–black nodule *JAAD 48:S51–53, 2003; J Cutan Pathol 15:129–141, 1988; Pathol Eur 9:307–315, 1974;* red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Leukemia cutis – chloroma – blue–gray plaques of acute or chronic myelogenous leukemia *AD 123:251–256, 1987; AD 71:605–614, 1955;* congenital monoblastic leukemia *JAAD 21:347–351, 1989*

Lymphangiosarcoma (Stewart–Treves tumor) – blue nodules in lymphedematous extremity *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphoma – cutaneous T-cell lymphoma – blue polka dots *Cutis 34:373–374, 1984;* nasal lymphoma – blue nose *JAAD 38:310–313, 1998;* immunocytoma (low grade B-cell lymphoma) – blue or reddish-brown papules *JAAD 44:324–329, 2001;* angiotropic large cell lymphoma – blue plaques of breasts and shoulders *JAAD 48:633, 2003*; NK/T-cell lymphoma – blue plaque of thigh *Soc Ped Derm Annual Meeting, 2005*

Malignant deep sclerosing blue nevus – blue plaque *BJD 151:508–511, 2004*

Malignant fibrous histiocytoma (multilobulated nodule)

Malignant glomus tumor – blue–red mass *Am J Surg Pathol 20:233–238, 1996*

Melanocytic nevus, congenital; combined compound and blue nevus

Melanoma – primary *JAAD 20:261–266, 1989;* metastatic melanoma – diffuse melanosis *JAAD 50:293–298, 2004; JAAD 35:295–297, 1996;* primary dermal melanoma *AD 140:121–126, 2004;* dermal melanosis *Arch Dermatol Syphiligr 28:395–403, 1972;* slate blue *Dermatology 197:338–342, 1998; JAAD 35:295–297, 1996;* primary or metastatic melanoma mimicking blue nevi *Am J Surg Pathol 23:276–282, 1999;* generalized melanosis due to melanoma in acne scars *AD 134:861–866, 1998; JAAD 20:261–266, 1989;* lentigo maligna; lentigo maligna melanoma

Merkel cell carcinoma – reddish-blue nodules; legs, lip, eyelid, scalp, nose *Histopathology 7:229–249, 1983*

Mongolian spots – dermal melanocytosis; congenital, persistent *JAAD 16:788–792, 1987; Clin Pediatr 20:714–719, 1981; J Dermatol 7:449–450, 1980*

Mucinous carcinoma of skin – blue–gray nodule *JAAD 36:323–326, 1997;* of eyelid *JAAD 49:941–943, 2003*

Mucocele – intraoral blue cyst *AD 101:673–678, 1970*

Multiple pigmented terminal hair cysts *JAAD 23:1183, 1990*

Nasal glioma

Nerve sheath myxoma – blue–black *Am J Dermatopathol 21:55–62, 1999*

Neurilemmoma

Neuroblastoma, cutaneous metastases – blue or blue–gray papules or nodules – become white when stroked *Curr Prob Derm 14:41–70, 2002; AD 133:775–780, 1997; JAAD 30:243–249, 1994; JAAD 26:620–628, 1992; JAAD 24:1025–1027, 1991*

Neurocristic hamartoma – verrucous blue plaque of scalp *JAAD 49:924–929, 2003;* pilar neurocristic hamartoma *AD 118:592–596, 1982*

Neurothekoma, cellular – mimics melanocytic nevi *Am J Surg Pathol 14:113–120, 1990*

Nevus of Ito (nevus fuscoceruleus acromio-deltoideus) *Rook p.1731–1732,3256, 1998, Sixth Edition; Tohoku J Exp Med 60:10–20, 1954; J Exp Med 60:10, 1939*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *JAAD 47:S257–259, 2002; Clin Dermatol 7:11–27, 1989; AD 85:195–208, 1962; BJD 67:317–319, 1955; Jpn J Dermatol 46:369–374, 1939*

Nevus of Ota-like macules (acquired bilateral nevus of Ota-like macules) (acquired symmetrical dermal melanocytosis) (Hori's nevus) *BJD 152:903–908, 2005; JAAD 48:584–591, 2003; JAAD 10:961–964, 1984*

Pigmented spindle-cell nevus of Reed *JAAD 28:565–571, 1993*

Pilomatrixoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.71, 1999; Rook p.1700, 1998, Sixth Edition; Pediatr Rev 11 (9):262–267, 1990; Cancer 45:2368–2373, 1980; AD 83:606–618, 1961*

Plasmacytoma – extramedullary plasmacytoma – blue nodule *JAAD 19:879–890, 1988; AD 127:69–74, 1991*

Ranula – intraoral blue lesion

Salivary duct cyst – intraoral blue lesion

Smooth muscle hamartoma – bluish–brown pigmentation *J Derm Surg 11:714–717, 1985*

Spitz nevus *Cutis 58:35–39, 1996*

Steatocystoma *JAAD 43:396–399, 2000*

Trichoepitheliomas (Brooke's tumor) – multiple – cheeks, eyelids, nasolabial folds; upper trunk and arms; yellow to pink, bluish, telangiectasias on surface *AD 126:953,956, 1990; J Cutan Pathol 13:111–117, 1986*

## PHOTODERMATOSES

Lichen planus actinicus – blue–gray *Cutis 72:377–381, 2003*

Melasma

Riehl's melanosis

## PRIMARY CUTANEOUS DISEASES

Acne rosacea *Ghatan p.60, 2002, Second Edition*

Acne vulgaris – open comedones; inflamed acne cyst with hemorrhage

Acquired dermal melanocytosis – blue–black *JAAD 45:609–613, 2001*

Acrodermatitis chronica atrophicans – bluish-red edema of extremities *BJD 147:375–378, 2002*

Anetoderma, primary *AD 120:1032–1039, 1984*

Apocrine chromhidrosis (blue dots) *JAAD 21:418–420, 1989*

Atrophoderma of Pasini and Pierini *JAAD 30:441–446, 1994*

Blue lunulae
- Amorolfine
- Antimalarials – quinacrine, chloroquine, camoquine
- Argyria
- AZT infection
- Bichloride of mercury (topical)
- Combination chemotherapy – cyclophosphamide, vinblastine, vincristine, doxorubicin, dacarbazine, 5-fluorouracil, cyclophosphamide, dactinomycin, bleomycin, busulfan
- Cupric acid
- Cyanotic disease
- Enchondromas
- Galvanizers (silver or cyanide)
- Glomus tumor
- Hemochromatosis
- Hemoglobin M disease
- Hereditary acrolabial telangiectasias
- HIV infection
- Minocycline
- Ochronosis
- Oxalic acid (in radiators)
- Phenophthalein purgative
- Pseudomonas paronychia
- PUVA
- Quinacrine
- Thallium
- Zidovudine

Erythema dyschromicum perstans (ashy dermatosis) – blue–gray patches *Cutis 68:25–28, 2001; AD 124:1258–1260, 1988*

Giant comedone

Granuloma faciale *Ghatan p.60, 2002, Second Edition*

Granuloma multiforme *Int J Derm Jan 1994*

Idiopathic eruptive macular pigmentation *JID Nov. 94 Vol 103*

Lichen planus – active in dark skinned patients; resolving; linear

Lichen sclerosus et atrophicus – bluish-white plaques of mouth *Rook p.2549–2551, 1998, Sixth Edition*

Macular amyloid

Pigmented pityriasis alba *Ped Derm 10:1–5, 1993*

Pityriasis rosea

Pseudomyxoma peritonei – blue translucent umbilical lesion *AD 96:462–463, 1967*

Psoriasis in black patients *Rook p.3250, 1998, Sixth Edition*

Striae distensae (striae atrophicans) *Rook p.2004,2008, 1998, Sixth Edition*

Terra firme – personal observation

Vitiligo – blue vitiligo *JAAD 30:829–833, 1994*

## PSYCHOCUTANEOUS DISEASES

Factitial purpura

## SYNDROMES

Albright's hereditary osteodystrophy (pseudohypoparathyroidism) – osteoma cutis; blue-tinged stony-hard papules *Textbook of Neonatal Dermatology, p.407, 2001*

Antiphospholipid antibody syndrome – blue fingers and toes *Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989*

Atrichia with papular lesions

Blue rubber bleb nevus syndrome (Bean syndrome) – blue lesions of skin and mucous membranes *JAAD 50:S101–106, 2004; Cutis 62:97–98, 1998; Trans Pathol Soc 11:267, 1860*

Carney complex (NAME/LAMB) – epithelioid blue nevi *JAAD 46:161–183, 2002*

Cornelia de Lange syndrome – specific facies, skin around eyes and nose with bluish tinge, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata *Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*

Ehlers–Danlos syndrome – blue sclerae; blue–gray molluscoid pseudotumors (hematomas) over pressure points, pretibially, and on forearms *JAAD 46:161–183, 2002; Rook p.2032–2038, 1998, Sixth Edition*

Fabry's disease – angiokeratoma corporis diffusum

Franceschetti–Jadassohn syndrome

Goltz's syndrome – blue sclerae *Rook p.3008, 1998, Sixth Edition*

Hallermann–Streiff syndrome – blue sclerae *J Pediatr 93:892–893, 1978*

Hemimaxillofacial dysplasia (segmental odontomaxillary dysplasia) (HATS – hemimaxillary enlargement, asymmetry of face, skin findings) – facial asymmetry, hypertrichosis of the face, unilateral maxillary enlargement, partial anodontia, delayed eruption of teeth, gingival thickening of affected segment, Becker's nevus, hairy nevus (hypertrichosis), lip hypopigmentation, depression of cheek, erythema, hypoplastic teeth *Ped Derm 21:448–451, 2004; JAAD 48:161–179, 2003; Oral Surg Oral Med Oral Pathol 64:445–448, 1987*

Hereditary acrolabial telangiectasia – blue lips, areolae, blue lunulae and nail beds, telangiectasias on hands, chest, and elbows, dorsa of hands, varicosities of legs, migraine headaches *AD 115:474–478, 1979*

Hunter's syndrome – extensive Mongolian spots *BJD 148:1173–1178, 2003; AD 134:108–109, 1998; JAAD 39:1013–1015, 1998; Am J Med Genet 47:456–457, 1993*

Hurler's syndrome – extensive Mongolian spots *BJD 148:1173–1178, 2003; AD 134:108–109, 1998; JAAD 39:1013–1015, 1998*

Hutchinson–Gilford syndrome – midfacial cyanosis

Incontinentia pigmenti – blue–gray hyperpigmentation of third stage; blue sclerae; atrophic stage *Ped Derm 15:108–111, 1998; Curr Prob Derm VII:143–198, 1995; AD 112:535–542, 1976*

Kabuki makeup syndrome – blue sclerae *J Pediatr 105:849–850, 1984*

Maffucci's syndrome – deep venous malformations *Ped Derm 12:55–58, 1995*

Marfan syndrome – blue sclerae; long extremities, arachnodactyly, skeletal, ocular, cardiovascular defects *Rook p.2030–2031, 1998, Sixth Edition; Int J Derm 28:291–299, 1989*

Marshall–Smith syndrome *J Med Genet 17:174–178, 1980*

Neurofibromatosis type I – blue–red macules *A 118:577–581, 1982;* subungual glomus tumors *JAAD 32:277–278, 1995*

Niemann–Pick disease – mongolian spots of skin and oral mucosa *Rook p.2644, 1998, Sixth Edition*

Osteogenesis imperfecta (Cole–Carpenter syndrome) – blue sclerae; thin fragile skin *J Pediatr 110:76–80, 1987; Trans Ophthalmol Soc UK 104:191–195, 1985;J Med Genet 16:101–116, 1979;* blue teeth *JAAD 46:161–183, 2002*

Phakomatosis pigmentokeratotica – speckled lentiginous nevus in association with nevus sebaceous *Dermatology 197:377–380, 1998*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis; type IIb – nevus flammeus and aberrant mongolian spots *AD 129:340–342, 1993;* type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus; types II,III, and IV may also have nevus anemicus *Ped Derm 21:642–645, 2004; J Dermatol 26:834–836, 1999; Ped Derm 15:321–323, 1998; Ped Derm 13:33–35, 1996; AD 121:651–653, 1985; Jpn J Dermatol 52:1–3, 1947;* phakomatosis cesioflammea – Mongolian spots or dermal melanocytosis with one or more port wine stains *AD 141:385–388, 2005;* phakomatosis cesiomarmorata – Mongolian spot and cutis marmorata telangiectatica congenita *AD 141:385–388, 2005*

POEMS syndrome – cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, morphea-like changes, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998; JAAD 21:1061–1068, 1989; AD 124:695–698, 1988;JAAD 12:961–964, 1985*

Pseudoxanthoma elasticum – blue sclerae *AD 124:1559, 1988; JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*

Roberts–pseudothalidomide syndrome – blue sclerae *Hum Genet 61:372–374, 1982*

Russel–Silver syndrome – blue sclerae; café au lait macules, short immature bones, triangular facies *Ghatan p.201, 2002, Second Edition; JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999*

Spondyloepimetaphyseal dysplasia with joint laxity – blue sclerae *Skel Radiol 5:205–212, 1980*

Steatocystoma multiplex

Turner's syndrome – blue sclerae *JAAD 36:1002–1004, 1996*

## TRAUMA

Chilblains

IVDA – skin popping; intravenous drugs

Radiation – post-radiation angiosarcoma

Rectus sheath hematoma of abdomen

Ritualistic behavior (cupping)

Subungual hematoma

Traumatic tattoos

## VASCULAR

Acquired phlebectasia of the glans penis *JAAD 13:824–826, 1985*

Acquired progressive lymphangioma *JAAD 24:813–815, 1991*

Acral arteriovenous hemangioma *Dermatologica 113:129–141, 1956*

Acroangiodermatitis – resembles Kaposi's sarcoma *BJD 120:575–580, 1989;* acroangiodermatitis of the amputation stump *BJD 131:915–917, 1994*

Acrocyanosis – blue hands, nails, feet, nose, ears, lips, nipples *JAAD S207–208, 2001*

Acute hemorrhagic edema of infancy – Seidlmayer's syndrome

Aneurysmal dilatation of the internal jugular vein – soft blue neck mass *Ped Clin North Am 6:1151–1160, 1993*

Angiokeratoma

Angiokeratoma circumscriptum *AD 117:138–139, 1981*

Angiokeratoma of Mibelli – autosomal dominant; associated with chilblains; on dorsum of fingers, toes, hands, feet *AD 106:726–728, 1972*

Angiokeratoma, solitary papular – occur after trauma in adult life – red to blue–black; may rapidly enlarge or bleed and simulate melanoma *AD 117:138–139, 1981; AD 95:166–175, 1967*

Angiosarcoma *Cancer 44:1106–1113, 1979;* blue plaque *JAAD 12:922–926, 1985;* resembling arteriovenous malformation *JAAD 49:530–531, 2003;* angiosarcoma of the breast *JAAD 49:532–538, 2003;* blue nodules *JAAD 50:867–874, 2004*

Arteriovenous fistula (traumatic) – of lip *Cutis 62:235–237, 1998*

Arteriovenous malformation – faint blue macule of scalp *JAAD 46:934–941, 2002*

Buerger's disease

Cherry angioma

Cirsoid aneurysm (arteriovenous fistula) – blue non-pulsatile nodules of nail fold *BJD 115:361–366, 1986;* digital arteriovenous malformation – subungual blue papule *BJD 147:1007–1011, 2002; BJD 136:472–473, 1997*

Coagulopathy

Cobb's syndrome

Congenital non-progressive hemangiomas – blue nodules *AD 137:1607–1620, 2001*

Cutaneous polyarteritis nodosa – plaque *JAAD 13:661–663, 1985*

Cutis marmorata telangiectatica congenita

Ecchymoses (normal bruising)

Glomus tumors (glomangioma), multiple or plaque type *Ped Derm 19:402–408, 2002;* hemi-facial *JAAD 45:239–245, 2001; Ped Derm 18:223–226, 2001; AD 127:1717–1722, 1991;* subungual or solitary *Rook p.2357,2848, 1998, Sixth Edition*

Hemangioma, especially deep infantile hemangiomas *Rook p.553–554, 1998, Sixth Edition*

Intravascular papillary endothelial hyperplasia (Masson's tumor) – mimics angiosarcoma; red–blue tender nodule *AD 114:723–726, 1978*

Klippel–Trenaunay–Weber syndrome – blue nails *Ghatan p.77, 2002, Second Edition*

Lymphangioma of alveolar ridges of black infants *Pediatrics 56:881, 1976*

Lymphangiosarcoma of Stewart–Treves

Malignant angioendotheliomatosis *JAAD 18:407–412, 1988*

Masson's intravascular papillary endothelial hyperplasia (pseudoangiosarcoma) *Cutis 59:148–150, 1997*

Multiple progressive angioma – blue compressible nodules on face of children or teenagers; may be distributed along vein *Acta DV* (*Stockh*) *31:304–307, 1951*

Pernio, chronic – blue toes *Int Angiol 11:46–50, 1992*

Pigmented purpuric eruption

Purpura fulminans (DIC) – blue nose

Purpura simplex

Pyogenic granuloma – blue–black papule *Rook p.2354–2355, 1998, Sixth Edition*

Rapidly involuting congenital hemangioma – large violaceous gray-blue nodule of scalp with overlying telangiectasia *Soc Ped Derm Annual Meeting, 2005*

Reactive hemangioendotheliomatosis – red–blue patch *JAAD 42:903–906, 2000*

Sinus pericranii – alopecic blue nodule of scalp *JAAD 46:934–941, 2002*

Spindle cell hemangioendothelioma (Maffucci's syndrome) – blue papule or nodule *AD 138:259–264, 2002; JAAD 42:275–279, 2000; JAAD 37:887–920, 1997*

Telangiectasias *Derm Surg 23:55–59, 1997*

Thrombosed capillary aneurysm

Thrombosed vein *Clin Podiatr Med Surg 13:85–89, 1996*

Tufted angioma – blue plaque or nodule *Ped Derm 19:394–401, 2002;* oral red or blue papule *BJD 142:794–799, 2000*

Varicosities, including thrombosed varix of the eyelid – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.119, 1999.*

Vascular anomaly (malformation)

Vasculitis, including urticarial vasculitis

Venous aneurysm – painful blue nodule of hand *AD 140:1393–1398, 2004*

Venous and lymphatic malformations *AD 139:1409–1416, 2003; JAAD 46:934–941, 2002; JAAD 45:239–245, 2001*

Venous lake *AD 74:459–463, 1956*

Venous stasis ulceration (chronic venous insufficiency) – bluish discoloration precedes ulceration *Rook p.2258, 1998, Sixth Edition*

Verrucous hemangioma – bluish–red *Ped Derm 17:213–217, 2000*

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wegener's granulomatosis – blue gingival hypertrophy

Zosteriform venous malformations *Dermatologica 161:347–354, 1980; AD 113:848–849, 1977*

# BLUEBERRY MUFFIN LESIONS, NEONATE

***Textbook of Neonatal Dermatology, p.314, 2001; Semin Dermatol 14:179–186, 1995***

AIDS *Ghatan p.239, 2002, Second Edition*

Alveolar cell rhabdomyosarcoma *Acta Paediatr 89:115–117, 2000; J Dermatol 16:409–411, 1989*

Chromosome 20, genetic anomaly *Ann DV 125:199–201, 1998*

Chronic fetomaternal hemorrhage *Bolognia p.1946, 2003*

Coxsackie virus $B_2$ *JAAD 37:673–705, 1997*

Cytomegalovirus *AD 126:113, 1988*

Diffuse neonatal hemangiomatosis *Ped Derm 14:383–386, 1997*

Extramedullary hematopoiesis

Hemolytic anemia – severe and chronic prenatal anemias; congenital spherocytosis *Bolognia p.1946, 2003*

Hemolytic disease of newborn (Rh or ABO incompatibility) *J Ped 107:799, 1985*

Hereditary spherocytosis *AD 117:492, 1981*

Intracranial hemorrhage (severe internal bleeding) *Bolognia p.1946, 2003*

Langerhans cell histiocytosis *JAAD 53:S143–146, 2005; Ped Derm 20:335–338, 2003*

Leukemia – congenital leukemia – acute myelogenous leukemia *Ped Derm 21:458–461, 2004; JAAD 21:347, 1989;* monocytic leukemia *AD 132:341–346, 1996;* monoblastic leukemia *AnnDV 126:157–159, 1999*; *JAAD 21:347–351, 1989;* aleukemic congenital leukemia cutis *Ped Derm 21:458–461, 2004*

Neonatal lupus erythematosus

Neuroblastoma metastases to skin *J Urol 104:193, 1970*

Normals *JAAD 37:673–705, 1997*

Parvovirus B19 *JAAD 37:673–705, 1997; J Pediatr 128:579–586, 1996*

Rhabdomyosarcoma (alveolar cell rhabdomyosarcoma), congenital *Ped Derm 20:335–338, 2003*

Rubella *Tyring p.524, 2002; Ped 40:627–635, 1967*

Sepsis, neonatal

Transient neonatal myeloproliferative disorder *An Pediatrics (Barc)61:546–550, 2004*

Toxoplasmosis *Bolognia p.1947, 2003*

Twin transfusion syndrome *Pediatrics 74:527–529, 1984*

# BREAST ASYMMETRY

## CONGENITAL

Amastia

Aplasia

Asymmetry with ptosis of the breast *Aesth Plast Surg 13:47–53, 1989*

Becker's nevus syndrome – breast hypoplasia *Am J Med Genet 68:357–361, 1997*

Byars–Jurkiewicz syndrome – giant fibroadenomas of the breast, secondary kyphosis, hypertrichosis, gingival fibromatosis *Plast Reconstr Surg 27:608–612, 1961*

Congenital asymmetry (idiopathic) *Aesth Plast Surg 18:399–403, 1994*

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp, cleft lip/palate, cardiac malformations, polydactyly, narrow convex nails *Bolognia p.924, 2003*

Hamartoma of the breast *Scand J Plast Reconstr Surg Hand Surg 31:365–369, 1997*

Hypoplasia associated with hypertrophy *Aesth Plast Surg 18:399–403, 1994*

Incontinentia pigmenti – breast hypoplasia or aplasia *JAAD 47:169–187, 2002*

Pigmented hairy epidermal nevus syndrome – unilateral brown hyperpigmented plaques with hypertrichosis; generalized checkerboard pattern, ipsilateral hypoplasia of the breast, skeletal abnormalities *JAAD 50:957–961, 2004*

Poland's chest wall deformity – breast and pectoralis muscle hypoplasia; absence of axillary hair, ipsilateral syndactyly, dermatoglyphic abnormalities *Plast Reconstr Surg 99:429–436, 1997*

Supernumerary breasts *Textbook of Neonatal Dermatology, p.117, 2001; Aesth Plast Surg 18:399–403, 1994*

Tricho-odonto-onycho-ectodermal dysplasia (linear dermal hypoplasia) – hypotrichosis, hypodontia, focal linear dermal hypoplasia of the tip of the nose, irregular hyperpigmentation of the back, bilateral amastia and athelia, nerve hearing loss *AD 122:1047–1053, 1986*

Uneven bilateral hypertrophy *Aesth Plast Surg 18:399–403, 1994*

Unilateral hypoplasia or hypertrophy *Aesth Plast Surg 18:399–403, 1994*

### ACQUIRED

Abscesses – *Staphylococcus aureus*, coagulase-negative (*Staphylococcus epidermidis*) – abscesses of breast in the neonate *Textbook of Neonatal Dermatology, p.190, 2001; Mycobacterium abscessus* mastitis following body piercing *Clin Inf Dis 33:131–134, 2001*

Becker's nevus – unilateral breast hypoplasia *Clin Exp Derm 22:240–241, 1997; AD 128:992–993, 1992*

Breast carcinoma; including male breast cancer – unilateral gynecomastia *Cutis 69:98–102, 2002*

Chest burns *Aesth Plast Surg 18:399–403, 1994*

Fibroadenomas, giant *S Afr J Surg 27:171–172, 1989*

Filariasis – chronic edema of breast with elephantiasis *Dermatol Clin 7:313–321, 1989*

Finasteride – unilateral gynecomastia *AD 138:543–544, 2002*

Intralesional steroids

Leukemia – acute lymphoblastic leukemia masquerading as gynecomastia *Am J Med 108:677–679, 2000*

Lupus erythematosus – lupus panniculitis (lupus profundus) – thighs, buttocks, arms, breasts, face *Rook p.2451, 1998, Sixth Edition; AD 122:576, 1986; AD 103:231–242, 1971*

Morphea – morphea in hypoplastic breast *BJD 93 (Suppl 11): 44–45, 1975*

Neoplasm *Aesth Plast Surg 18:399–403, 1994*

Oleomas – multiple subcutaneous oleomas due to injection with sesame seed oil *BJD 149:1289–1290, 2003*

Poland syndrome *J Bone Joint Surg 58 (11):52–58, 1976*

Radiation therapy in childhood *Aesth Plast Surg 18:399–403, 1994*

Resolving hemangioma

Scarring due to infection, surgery, or burns

Silicone collapse

Superpotent topical steroids

## BREAST LESIONS

### AUTOIMMUNE DISEASES

Allergic contact dermatitis

Bullous pemphigoid

Lupus mastitis – sclerosis of the breast *JAAD 29:343–346, 1993*

Morphea

Pemphigus erythematosus

Progressive systemic sclerosis

### CONGENITAL LESIONS

Accessory nipple

### DRUGS

Corticosteroid acne

Corticosteroid atrophy

Indinivir – breast hypertrophy *J Clin Inf Dis 25:937–938, 1997*

### EXOGENOUS AGENTS

Hair sinus of the breast

Irritant contact dermatitis

Silicone migration

### INFECTIONS AND INFESTATIONS

Cryptococcosis – breast mass *J Clin Inf Dis 1166–1169, 1995*

Herpes simplex, including eczema herpeticum

Herpes zoster

Infectious eczematoid dermatitis

Lyme disease

Mastitis

*Mycobacterium abscessus* – mastitis *Clin Inf Dis 33:131–134, 2001*

Scabies

Subareolar abscess

Syphilis, secondary

### INFILTRATIVE DISEASES

Amyloidosis – primary cutaneous – pigmentation of the breast *AD 123:1557–1562, 1982*

Urticaria pigmentosa

### INFLAMMATORY DISEASES

Acute mastitis

Hidradenitis suppurativa

Sarcoid

### METABOLIC DISEASES

Pruritic urticarial papules and plaques of pregnancy (PUPPP)

### NEOPLASTIC DISEASES

Becker's nevus with homolateral mammary hypoplasia *Cutis 68:123–124, 2001; Am J Med Genet 68:357–361, 1997*

Breast cancer, primary – women, men *Eur J Surg Oncol 19:581–586, 1993*

Keloids

Leukemic infiltrates of breast *JAAD 43:733–751, 2000*

Lymphoma – cutaneous T-cell lymphoma; immunoblastic lymphoma

Metastatic breast carcinoma

Paget's disease

Sclerosis of the breast
- Inflammatory cancer of the breast
- Lupus mastitis *JAAD 29:343–346, 1993*
- Morphea
- Scirrhous carcinoma

Syringomas

### PRIMARY CUTANEOUS DISEASES

Atopic dermatitis

Erosive adenomatosis of the nipple

Fox–Fordyce disease

Granuloma annulare

Lichen sclerosus et atrophicus

Parapsoriasis en plaque

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis

Pustular psoriasis

Striae

Superficial vegetating pyoderma

### PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis

### SYNDROMES

Carney complex – breast myxomas with generalized breast enlargement *JAAD 46:161–183, 2002*

Cowden's syndrome – benign gynecomastia in male *Rook p.2711, 1998, Sixth Edition*

Goltz's syndrome

Hypomelanosis of Ito

Reticular erythematous mucinosis syndrome (REM syndrome)

Romberg syndrome *Arch Neurol 39:44–49, 1982*

Neurofibromatosis, including segmental neurofibromatosis

Steatocystoma multiplex

Sweet's syndrome

### TRAUMA

Hypertrophic scars secondary to breast feeding

Jogger's nipples

Post-radiation morphea

Radiation dermatitis

### VASCULAR DISORDERS

Breast lymphedema

Cherry angioma

Fat emboli – petechiae

Lymphangioma circumscriptum

Thrombosed angioma

## BREAST HYPERTROPHY AND BREAST MASSES

***Ped Derm 17:277–281, 2000; JAAD 43:733–751, 2000***

### AUTOIMMUNE DISEASES

Lupus mastitis (lupus panniculitis of the breast) – nodule *JAAD 29:343–346, 1993*

### CONGENITAL

Neonatal hypertrophy of the mammary glands – with neonatal lactation ('witch's milk')

### DEGENERATIVE

Old age *NEJM 328:490–495, 1993*

Paraplegia *NEJM 328:490–495, 1993*

### DRUGS

Chorionic gonadotropin *NEJM 328:490–495, 1993*

Drugs – amiloride, anabolic steroids, cyproterone acetate,amiodarone *NEJM 315:1553, 1986;* amphetamines, androgens, busulfan, captopril, chorionic gonadotropin, cimetidine, cytotoxic agents, diazepam, diethypropion, digitalis, domperidone, estrogens, isoniazid, ketoconazole, marijuana, methyldopa, metoclopramide, nifidipine, nitrosoureas, exogenous cortisol, gonadotropins, testosterone, D-penicillamine, phenothiazines, phenytoin, reserpine, spironolactone, tricyclic antidepressants, vincristine *Rook p.3153, 1998, Sixth Edition;* HAART therapy – gynecomastia *Clin Inf Dis 33:891–893, 2001*

Penicillamine *Arthritis Rheum 21:167–168, 1978*

Protease inhibitor (saquinavir, nelfinavir, indinavir) *JAAD 46:284–293, 2002*

### EXOGENOUS AGENTS

Breast implants *Rook p.3155, 1998, Sixth Edition*

Heroin *Ghatan p.51, 2002, Second Edition*

Marijuana *Ghatan p.51, 2002, Second Edition*

Oleomas – multiple subcutaneous oleomas due to injection with sesame seed oil *BJD 149:1289–1290, 2003*

Paraffinoma (sclerosing lipogranuloma) *Acta Chir Plast 33:163–165, 1991; Plast Reconstr Surg 65:517–524, 1980*

### INFECTIONS AND INFESTATIONS

AIDS *Ann Intern Med 107:257, 1987*

Brucellosis – breast abscess *J Infect 33:219–220, 1996*

Cat scratch disease *JAD 47:803–804, 2002*

Chromomycosis – Phialophora verrucosa *BJD 152:560–564, 2005*

Coccidioidomycosis – breast nodule or abscess

*Cryptococcosis* – breast nodule or abscess

Filariasis – *Wuchereria bancrofti*, *Brugia malayi;* chronic edema of breast with elephantiasis *Dermatol Clin 7:313–321, 1989*

Leprosy *Rook p.3152, 1998, Sixth Edition*

Mastitis – *Staphylococcus aureus;* neonatal *Staphylococcus aureus* mastitis *Am J Dis Child 129:1031–1034, 1975; Mycobacterium abscessus* mastitis following body piercing *Clin Inf Dis 33:131–134, 2001;* lactation mastitis *JAMA 289:1609–1612, 2003*

*Mycobacterium abscessus* – breast abscesses due to adulterated intramammary silicone injections *JAAD 50:450–454, 2004*

*Mycobacterium avium-intracellulare* – breast nodule or abscess

*Mycobacterium chelonei* – breast nodule or abscess

*Mycobacterium fortuitum* – breast nodule or abscess *Clin Inf Dis 26:760–761, 1998*

*Mycobacterium tuberculosis* – tuberculous mastitis; breast nodule which may ulcerate with draining sinuses

*Mycobacterium xenopi* – breast nodule or abscess

*Staphylococcus aureus*, coagulase-negative (*Staphylococcus epidermidis*) – abscesses of scalp and breast in the neonate *Textbook of Neonatal Dermatology, p.190, 2001*

Subareolar abscess

## INFLAMMATORY DISEASES

Panniculitis

## METABOLIC DISEASES

Adolescent gynecomastia *NEJM 328:490–495, 1993*

Adrenal disease – increased peripheral conversion of estrogen *Ghatan p.51, 2002, Second Edition*

Adrenocorticotropic hormone (ACTH) deficiency *J Endocrinol Invest 10:127–129, 1987*

Congenital adrenal hyperplasia

Estrogen excess

Gravid macromastia *Plast Reconstr Surg 80:121–124, 1987*

Hemochromatosis – liver disease *Rook p.3152, 1998, Sixth Edition*

Hemodialysis *NEJM 328:490–495, 1993; Ann Intern Med 69:67–72, 1968*

Hyperthyroidism *NEJM 328:490–495, 1993*

Hypogonadism *NEJM 328:490–495, 1993*

Liver disease *NEJM 328:490–495, 1993*

Milk stasis during lactation *JAMA 289:1609–1612, 2003*

Obesity – pseudogigantomastia

Physiologic – birth – maternal estrogens; puberty in boys *JAMA 178:449–454, 1961;* elderly men – testicular failure *Am J Med 77:633–635, 1984;* obesity – increased aromatase *J Clin Endocrinol Metab 64:618–623, 1987; Am J Med 77:633–635, 1984*

Starvation, cachexia, refeeding *NEJM 328:490–495, 1993; J Clin Endocrinol Metab 41:60–69, 1975*

Steroid-binding globulins increased – bilateral gynecomastia *JAAD 53:660–662, 2005*

Steroid dehydrogenase deficiency *Rook p.3152, 1998, Sixth Edition*

Testicular failure *JAAD 53:660–662, 2005*

Testicular feminization – defective estrogen receptors *Rook p.3151, 1998, Sixth Edition*

Thyrotoxicosis *Ghatan p.51, 2002, Second Edition*

Virginal breast hypertrophy – sudden massive enlargement of one or both breasts, girls ages 8–16 years – prominent veins, peau d'orange and rarely necrosis *Ped Derm 17:277–281, 2000*

## NEOPLASTIC DISEASES

Adrenocortical tumors *Rook p.3152, 1998, Sixth Edition*

Breast carcinoma; including male breast cancer – unilateral gynecomastia *Cutis 69:98–102, 2002*

Bronchial carcinoma *Rook p.3152, 1998, Sixth Edition*

Cystosarcoma phylloides

Ductal papillomas

Epidermoid cyst

Fibroadenomas

HCG or aromatase-producing tumors – bilateral gyncecomastia *JAAD 53:660–662, 2005*

Hepatoma

Hybrid cysts – epidermoid and apocrine cyst *Am J Dermatopathol 18:364–366, 1996*

Leukemia – acute lymphoblastic leukemia masquerading as gynecomastia *Am J Med 108:677–679, 2000*

Lipomas

Lymphoma – CTCL mimicking EAC in a child *BJD 152:565–566, 2005;* CTCL *Rook p.3152, 1998, Sixth Edition*

Metastases – breast carcinoma, other primary malignancies; chondrosarcomatous cutaneous metastases *Am J Dermatopathol 18:538–542, 1996*

Myxoid fibroadenoma *Am J Surg Pathol 15:835–841, 1991*

Ovarian follicular cysts

Ovarian granulosa cell tumors

Pilomatrixomas

Pituitary tumors *Rook p.3152, 1998, Sixth Edition*

Prolactinoma – bilateral gynecomastia *JAAD 53:660–662, 2005*

Testicular tumors – seminoma, interstitial cell tumor, Sertoli cell tumor, teratomas; all secrete human chorionic gonadotropin *NEJM 328:490–495, 1993*

## PRIMARY CUTANEOUS DISEASES

Benign gynecomastia of the male breast *Am J Med 77:633–635, 1984*

Duct ectasia

Erythroderma *NEJM 328:490–495, 1993*

Florid papillomatosis

Gigantomastia *Am J Dis Child 125:293, 1973*

Gynecomastia

Uneven bilateral hypertrophy *Aesth Plast Surg 18:399–403, 1994*

Unilateral hypoplasia or hypertrophy *Aesth Plast Surg 18:399–403, 1994*

## SYNDROMES

Breast hypertrophy, erythema annulare centrifugum, generalized melanoderma, verrucae vulgaris and SLE *Acta DV (Stockh) 52:33, 1972*

Byars–Jurkiewicz syndrome – giant fibroadenomas of the breast, secondary kyphosis, hypertrichosis, gingival fibromatosis *Plast Reconstr Susrg 27:608–612, 1961*

Carney complex – breast myxomas with generalized breast enlargement *JAAD 46:161–183, 2002*

Cowden's syndrome – fibrocystic disease leading to enlarged breasts *Rook p.3151, 1998, Sixth Edition*

Hermaphroditism *Ghatan p.51, 2002, Second Edition*

Klinefelter's syndrome – gynecomastia, scant hair on beard, trunk, and extremities *Klinefelter's syndrome. Berlin:Springer–Verlag, 1984*

Leprechaunism – Donohue's syndrome – decreased subcutaneous tissue and muscle mass, characteristic facies,

severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Myotonic dystrophy *Rook p.3152, 1998, Sixth Edition*

Peutz-Jeghers syndrome – bilateral gynecomastia due to bilateral Sertoli cell tumors of the testes *JAAD 53:660–662, 2005*

POEMS syndrome – gynecomastia *JAAD 45:969–970, 2001*

### TRAUMA

Physical trauma

### VASCULAR DISEASES

Angiosarcoma *Am Surg 62:668–672, 1996;* angiosarcoma of the breast post-irradiation for breast cancer – late thickening, edema, or induration of the breast *JAAD 49:532–538, 2003*

## BUFFALO HUMP

### DRUG-INDUCED

Exogenous corticosteroids *Transplantation 59:729–736, 1995; Arch Int Med 140:1507–1508, 1980*

Indinavir *NEJM 339:1296–1297, 1998*

Megestrol acetate – glucocorticoid-like activity *Arch Int Med 157:1651–1656, 1997*

### INFECTIONS

HIV infection – lipodystrophy of HIV infection *NEJM 339:1296–1297, 1998; Lancet 35:867–870, 1998*

### ENDOCRINE DISORDERS

Cushing's syndrome *Ann Intern Med 138:980–991, 2003*

### CORTICOTROPIN-DEPENDENT CUSHING'S SYNDROME

Bronchial carcinoid – with ectopic ACTH production *Chin Med J 108:338–341, 1995; Mayo Clin Proc 65:1314–1321, 1990; Clin Endocrinol 24:523–529, 1986*; ectopic corticotropin releasing hormone *NEJM 332:791–803, 1995*

Cervical carcinoma of the uterus with ectopic ACTH production Jpn J Cancer Res 82:710–715, 1991

Ectopic ACTH syndrome due to small cell carcinoma *Chang Keng I Hsueh 17:371–377, 1994; Am J Med 62:303–307, 1977*

Medullary carcinoma of the thyroid gland with ectopic ACTH production Nippon Naibunpi Gakkai Zasshi 53:1279–1291, 1977

Neuroendocrine islet cell tumor *Gut 26:426–428, 1985*

Ovarian steroid tumors *Am J Surg Pathol 11:835–845, 1987*

Pituitary micro- and macroadenomas *NEJM 332:791–803, 1995*

Pulmonary tumorlets (neuroendocrine cells) – corticotropin secretion *NEJM 339:883–886, 1998*

Thymic carcinoid – with ectopic ACTH production *Chin Med J 108:338–341, 1995; Thorax 49:357–360, 1994*

### CORTICOTROPIN-INDEPENDENT CUSHING'S SYNDROME

Adrenal carcinoma *NEJM 332:791–803, 1995*

Bilateral adrenocortical adenomas *Surg Today 24:538–543, 1994*

Familial Cushing's syndrome – micronodular adrenocortical dysplasia *Arch Int Med 148:1133–1136, 1988*

Macronodular adrenal hyperplasia *Endocrinol Jpn 36:101–116, 1989*

Micronodular adrenal hyperplasia *Endocrinol Jpn 36:101–116, 1989*

Pigmented adenoma of the adrenal cortex *Urology 7:641–645, 1976*

Primary adrenocortical nodular hyperplasia associated with Carney complex *J Clin Endocrinol Metab 82:1274–1278, 1997; Nippon Naibunpi Gakkai Zasshi 68:607–622, 1992*

### PSEUDO-CUSHING'S SYNDROME

Chronic alcoholism *Clin Endocrinol (Oxf) 16:73–76, 1982*

Common obesity of middle age *Adv Exp Med Biol 116:279–280, 1979*

Depression – hypercortisolism *Ann NY Acad Sci 771:716–729, 1995; NEJM 332:791–803, 1995*

### MISCELLANEOUS

Benign symmetric lipomatosis (Madelung's disease) *Ann Plast Surg 41:671–673, 1998*

Cortisol hyperreactive syndrome – hypocortisolism and Cushing's syndrome-like manifestations *J Clin Endocrinol Metab 70:729–737, 1990*

Food-dependent Cushing's syndrome mediated by aberrant adrenal sensitivity to gastric inhibitory polypeptide *NEJM 327:974–980, 1992; NEJM 327:981–986, 1992*

Lipoma(s)

*Mycobacterium tuberculosis* – CNS tuberculosis – with Cushing's syndrome *J Neurol Sci 14:341–357, 1971*

Paraneoplastic Cushing's syndrome *Eur J Pediatr 153:784–791, 1994*

Renal adenocarcinoma – paraneoplastic Cushing's syndrome *Semin Urol 7:158–171, 1989*

## BULLAE AND/OR VESICLES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis, including poison ivy, nickel sensitivity resembling bullous pemphigoid; cinnamic aldehyde *Dermatosen 6:186–187, 1988;* complicating venous stasis *Rook p.2261, 1998, Sixth Edition*

Autoimmune estrogen dermatitis – papulovesicular eruptions *JAAD 32:25–31, 1995;* bullae *JAAD 49:130–132, 2003*

Autoimmune progesterone dermatitis – resembling dermatitis herpetiformis *JAMA 190:35–38, 1964*

Bowel-associated dermatitis-arthritis syndrome – vesicles evolving into pustules *AD 138:973–978, 2002*

Bullous eruption in CREST syndrome, primary biliary cirrhosis and Sjögren's syndrome *JAAD 29:648–650, 1993*

Bullous pemphigoid *Rook p.1869–1870, 1998, Sixth Edition;* anti-105 Kd and anti-200 Kd bullous pemphigoid-like disorders *AD 135:173–176, 1999;* bullous pemphigoid in infancy with palmar and plantar bullae *Ped Derm 15:108–111, 1998;* anti-p105 pemphigoid *AD 130:343–347, 1994;* anti-p200 pemphigoid *BJD 148:1058–1060, 2003; JAAD 46:786–789, 2002;* anti-p450 pemphigoid *Adv Dermatol 16:113–157, 2000;* oral bullae *Rook p.3056,3085, 1998, Sixth Edition*

Chronic granulomatous disease – vesicular eruptions *JAAD 36:899–907, 1997*

Cicatricial pemphigoid – bullae of upper trunk and head *AD 138:370–379, 2002;* generalized bullae *BJD 68:128–131, 1956;* IgG, IgA, anti-epiligrin *JAAD 42:841–844, 2000; JAAD 40:637–639, 1999; AD 130:1521–1529, 1994;* bullae of soft palate *Oral Surg 66:37–40, 1988*

Cicatricial pemphigoid-like syndrome due to linear IgA disease directed against a 290 kd antigen *JAAD 31:884–888, 1994*

Dermatitis herpetiformis – elbows, knees, buttocks, shoulders, trunk, face, and scalp *Rook p.1890,3085, Sixth Edition; JAMA 3:225–229, 1884;* oral bullae *Oral Surg 62:77–80, 1986*

Dermatomyositis – vesiculobullous *JAAD 49:1136–1139, 2003 Am J Dermatopathol 20:170–174, 1998;* with gynecologic malignancies *JAAD 34:391–394, 1996;* with nasopharyngeal carcinoma *Ann Acad Med Singapore 28:855–857, 1999*

Epidermolysis bullosa acquisita – *AD 135:173–176, 1999; Dermatologic Clinics 11:535–547, 1993;* annular bullae *BJD 147:592–597, 2002;* in children *Ped Derm 12:16–20, 1995;* oral bullae *Rook p.3085, 1998, Sixth Edition; AD 123:772–776, 1987;* of feet *Caputo p.27–28, 2000*

Fogo selvagem (endemic pemphigus) *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Graft vs. host disease, acute or chronic – bullae *AD 138:924–934, 2002; JAAD 38:369–392, 1998;* varicella-like, TEN-like *AD 134:602–612, 1998;* bullous scleroderma-like changes *AD 121:1189–1192, 1985*

Herpes (pemphigoid) gestationis *JAAD 40:847–849, 1999; JAAD 17:539–556, 1987; Clin Exp Dermatol 7:65–73, 1982*

Id reaction

IgM bullous disease – associated with IgM gammopathy *BJD 150:392–394, 2004*

Intraepidermal neutrophilic IgA dermatosis *JAAD 31:502–504, 1994* (IgA pemphigus); intraoral blisters *JAAD 20:89–97, 1989;* IgA pemphigus – vesicopustules in a one-month old *JAAD 48:S22–24, 2003*

Lichen planus pemphigoides *AD 139:1363–1368, 2003; JAAD 36:638–640, 1997; BJD 125:263–271, 1991; JAAD 22:626–631, 1990;* associated with PUVA *BJD 142:509–512, 2002;* ramipril (ACE inhibitor) *BJD 136:412–414, 1997*

Linear IgA disease (chronic bullous disease of childhood) – perioral, eyelids, ears, scalp, perineum, vulva; annular polycyclic bullae; palmar and plantar bullae in infancy; may have hemorrhagic bullae; oral ulcers *JAAD 50:109–115, 2004; JAAD 22:362–365, 1990; Ann DV 114:1358–1359, 1987;* conjunctivitis *Ped Derm 15:108–111, 1998; ne*onatal linear IgA disease *Ped Derm 10:171–176, 1993;* oral bullae *Rook p.3085, 1998, Sixth Edition*

Lupus erythematosus – systemic lupus – bullous sunburn reaction *Rook p.2472–2473, 1998, Sixth Edition;* bullous dermatosis of SLE (annular bullae) – face, neck, upper trunk, oral bullae *Pediatr 12:138–144, 1995; JAAD 27:389–394, 1992; Arthritis Rheum 21:58–61, 1978;* subacute cutaneous LE *Australas J Dermatol 41:234–237, 2000; Z. Hautkr 67:220–223, 1991;* lupus panniculitis – plaque with bullae *Fitzpatrick J of Clin Derm 2:32–34, 1994;* bullous discoid lupus with targetoid lesions *Dermatologica 122:6–10, 1961;* subacute cutaneous lupus erythematosus – annular and polycyclic lesions with vesicles at border *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988;* SCLE – toxic epidermal necrolysis-like *JAAD 16:1265–1267, 1987*

Morphea, bullous *JAAD 30:937–943, 1994; Dermatology 119:341, 1959*

Pemphigoid variant

Pemphigoid vegetans – oral bullae of palate and gingivae *Arch Dermatol Res 279:S30–37, 1987; Int J Derm 25:17–27, 1986*

Pemphigus foliaceus

Pemphigus herpetiformis (vesicles) *JAAD 34:40–46, 1996*

Pemphigus vulgaris – oral bullae *Oral Surg 54:656–662, 1982;* neonatal pemphigus *Ped Derm 10:169–170, 1993;* pemphigus with giant lymph node hyperplasia *JAAD 26:105–109, 1992*

Rheumatoid arthritis – rheumatoid neutrophilic dermatitis – vesicular or bullous *JAAD 52:916–918, 2005; Cutis 60:203–205, 1997;* bullae due to arteritis *BJD 77:207–210, 1965*

## CONGENITAL DISORDERS

Aplasia cutis congenita – bulla of scalp *Arch Dis Child 23:61–62, 1948*

Congenital erosive dermatosis with reticulated supple scarring *Dermatology 194:278–280, 1997; AD 126:544–546, 1990; JAAD 17:369–376, 1987; AD 121:361–367, 1985*

Neonatal sucking blisters – fingers, lips, forearms *Pediatrics 32:1099–1101, 1963*

## DEGENERATIVE DISORDERS

Hereditary sensory and autonomic neuropathy type I – calluses over metatarsal heads which blister, necrose, and ulcerate *Rook p.2779, 1998, Sixth Edition*

Reflex sympathetic dystrophy – bulla and leg ulceration *JAAD 44:1050, 2001; JAAD 35:843–845, 1996; JAAD 28:29–32, 1993*

## DRUG-INDUCED

Acral dysesthesia syndrome – bullae of hands and feet with systemic chemotherapy including cytosine arabinoside, doxorubicin, and polyethylene glycol-coated liposomal doxorubicin *AD 136:1475–1480, 2000*

Amiodarone *JAAD 31:801–811, 1994*

Bromoderma *AD 115:1334–1335, 1979*

Bullous pemphigoid – drug-induced – ciprofloxacin *JAAD 42:847, 2000;* furosemide *AD 112:75–77, 1976;* penicillamine *JAAD 35:732–742, 1996; AD 123:1119–1120, 1987;* penicillin *JAAD 18:345–349, 1988;* ibuprofen, phenacetin, cuprimine, ampicillin *Clin Exp Dermatol 15:50–52, 1990;* azulfidine, salacylazo-sulfapyridine, phenacetin *AD 1120:1196–1199, 1984;* novascabin, sulfasalazine, novoscabin, topical 5FU, PUVA *AD 115:988–989, 1979; Rook p.3389, 1998, Sixth Edition;* enalapril *JAAD 29:879–882, 1993;* amoxil, chloroquine *Ghatan p.228, 2002, Second Edition*

Cantharadin for warts

Chemotherapy induced acral erythema – bullous variant – methotrexate, cytarabine *AD 132:590–591, 1996; Cutis 51:175–179, 1993*

Cicatricial pemphigoid – drug induced – topical pilocarpine, topical demecarium, practolol, topical echthiophate iodine, sulfadoxine, penicillamine *JAAD 35:732–742, 1996*; clonidine *BJD 102:715–718, 1980;* bromide, indomethacin *Rook p.3389, 1998, Sixth Edition;* idoxuridine, epinephrine *Ghatan p.231, 2002, Second Edition*

Cinnarizine – lichen planus pemphigoides-like eruption *BJD 112:607–613, 1985*

Cyclosporine – pseudo-porphyria cutanea tarda *AD 139:1373–1374, 2003*

Dilantin

Dipyrone-induced pemphigus

Drug-induced thrombocytopenia – oral hemorrhagic bullae *Cutis 62:193–195, 1998*

Enoxaparin sodium (low molecular weight heparin)-induced bullous pemphigoid *JAAD 51:141–142, 2004*

Epsilon amino caproic acid infusion *JAAD 27:880–882, 1992*

Estrogen dermatitis – papulovesicular *JAAD 32:25–31, 1995*

Extravasation from intravenous infusion

Fixed drug eruption *Rook p.3367, 1998, Sixth Edition*

Furosemide – phototoxic blisters *BJD 94:495–499, 1976*

Ibuprofen-induced bullous pemphigoid *JAAD 19:91–94, 1988*

Interleukin-2 reaction *AD 130:890–893, 1994*

Iododerma – vesicular *JAAD 36:1014–1016, 1997;* bullous *Australas J Dermatol 28:119–122, 1987*

Jarisch–Herxheimer reaction – vesicular; treatment of syphilis, onchocerciasis, Lyme disease, strongyloidiasis *AD 125:77–81, 1989; Hautarzt 35:588–590, 1984*

Leuprolide – dermatitis herpetiformis *Cutis 75:49–52, 2005*

Linear IgA disease
- Drug-induced *JAAD 42:316–323, 2000; JAAD 32:296, 1995*
  - Acetaminophen *JAAD 48:289–300, 2003*
  - Amiodarone *JAAD 31:809–811, 1994*
  - Ampicillin
  - Atorvastatin *JAAD 44:696–699, 2001*
  - Captopril *Cutis 44:393–396, 1989; JAAD 38:352–356, 1998*
  - Carbamazepine *JAAD 46:S32–33, 2002*
  - Cefamandole *JAAD 48:289–300, 2003; JAAD 38:352–356, 1998*
  - Cyclosporine *JAAD 42:316–323, 2000*
  - Diclophenac *JAAD 26:45–48, 1992; AD 124:1186–1188, 1988*
  - Glibenclamide *AD 123:1121–1122, 1987*
  - Interferon-$\alpha$, $\gamma$ *JAAD 42:316–323, 2000*
  - Interleukin-2
  - Iodine contrast agent
  - Lithium carbonate *AD 124:1186–1188, 1988; JAAD 26:45–48, 1992*
  - Penicillin G potassium *JAAD 42:316–323, 2000*
  - Phenytoin *JAAD 38:352–356, 1998*
  - Polychemotherapy *JAAD 38:352–356, 1998*
  - PUVA *Ghatan p.230, 2002, Second Edition*
  - Somatostatin *JAAD 38:352–356, 1998*
  - Sulfisoxazole *JAAD 38:352–356, 1998*
  - Vancomycin *JAAD 26:45–48, 1992*
  - Vigabatrin *JAAD 42:316–323, 2000*

Methotrexate and leucovorin (palms and soles) *AD 123:990–992, 1987*

Nalidixic acid – UVA; bullous photoreaction *Am J Med 58:576–580, 1975*

Pegfilgastrim – giant bullae; bullous Sweet's syndrome due to pegfilgastrim (pegylated G-CSF) *JAAD 52:901–905, 2005*

Pemphigus vegetans due to captopril *JAAD 27:281–284, 1992*

Pemphigus – drug-induced *JAAD 39:876–878, 1998; JAAD 26:364–366, 1992; JAAD 30:651–653, 1994*
- Antibiotics
  - Ampicillin
  - Cephalexin
  - Cefadroxil
  - Ceftazidine
  - Ethambutol
  - INH
  - Nalidixic acid
  - Penicillin
  - Rifampin
- Pyrazalon derivatives
  - Aminophenazone
  - Aminopyrine
  - Azapropazone
  - Oxyphenylbutazone
  - Phenylbutazone
- Sulfur-containing drugs
  - Captopril
  - Enalapril
  - Gold (aurothioglucose)
  - Mercaptopropionylglycine
  - Penicillamine
  - Pyritinol
  - Sulfasalazine
  - Tetanus and diphtheria vaccine with a thiol preservative *BJD 147:188–189, 2002*
  - Thiamazole
  - Thiopronine
  - 5-thiopyridoxine
- Miscellaneous
  - Aspirin
  - Benzoin
  - 5-fluorouracil (topical)
  - Furosemide
  - Glibenclamide
  - Heroin
  - Hydantoin
  - Ibuprofen
  - Indomethacin
  - Interleukin-2 and $\beta$-interferon
  - Levodopa
  - Lysine acetylsalicylate
  - Meprobamate
  - Nifedipine
  - Phenacetin
  - Phenobarbital
  - Phenylbutene
  - Piroxicam
  - Practalol
  - Progesterone
  - Propranolol
  - Pyritinol
  - PUVA
  - Thermal burns
  - Tincture of benzoin

Penicillamine *AD 128:977–982, 1992;* penicillamine-induced pemphigus vulgaris or foliaceus *JAAD 37:121–123, 1997; AD 128:977–981, 1992; JAAD 6:317–324, 1982; Am J Dermatopathol 3:85–92, 1981*; bullous pemphigoid-like eruption *AD 123:1119–1120, 1987; JAAD 8:548–550, 1983;* EBA-like bullae in chronic GVH disease *JAAD 49:1157–1159, 2003*

Penicillin-induced bullous pemphigoid mimicking erythema multiforme *JAAD 18:345–349, 1988*

Phenacetin-induced bullous pemphigoid-like eruption *AD 120:1196–1199, 1984*

Phlebogram dye – toxic reaction

Piroxicam photodermatitis

PPD reaction

Pseudo-porphyria cutanea tarda *JAAD 44:100–108, 2001; JAAD 33:551–573, 1995; JAAD 31:500, 1994*
- Drug-induced
  - Acetretin *JAAD 53:169–171, 2005*

Amiodarone
B complex vitamins
Benoxaprofen
Bumetanide *JAAD 23:129–130, 1990*
Carisoprodol/aspirin
Chlorthalidone *JAAD 21:1026–1029, 1989*
Cyclosporine *AD 139:1373–1374, 2003*
Dapsone
Diflunisal
Erythropoietin
Etretinate
Fluoroquinolones
5-fluorouracil
Flutamide
Furosemide *Acta Med Scand 202:61–64, 1977*
Hydrochlorthizide/triamterene
Isotretinoin *Ghatan p.231, 2002, Second Edition*
Ketoprofen
Mefanamic acid
Nabumetone *BJD 142:1067–1069, 2000; BJD 138:549–5500, 1998*
Nalidixic acid *JID 82:210–213, 1984*
Naproxen *AD 122:451–454, 1986*
Piroxicam
Rofecoxib (Vioxx) *JAAD 50:647–648, 2004*
Oxaprozin
PUVA
Pyridoxine (vitamin $B_6$) *JAAD 10:527–528, 1984*
SOMA
Sulfonamides
Sulfonylureas
Tetracycline *Clin Exp Dermatol 5:321–325, 1980*
Tiaprofenic acid
Voriconazole *JAAD 53:341–345, 2005*

Exogenous agents

Bullous dermatosis of chronic renal failure – chronic renal failure with or without hemodialysis *JAAD 44:100–108, 2001; Ann Intern Med 83:480–483, 1975*
Tanning bed *AD 125:1236–1237, 1989*

PUVA blisters *AD 123:1471–1477, 1987*

PUVA-induced bullous pemphigoid *Cutis 41:199–202, 1988*

Pyridoxine abuse – PCT-like *JAAD 14:915–917, 1986; JAAD 10:527–528, 1984*

Radiation recall – erythema, vesiculation, erosions, hyperpigmentation; dactinomycin and doxorubicin *Mayo Clin Proc 55:711–715, 1980;* edatrexate, melphalan, etoposide, vinblastine, bleomycin, fluorouracil, hydroxyurea, methotrexate *Rook p.3469, 1998, Sixth Edition*

Retinoid skin fragility with impetigo

Sertraline – giant bulla with necrosis *BJD 150:164–166, 2004*

Tiopronin *Ann DV 117:9, 1990*

Toxic epidermal necrolysis

Vancomycin – linear IgA disease mimicking toxic epidermal necrosis *JAAD 48:S56–57, 2003*

Vasopressin, intravenous *JAAD 15:393–398, 1988*

Voriconazole – photodermatitis with acute and chronic changes of sun damage *JAAD 52:S81–85, 2005*

## EXOGENOUS AGENTS

Buttercup (*Ranunculus* sp.) *Cutis 69:171–172, 2002*

Cola-induced pseudoporphyria *JAAD 44:100–108, 2001*

Echinacea – pemphigus vulgaris *JAAD 53:S105–107, 2005*

Garlic burns *Ped Derm 17:475–476, 2000*

Hydrogen peroxide – air- and fluid-filled blebs (oxygen bubbles) due to occupational skin injury *Dermatology 201:61–64, 2000*

Intravenous infiltration

Intravenous infiltration with compartment syndrome *AD 140:798–800, 2004*

Irritant contact dermatitis *Rook p.722, 1998, Sixth Edition*; plant irritant contact dermatitis, vesiculobullous – buttercup, spurge, manzanillo tree, milfoil, mayweed *Rook p. 791, 1998, Sixth Edition*

Rhus – ingestion of Rhus as folk medicine remedy *BJD 142:937–942, 2000*

Spirulina platensis – pemphigus *JAAD 53:S105–107, 2005*

Woods *Contact Dermatitis 19:224–225, 1988*

## INFECTIONS AND INFESTATIONS

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *Clin Inf Dis 39:700–701, 741–742, 2004; JAAD 48:S18–19, 2003*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Aspergillosis – primary cutaneous

*Bacillus cereus* – necrotic bullae *AD 127:543–546, 1991*

Bacteroides – synergistic necrotizing cellulitis

Beetles – whiplash dermatitis – linear blisters *JAAD 22:815–819, 1990; Paederus* beetle – vesicular and bullous reactions *Cutis 69:277–279, 2002*

Blister beetle dermatosis (*Lytta vesicatoria*) *Ped Derm 9:246–250, 1992; JAAD 22:815–819, 1990;* rove beetles (*Paederus* species) *AD 94:175–185, 1966;* coconut beetles *Rook p.1448, 1998, Sixth Edition*

Blistering distal dactylitis

Brown recluse spider bite – blister with purpuric base *Clin Inf Dis 32:595,636–637, 2001*

Brucellosis – vesicular eruptions *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

*Campylobacter jejuni* – small vesicles in X-linked agammaglobulinemia *J Clin Inf Dis 23:526–531, 1996*

Candidiasis – sepsis *Med 64:115–133, 1985;* congenital cutaneous candidiasis – bullae, maculovesicular eruption *JAAD 37:817–823, 1997; AJDC 135:273–275, 1981*

Caterpillar bites

Cat scratch disease – inoculation vesicle *Ped Derm 5:1–9, 1988*

Cellulitis, bullous

*Cheyletiella blakei* mite dermatitis *Ann DV 127:826–829, 2000; JAAD 37:265–266, 1997*

Clostridial cellulitis

Clostridial myonecrosis (gas gangrene) – *Clostridium perfringens*, septicum, novyi, or hemolyticum *JAAD 6:289–299,1982*

Cowpox – cropping of vesicles; resembles orf, anthrax, and impetigo (papulovesiculopustule) *BJD 153:451–453, 2005; JAAD 49:513–518, 2003; JAAD 44:1–14, 2001; JAAD 42:892–894, 2000*

Coxsackie A (5,9,10,16) – maculopapular–vesicular *Tyring p.3,463, 2002; Rook p.998, 1998, Sixth Edition;* Coxsackie A4 – widespread vesicular eruption *Pediatrics 41:873–882, 1968*

Cryptococcosis – vesicles and bullae; may simulate herpes simplex or varicella/zoster virus infection *AD 112:1734–1740, 1976*

Cutaneous larva migrans

Cytomegalovirus infection *JAAD 18:1330–1338, 1988; JAAD 12:720–721, 1985;* vesiculobullous lesions *Dermatology 200:189–195, 2000; JAAD 38:349–351, 1998*

Dracunculosis – small papule or vesicle which ruptures *Dermatol Clinic 7:323–330, 1989*

Echovirus 4,9,11 – maculopapular–vesicular *Rook p.998, 1998, Sixth Edition;* Echovirus 11 – vesicular rash *AD 113:1705–1706, 1977*

Ehrlichiosis – human monocytic ehrlichiosis *JAAD 49:363–392, 2003*

*Enterobacter cloacae JAAD 27:637–638, 1992*

Enteroviral infection – vesicular lesions in AIDS

Erysipelas – bullous cellulites; bullous erysipelas

Erythema (chronicum) migrans – *Borrelia burgdorferi*; Lyme disease *Am J Med 99:412–419, 1995*

*Escherichia coli* sepsis – bullous cellulitis

Exanthem subitum with vesicular lesions *BJD 132:614–616, 1995*

Fire ant stings (*Solenopsis invicta*) – clusters of vesicles evolve into umbilicated pustules on red swollen base; crusting, heal with scars; urticaria *J S C Med Assoc 95:231–235, 1999; Ann Allergy Asthma Immunol 77:87–95, 1996; Allergy 50:535–544, 1995; Ped Derm 9:44–48, 1992*

Fire corals – urticarial lesions followed by vesiculobullous rash, chronic granulomatous and lichenoid lesions *Contact Dermatitis 29:285–286, 1993; Int J Dermatol 30:271–273, 1991*

Foot and mouth disease (Echovirus) – adults and children in direct contact with infected livestock; vesicles of buccal mucosa, tongue, lips, palms, soles, interdigital skin *Br Med J 4:529–530, 1967*

Fournier's gangrene

Gas gangrene

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985*

Gram-negative web space infection

Hand, foot, and mouth disease (Coxsackie A5,10,16) – vesicular and papulovesicular lesions *Rook p.998,1086, 1998, Sixth Edition; BJD 79:309–317, 1967;* oral vesicles *Rook p.3057, 1998, Sixth Edition*

Herpangina – Coxsackie A1, A6, A10, A22, B1–5, Echovirus types 9, 11, 17 *Prog Med Virol 24:114–157, 1978;* oral vesicles *Rook p.3057, 1998, Sixth Edition*

Herpes B infection – Macaque monkey bite; herpes simplex-like lesions with vesicles, erythema, and edema near bite site; secondary vesiculopapular eruption *JAAD 49:979–1000, 2003; Tyring p.237–239, 2002; AD 125:1247–1248, 1989*

Herpes simplex – primary *Tyring p.75, 2002;* neonatal, HIV, disseminated, eczema herpeticum; palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998; AD 114:406, 1978;* herpetic whitlow; dyshidrosis-like herpes simplex in AIDS *JAAD 13:845–852, 1985;* eczema herpeticum (Kaposi's varicelliform eruption) *Rook p.1028, 1998, Sixth Edition; Arch Dis Child 60:338–343, 1985;* oral vesicles *Rook p.3057, 1998, Sixth Edition*

Herpes zoster

Impetigo, bullous – staphylococcal *Curr Prob Dermatol 5:196–204, 1993;* non-bullous (streptococcal) – thin walled vesicle on red base ruptures and crusts; palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998*

Infected vascular gangrene

Infectious mononucleosis – vesicular and bullous exanthems *Tyring p.149, 2002*

Insect bite reaction – papules with overlying vesicle *Rook p.1425–1426, 1998, Sixth Edition;* bullae in children, associated with CLL *Acta DV* (*Stockh*) *57:81–92, 1977;* natural killer cell lymphocytosis *AD 126:362–368, 1990;* HIV disease *JAAD 29:269–272, 1993;* fleas, mosquitoes, gnats, midges, flies, mites, bugs, beetles, thrips (thunder flies); *Haematosiphon* (Mexican chicken bug) – wheals, papules, vesicles, pustules, crusts *Rook p.1445–1446, 1998, Sixth Edition; ;* mites – barley itch, grain-shoveller's itch, grain itch, straw itch, cotton seed dermatitis *Rook p.1468, 1998, Sixth Edition;* beetles (*Paederus fuscipes*) – blisters, papules *Eur J Ped 152:6–8, 1993;* bedbugs (*Cimex lectularis*, *C. hemipterus*) *The Clinical Management of Itching; Parthenon; p.63, 2000;* sandflies (*Phlebotomus, Lutzomyia*) – harara, urticaria multiformis endemica in Middle East *The Clinical Management of Itching; Parthenon; p.64, 2000*

Jellyfish stings

Leprosy – Lucio's phenomenon *AD 114:1023–1028, 1978;* erythema nodosum leprosum *JAAD 51:416–426, 2004; AD 132:1432–1434, 1996*

*Listeria monocytogenes* – contact listeriosis; localized vesicles or pustules *JAAD 48:759, 2003*

Lyme disease – vesicular form with secondary necrosis *JAAD 49:363–392, 2003*

Marburg virus – maculopapular-vesicular *Rook p.998, 1998, Sixth Edition*

Measles – with extensive bullous eruption *NEJM 277:248–250, 1967*

Meningococcemia

Milker's nodule *Tyring p.57, 2002;* vesicopapule *JAAD 44:1–14, 2001*

Millipede secretions – conjunctivitis and mahogany pigmentation with bullae *Cutis 67:452, 2001*

Mites – cheese mite (*Glyciphagus*) bites – papulovesicles and pustules *Dermatol Clin 8:265–275, 1990*

Monkeypox – exanthem indistinguishable from smallpox (papulovesiculopustular) (vesicles, umbilicated pustules, crusts) *CDC Health Advisory, June 7,2003; JAAD 44:1–14, 2001; J Infect Dis 156:293–298, 1987*

*Morganella morgagni JAAD 12:575–576, 1985*

Mosquito bite hypersensitivity syndrome in EBV-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Mucormycosis *Med 64:115–133, 1985*

*Mycobacterium tuberculosis* – miliary tuberculosis; large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969*

*Mycoplasma pneumoniae* – varicella-like rash *Am J Dis Child 128:254–256, 1974*

Necrotizing fasciitis – necrotic bullae; streptococcal *Curr Prob in Dermatol 14:183–220, 2002; Ann DV 128:376–381, 2001; Serratia marcescens Clin Inf Dis 23:648–649, 1996; JAAD 20:774–778, 1989; Bacteroides* spp.in penile necrotizing fasciitis *JAAD 37:1–24, 1997;* neonatal *Pediatrics 103:e53, 1999;* in infancy *Ped Derm 2:55–63, 1984;* Clostridial cellulitis (gangrene); progressive synergistic gangrene; gangrenous cellulitis (*Pseudomonas*); Fournier's gangrene *Rook p.1164, 1998, Sixth Edition*

*Nocardia asteroides AD 121:898–890, 1985*

Non-clostridial crepitant cellulitis

Non-clostridial myositis

Omsk hemorrhagic fever virus – infected muskrats in western Siberia; papulovesicular lesions of soft palate *AD 140:656, 2004*

Orf – vesicopapule *JAAD 44:1–14, 2001;* generalized bullous orf *Int J Derm 6:340–341, 1980; AD 126:356–358, 1990*

Otitis externa *Ann Otol Rhinol Laryngol 82 (Suppl 8):1–23, 1973*

*Paecilomyces lilacinus* – vesicular lesions *JAAD 39:401–409, 1998;* papulovesicular lesions *Ann Intern Med 125:799–806, 1996*

Papular urticaria

Pediculid, bullous *Cutis 41:281, 1988*

Pediculosis – pubic lice (*Phthirus pubis*) *Arch Dermatol Syphilol 65:334–339, 1952*

Phaeohyphomycosis – *JAAD 40:364–366, 1999*

Phycomycotic gangrenous cellulitis

Portuguese man-of-war stings – vesicular *J Emerg Med 10:71–77, 1992*

Progressive bacterial synergistic gangrene – postoperative (Meleney's synergistic gangrene)

Protothecosis – vesiculobullous lesions *Med 64:115–133, 1985; JAAD 32:758–764, 1995*

*Pseudomonas* sepsis – bullae which rupture to yield necrotic ulcers (ecthyma gangrenosum) *Medicine 64:115–133, 1985; Ped Derm 4:18–20, 1987*

Puss caterpillar – purpuric papulovesicles *Cutis 60:125–126, 1997*

Q fever – *Coxiella burnetii*; vesicles *JAAD 49:363–392, 2003*

Rat bite fever (*Streptobacillus moniliformis* (pleomorphic facultative anaerobic bacillus) or *Spirillium minor* (Soduku)) – macular, petechial, or morbilliform widespread exanthem; palmoplantar rash; arthralgia and chronic arthritis; Haverhill fever (raw milk) – papules, crusted papules, vesicles, pustules; chronic abscesses *Cleveland Clin Q 52* (*2*)*:203–205, 1985; Pediatr Clin N Am 26:377–411, 1979*

*Rickettsia australis*; *R. conorii* – varicelliform rash – papulovesicular

Ricketsial pox (*Rickettsia akari*) (house mouse mite bite) – generalized papules, vesicles, papulovesicles, crusts *NEJM 331:1612–1617, 1994; Clin Inf Dis 18:624–626, 1994*

*Rickettsia australis* (tick typhus) – papulovesicular *Clin Inf Dis 18:118–119, 1994*

Roseola infantum (human herpesvirus 6) – rose-pink macules start on neck and trunk, then spread to face and extremities; rarely vesicular *BJD 132:614–616, 1995; Rook p.998,1025, 1998, Sixth Edition*

*Salmonella* – vesicular eruptions *Rook p.1143, 1998, Sixth Edition; NYSJMed 81:1639–1641, 1981*

Scabies with bullous pemphigoid-like eruption *JAAD 20:878–879, 1996; JAAD 24:179–181, 1991;* vesicles and bullae *JAAD 20:134–136, 1989;* palmar bullae *JAAD 49:346–350, 2003;* palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998; JAMA 230:878, 1974*

Sealpox (parapoxvirus) – gray concentric nodule with superimposed bulla on dorsum of hand *BJD 152:791–793, 2005*

*Serratia marcescens*

Smallpox – varicella-like *JAAD 44:1–14, 2001;* smallpox vaccination site

Snake bites – edema, erythema, pain, bullae, ecchymosis and necrosis *NEJM 347:347–356, 2002*

Spider bites *Trans R Soc Trop Med Hyg 92:546–548, 1998; South Med J 69:887–891, 1976;* brown recluse spider bite *JAAD 44:561–573, 2001*

Staphylococcal scalded skin syndrome – toxic epidermal necrolysis; *Zentralseit Kinderheilkd 2:3–23, 1878*

Staphylococcal sepsis

Straw itch mites – varicella-like *JAMA 247:1821, 1982*

*Streptococcus*, Group B – resembles bullous impetigo *Textbook of Neonatal Dermatology, p.189, 2001*

Streptococcal gangrene (necrotizing fasciitis) *JAAD 20:774–778, 1989*

Group G streptococcal myositis with toxic shock syndrome *Clin Inf Dis 23:1159–1161, 1996*

Streptococcal toxic shock syndrome – painful localized edema and erythema; progression to vesicles and bullae *Textbook of Neonatal Dermatology, p.189, 2001*

Syphilis, congenital; vesicular Jarisch–Herxheimer reaction *AD 125:77–81, 1989;* papulovesicular lesions in AIDS *JAAD 22:1061–1067, 1990*

Tick bite – soft ticks; Argasid ticks *Lancet ii:288–289,1982;* Ornithodorus *JAAD 49:363–392, 2003*

Tinea corporis, pedis – bullous *Rook p.1300–1301,1309, 1998, Sixth Edition*

Toxic shock syndrome, either streptococcal or staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days *JAAD 39:383–398, 1998; Rev Infect Dis 11 (Suppl 1):S1–7, 1989; JAAD 8:343–347, 1983*

Toxoplasmosis *Rook p.1422, 1998, Sixth Edition*

*Trichosporon beigelii AD 129:1020–1023, 1993*

Tropical ulcer (phagedenic ulcer) – mixed infection with *Fusobacterium ulcerans* and other organisms; papule or bulla which breaks down to form ulcer with undermined border *Int J Dermatol 27:49–53, 1988*

Tularemia – vesiculopapular lesions of trunk and extremities *Photodermatology 2:122–123, 1985*

Vaccinia – Jennerian vesicle; papulovesiculopustule *JAAD 44:1–14, 2001;* progressive vaccinia – cellulitis with bullae *J Clin Inf Dis 25:911–914, 1997*

Varicella – vesicular *Tyring p.3,121–122, 2002; Rook p.1017–1018, 1998, Sixth Edition;* bullous *JAAD 9:209–212, 1983;* oral vesicles *Rook p.3057, 1998, Sixth Edition*

Variola – papulovesiculopustule *Tyring p.3,42, 2002; Rook p.998, 1998, Sixth Edition*

Verruca vulgaris with secondary infection

Vesicular stomatitis virus – vesicles of fingers, gums, buccal, and pharyngeal mucosa *NEJM 277:989–994, 1967*

*Vibrio vulnificus Clin Inf Dis 40:754–755, 2005*

*Yersinia enterocolitica* – vesicles *J Clin Inf Dis 21:223–224, 1995*

*Yersinia pestis* (plague) – umbilicated vesicles or pustules *J Infect Dis 129:S78–84, 1974*

## INFILTRATIVE DISEASES

Amyloidosis, bullous *Medicine 24:124–128, 1994; Cutis 43:346–352, 1989; BJD 113:85–95, 1985; AD 117:782–784, 1981*

Congenital self-healing reticulohistiocytosis – papulovesicular lesions *Ped Derm 18:35–37, 2001; AD 134:625–630, 1998*

Langerhans cell histiocytosis – purpuric vesicles *JAAD 37:314–317, 1997;* palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998;* vesiculopapules *AD 127:1049–1054, 1991;* Langerhans cell histiocytosis – vulvar vesicles *Obstet Gynecol 67:46–49, 1986*

Mastocytosis, bullous – urticaria pigmentosa *Clin Exp Dermatol 24:16–18, 1999; Cutis 58:358–360, 1996;* diffuse cutaneous mastocytosis *Ped Derm 19:375–381, 2002;* xanthelasmoidea *BJD 144:355–358, 2001*

Nodular eosinophilic infiltration *JAAD 24:352–355, 1991*

## INFLAMMATORY DISORDERS

Edematous scarring vasculitic panniculitis – hydroa vacciniforme-like lesions with vesicles, deep ulcers, varicelliform scars *JAAD 32:37–44, 1995*

Eosinophilic pustular folliculitis of the palms and soles

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998;* widespread bullae *Rook p.2084, 1998, Sixth Edition;* oral bullae *Oral Surg 67:36–40, 1989; Oral Surg 52:257–260, 1981;* Stevens–Johnson syndrome

Neutrophilic eccrine hidradenitis *J Dermatol 22:137–142, 1995*

Pyoderma gangrenosum, bullous *JAAD 27:804–808, 1992;* mimicking dermatitis herpetiformis *AD 77:269–280, 1958*

Sarcoid – vesicular variant *Braverman's Skin Signs of Systemic Disease*

Toxic epidermal necrolysis *BJD 68:355–361, 2005; Oral Maxillofac Surg 40:59–61, 1982;* TEN in infancy *JAAD 27:341–344, 1992*

## METABOLIC

Acrodermatitis enteropathica or acquired zinc deficiency – infant with vesiculobullous dermatitis of hands, feet, periorificial areas *Ped Derm 19:426–431, 2002; AD 116:562–564, 1980; Acta DV (Stockh) 17:513–546, 1936;* with anorexia nervosa *JAMA 288:2655–2656, 2002*

Calciphylaxis

Cryofibrinogenemia – of dorsal feet *Am J Med 116:332–337, 2004*

Cryoglobulinemia *JAAD 48:311–340, 2003*

Diabetic bullae – forearms, hands, fingers, legs, feet, toes *Int J Derm 39:196–200, 2000; JAAD 13:799–805, 1985*

Gout *Ann Rheum Dis 36:91–93, 1977*

Hypothyroidism with bullae

Miliaria crystallina – vesicles *AD 140:231–236, 2004; Cutis 47:103–106, 1991*

Necrobiosis lipoidica diabeticorum

Paroxysmal nocturnal hemoglobinuria *AD 122:1327–1330, 1986*

Pellagra

Porphyrias – hereditary coproporphyria *BJD 96:549–554, 1977; Q J Med 46:229–241, 1977; BJD 84:301–310, 1971;* congenital erythropoietic porphyria (Gunther's disease) *Ped Derm 20:498–501, 2003; Semin Liver Dis 2:154–63, 1982;* hepatoerythropoietic porphyria *AD 138:957–960, 2002; JAAD 11:1103–1111, 1984;* porphyria cutanea tarda – vesicles, bullae, crusts, skin fragility, atrophic scars, milia *Rook p.2589–2590, 1998, Sixth Edition*; variegate porphyria – vesicles on face, neck, dorsal hands; hemorrhagic crusts with increased skin fragility *JAAD 2:36–43, 1980; Wien Klin Wochenschr 50:830–831, 1937; BMJ ii:89, 1955;* erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Pruritic urticarial papules and plaques of pregnancy – vesicles *JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Pseudoglucagonoma syndrome due to malnutrition – vesicles and bullae at expanding margin *AD 141:914–916, 2005*

Wilson's disease – pretibial vesicles with hyperpigmentation *JAAD 21:1030–1032, 1989*

## NEOPLASTIC DISEASES

Epstein–Barr virus associated lymphoproliferative lesions – vesicles and papulovesicles *BJD 151:372–380, 2004*

Leukemia cutis *Cancer 63:2192–2200, 1989;* acute myelomonocytic leukemia; chronic lymphocytic leukemia *JAAD 15:943–950, 1986;* bullous pyoderma as presentation of acute leukemia *Clin Exp Dermatol 2:33–38, 1977;* adult T-cell leukemia – bullae of palms and soles *JAAD 46:S137–141, 2002; J Dermatol 19:498–502, 1992*

Lymphoma – mycosis fungoides bullosa *BJD 142:124–127, 2000;* bullae or papulovesicular lesions of CTCL *JAAD 46:325–357, 2002; JAAD 45:934–939, 2001; AD 104:402–406, 1971, Dermatologica 174:34–38, 1987; Dermatologica 148:377–381, 1974;* angiocentric CTCL of childhood (hydroa-like lymphoma) – Latin America and Asia, associated with Epstein – Barr virus *JAAD 38:574–579, 1998; AD 133:1081–1086, 1997;* adult T-cell lymphoma/leukemia *JAAD 46:S137–141, 2002;* palmoplantar bullae *J Dermatol 19:498–502, 1992;* Hodgkin's disease *Am J Dermatopathol 2:363–366, 1980;* chronic T-cell lymphocytic leukemia *JAAD 8:874–878, 1983;* Lymphomatoid papulosis resembling hydroa vacciniforme *JAAD 32:378–381, 1995*

Metastatic breast carcinoma – vesicular and zosteriform, mimicking herpes zoster *JAAD 43:733–751, 2000;* carcinoma telangiectoides – vesicles *BJD 151:523–524, 2004; Rook p.2294, 1998, Sixth Edition;* carcinoma erysipelatoides (breast carcinoma) *JAAD 40:805–807, 1999*

Plasmacytic ulcerative stomatitis (myeloma) – bulla *Oral Surg 70:587–589, 1990*

Superficial mucocoeles *Oral Surg 66:318–322, 1988*

Syringosquamous metaplasia of the eccrine glands – vesicles *JAAD 38:1–17, 1998; AD 123:1202–1204, 1987*

Waldenström's IgM storage papules – skin-colored translucent papules on extensor extremities, buttocks, trunk; may be hemorrhagic, crusted, or umbilicated pruritic papules, vesicles, bullae, urticaria *JAAD 45:S202–206, 2001*; *AD 134:1127–1131, 1998;* reticulate purpura and bullae *Clin Exp Dermatol 26:513–517, 2001*

## PARANEOPLASTIC DISEASES

Bazex syndrome – bullae of hands and feet *JAAD 40:822–825, 1999*

Bullous pyoderma gangrenosum

Bullous Sweet's syndrome

Glucagonoma syndrome (necrolytic migratory erythema) *JAAD 24:473–477, 1991*

Hypersensitivity to mosquito bites – associated with lymphoma/leukemia *BJD 153:210–212, 2005; JAAD 45:569–578, 2001; BJD 138:905–906, 1998*

Paraneoplastic pemphigus – associated with non-Hodgkin's B-cell lymphoma, chronic lymphocytic leukemia, Waldenström's macroglobulinemia, Hodgkin's disease, T-cell lymphoma, Castleman's diseases, thymoma, poorly differentiated sarcoma, round-cell liposarcoma, inflammatory fibrosarcoma, uterine adenosarcoma *JAAD 48:S69–72, 2003; JAAD 40:649–671, 1999; JAAD 39:867–871, 1998; AD 129:866–869, 1993; NEJM 323:1729–1735, 1990*

Paraneoplastic pemphigus resembling bullous pemphigoid *JAAD 43:714–717, 2000; JAAD 29:815–817, 1993; JAAD 40:649–671, 1999; JAAD 39:867–871, 1998; AD 129:866–869, 1993; NEJM 323:1729–1735, 1990;* tense bullae of palms and soles *BJD 144:1255–1261, 2001*

## PHOTODERMATITIS

Berloque dermatitis

Celery ingestion with phototoxic burn *AD 126:1334–1336, 1990*

Creosote phototoxic burn

Hydroa vacciniforme *Clin Exp Dermatol 23:70–72, 1998; AD 122:1310–1313, 1986; AD 114:1193–1196, 1978;* crusted vesicles *BJD 144:874–877, 2001;* associated with latent Epstein–Barr virus infection and lymphoma *BJD 140:715–721, 1999*

Juvenile spring eruption – bullae *JAAD 50:S57–60, 2004*

Phytophotodermatitis – linear and bullous lesions *Rook p.790, 1998, Sixth Edition;* meadow dermatitis (Umbelliferae) *Rook p.796, 1998, Sixth Edition; Caputo p.9, 2000*

Polymorphic light eruption – bullous ear lesions

Solar elastosis, bullous *JAAD 34:856–858, 1996*

## PRIMARY CUTANEOUS DISEASE

Acropustulosis of infancy – palmoplantar bullae of infancy *Ped Derm 15:108–111, 1998*

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha-Habermann disease) – vesiculo-papule *AD 123:1335–1339, 1987; AD 118:478, 1982;* bullous form *JAAD 23:473–478, 1990*

Anetoderma – bullous appearance of anetoderma overlying a pilomatrixoma *JAAD 25:1072–1076, 1991*

Angina bullosa hemorrhagica *Rook p.3085, 1998, Sixth Edition*

Balanitis xerotica obliterans *AD Syphilol 56:613, 1928*

Bullous congenital ichthyosiform erythroderma

Darier's disease *AD 118:278–279, 1982*

Dyshidrotic eczema, including dyshidrotic id reaction

Eosinophilic cellulitis *BJD 146:160–161, 2002*

Epidermolysis bullosa simplex (EBS) *Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:89–117;* oral bullae with epidermolysis bullosa – simplex – generalized, herpetiform, superficialis *AD 125:633–638, 1989;* junctional – Herlitz, generalized mild, localized, inverse, progressive; dominant dystrophic – hyperplastic, albopapuloid, and polydysplastic dystrophic type; recessive dystrophic – localized, generalized, mutilating, inverse *Rook p.3065, 1998, Sixth Edition; Oral Surg 43:859–872, 1977;* variants *Oral Surg 67:555–563, 1989; Oral Surg Oral Med Oral Pathol 71:440–446, 1991;* late onset junctional epidermolysis bullosa (epidermolysis junctionalis progressiva) – bullae of hands and feet, nail dystrophy, loss of dermatolyphic pattern, tooth enamel abnormalities, hyperhidrosis *BJD 144:1054–1057, 2001;* autosomal recessive epidermolysis bullosa with muscular dystrophy or congenital myasthenia gravis *AD 125:931–938, 1989;* dominant dystrophic epidermolysis bullosa; dystrophic epidermolyosis bullosa inversa – flexural bullae, oral ulcers, dental caries, milia *Ped Derm 20:243–248, 2003;* epidermolysis bullosa simplex with mutation of collagen 17A1 gene; ITGB4 coding for integrin beta-4 *BJD 151:669–674, 2004; JID 118:185–192, 2002*

- EBS of hands and feet – Weber Cockayne
- EBS with anodontia/hypodontia (Kallin syndrome) – thickened or curved nails, alopecia with brittle hair *Ghatan p.216, 2002, Second Edition*
- EBS, generalized – Koebner variant
- EBS herpetiformis – Dowling–Meara *JAAD 28:859–861, 1993*
- EBS with mottled pigmentation of neck, upper trunk, arms and leg with or without keratoderma (punctate keratoses); cutaneous atrophy, nail dystrophy *BJD 128:679–685, 1993; Clin Genet 15:228–238, 1979;* acral blistering, hemorrhagic bullae, focal punctate keratoderma, dystrophic thick nails *BJD 144:40–45, 2001*
- EBS Mendes da Costa variant – X-linked recessive *Ghatan p.216, 2002, Second Edition*
- EBS with muscular dystrophy – plectin mutation (premature termination codon) *JAAD 41:950–956, 1999*
- EBS superficialis – atrophic scarring, oral, conjunctival blisters *AD 125:633–638, 1989*
- EBS, Ogna variant – autosomal dominant; plectin abnormality; seasonal blistering of hands and feet, bruising, hemorrhagic bullae, onychogryphotic first toenails *Hum Hered 23:189–196, 1973*
- EBS with or without neuromuscular diseases – autosomal recessive; muscular dystrophy, myasthenia gravis, spinal muscular atrophy; possible mental retardation; early death reported *AD 125:931–938, 1989*
- EBS Mendes de Coosta variant (dystrophia bullosa, typus maculatus)
- EBS with superficial erosions resembling peeling skin syndrome *AD 125:633–638, 1989*
- Kallin's syndrome – bullae of hands and feet, nail dystrophy, anodontia, alopecia, deafness *Acta DV (Stockh) 65:526–530, 1985*
- Lethal autosomal recessive EBS *BJD 113:135–143, 1985*

Junctional EB *Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:118–134*

- Localized forms
  - JEB inversa (non-lethal inverse junctional EB) – groin, perineum, axillae; heals with atrophic white streaks; late onset *Proc R Soc Med 70:576–577, 1977*
  - Non-lethal localized junctional EB – legs and feet only; hyperkeratosis with erosions of soles *J R Soc Med 78 (Suppl 11); 32–33, 1985*
  - JEB localized, other *Ghatan p.216, 2002, Second Edition*
  - JEB progressiva (neurotrophic) variant – autosomal recessive *Ghatan p.216, 2002, Second Edition*
  - Progressive junctional EB (neurotropic) – partial deafness, bullae of hands and feet, elbows, and knees, atrophy, oral erosions *JAAD 16:195–200, 1987*
  - Cicatricial junctional EB – scarring, alopecia, syndactyly, contractures *JAAD 12:836–844, 1985*
- Generalized forms
  - EB atrophicans generalisata gravis, Herlitz type – extensive blistering and erosions at birth; perioral and nasal exuberant granulation tissue; bulbous finger tips with crusting and erosions *Rook p.1828–1829, 1998, Sixth Edition*
  - Generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; atrophic scarring; alopecia of scalp, eyebrows, eyelashes *Dermatologica 152:72–86, 1976;* nevi or acquired macular pigmented lesions with irregular borders *AD 122:704–710, 1986;* GABEB – giant nevi at sites of blistering *AD 132:145–150, 1996*

JEB cicatricial – autosomal recessive; acral muscle deformities *Ghatan p.216, 2002, Second Edition*
Pyloric atresia and junctional epidermolysis bullosa *JAAD 36:304–310, 1997*

Dystrophic EB *Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:135–151*
Localized
Inversa – waistline bullae *JAAD 33:361–365, 1995*
Acral
Pretibial *AD 122:310–313, 1986*
Centripetal
EB pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994*
Generalized
Dominant dystrophic – albopapuloid (Pasini) Epidermolysis Bullosa: Basic and Clinical Aspects. *New York: Springer, 1992:152–165*
Dominant dystrophic (hyperplastique) (Cockayne-Touraine variant) – nail dystrophy prominent *Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:152–165*
Transient bullous dermolysis of newborn *AD 121:1429–1438, 1985*
Recessive dystrophic EB, gravis (Hallopeau, Siemens variant)
Recessive dystrophic EB, mitis (mild, non-mutilating recessive dystrophic EB)
Recessive inverse dystrophic – groin, axillae, neck, lower back, nail dystrophy, oral erosions (dermolytic dystrophic) *AD 124:544–547, 1988*

Epidermolytic palmoplantar keratoderma, woolly hair, and dilated cardiomyopathy – striated palmoplantar keratoderma, follicular keratosis, clubbing, vesicles and bullae on trunk, psoriasiform keratoses on knees, legs, and feet *JAAD 39:418–421, 1998*

Erythema annulare centrifugum – vesiculation, rarely *Rook p.2088, 1998, Sixth Edition*

Grover's disease (transient acantholytic dermatosis) *AD 112:1440–1441, 1976*

Hailey–Hailey disease – pemphigoid-like Hailey–Hailey disease

Hydroa vacciniforme – typical and atypical associated with latent EBV infection and lymphoma *BJD 140:715–721, 1999*

Ichthyosis bullosa of Siemens – mutation of keratin 2e; superficial blistering of flexures, shins, abdomen with annular peeling; gray rippled hyperkeratosis of extrexities, lower trunk, flexures; hypertrichosis; circumscribed patchy scaling (mauserung); palmoplantar blistering with hyperhidrosis *BJD 140:689–695, 1999; JID 103:277–281, 1994; JAAD 14:1000–1005, 1986*

Keratosis lichenoides chronica – vesicular and papular lesions of palms and soles *BJD 144:422–424, 2001*

Lichen amyloidosis *Ann Acad Med Singapore 29:105–107, 2000*

Lichen nitidus – vesicular linear eruption *JAAD 36:630–631, 1997*

Lichen planus – bullous *Dermatology 190:156–159, 1995;* lichen planus pemphigoides *BJD 142:509–512, 2000; JAAD 22:626–631, 1990*

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition; BJD 93:215–217, 1975*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs, initially with peripheral bullae; associated with hepatitis C infection *JAAD 50:S121–124, 2004; Int J Derm 35:252–256, 1996*

Nummular dermatitis

Pityriasis lichenoides et varioliformis acuta (PLEVA)

Pityriasis rosea – vesicles, papulovesicles *Acta DV 42 (suppl 50):1–68, 1962*

Transient acantholytic dermatosis (Grover's disease) – bullous variant *JAAD 35:653–666, 1996*

Transient bullous dermatosis of the newborn *JAAD 40:471–476, 1999; JAAD 21:708–713, 1989; AD 129:1209–1210, 1993*

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis – tense bulla *BJD 143:229–230, 2000; Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979*

## SYNDROMES

Acro-osteolysis associated with spinal dysraphism – bullae and ulcers of the foot, hyperhidrosis of the affected limb *Ped Derm 18:97–101, 2001*

Alagille syndrome

Amniotic band syndrome

Bart's syndrome *Ped Derm 17:179–182, 2000; AD 131:663–668, 1995*

Behçet's disease – vesicles *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; blisters of nose and cheeks; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; Am J Hum Genet 21:196–227, 1969; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Degos–Touraine syndrome – incontinentia pigmenti with poikiloderma in photodistribution, bullae of face, extremities; chronic erythroderma with subsequent hyperpigmentation *Soc Gr Dermatol Syph 68:6–10, 1961*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28 – palmar bullae with trauma *Rook p.415, 1998, Sixth Edition; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Familial eosinophilic cellulitis, short stature, dysmorphic habitus, and mental retardation – bullae, vesicles, and red plaques *JAAD 38:919–928, 1998*

Familial Mediterranean fever *Cutis 37:290–292, 1986, AD 134:929–931, 1998*

Familial peeling skin syndrome with eosinophilia *Arch Pathol Lab Med 120:662–665, 1996*

Fine scaling, keratosis pilaris, periorificial crusting, palmoplantar hyperkeratosis, blistering *JAAD 34:379–385, 1996*

Glucagonoma syndrome *JAAD 30:324–329, 1994*

Goltz's syndrome

Hereditary acrokeratotic poikiloderma of Weary *Ped Derm 13:427–429, 1996*

Hypereosinophilic syndrome – vesiculobullous lesions *AD 132:535–541, 1996; Sem Derm 14:122–128, 1995; Blood 83:2759–2779, 1994*

Incontinentia pigmenti, including palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998; Curr Prob Derm VII:143–198, 1995*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extrexities, penile rash, alopecia universalis, bullae *AD 140:466–472, 2004*

Job's syndrome – neonatal vesicular rash; vesicles on face and scalp *Ped Derm 5:175–182, 1988*

Kindler's syndrome *AD 140:939–944, 2004; BJD 135:503–504, 1996; Ped Derm 13:397–402, 1996; AD 132:1487–1490, 1996; JAAD 6:263–265, 1982*

Lipoid proteinosis – vesicular lesions early *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998*

Mendes da Costa syndrome (dystrophia bullosa, typus maculatus) – X-linked recessive; tense intraepidermal bullae, alopecia, coarse reticulated hyperpigmentation of face and extremities with atrophy, mental retardation *Acta DV* (*Stockh*) *18:265, 1937;* intraepidermal blisters, microcephaly, mental retardation, atrichia, short conical fingers *JAAD 50:S65–69, 2004*

NOMID syndrome

Pachyonychia congenita – palmar and plantar bullae *JAAD 19:705–711, 1988*

Peeling skin syndrome, fissured cheilitis, blistering of palms and soles, and desmosomal abnormalities *JAAD 34:379–385, 1996*

Proteus syndrome – lymphangioma circumscriptum, port wine stains, subcutaneous hemangiomas and lymphangiomas, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Pediatrics 76:984–989, 1985; Am J Med Genet 27:87–97, 1987; Eur J Pediatr 140:5–12, 1983*

Reed syndrome – bullae of fingers and soles; absence of dermatoglyphics

Relapsing polychondritis – vesicular eruption *Clin Exp Rheumatol 20:89–91, 2002*

Reticulate hyperpigmentation with alopecia, nail changes, and growth retardation with or without blisters *Schweiz Med Wochenschr 100:228–233, 1970; Monatsschr Kinderheilkd 78:773–781, 1939*

Richner–Hanhart syndrome (tyrosinemia type II) – bullae of palms and soles; palmoplantar keratoderma

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; occasional blisters after sun exposure *Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992*

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Shulman's syndrome – eosinophilic fasciitis with superficial blistering *JAAD 1:221–226, 1979; Ann Rheum Dis 36:354–359, 1977*

Sweet's syndrome – plaques with bullae *JAAD 31:535–536, 1994; BJD 76:349–356, 1964;* plaques with bullae with acute hepatitis B infection *BJD 143:914–916, 2000;* classical pseudovesicular border

Wells' syndrome (eosinophilic cellulitis) – vesiculobullous plaques *AD 139:933–938, 2003; BJD 143:425–427, 2000; BJD 140:127–130, 1999; AD 133:1579–1584, 1997; JAAD 33:857–64, 1995; JAAD 18:105–114, 1988; Trans S. Johns Hosp Dermatol Soc 51:46–56, 1971*

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

## TOXINS

Arsenic – acute arsenic intoxication; initially morbilliform eruption with development of vesicles, pustules on red background; followed by generalized desquamation and palmoplantar lamellar desquamation *BJD 141:1106–1109, 1999*

Mercury poisoning – skin-colored to slightly red papules or papulovesicles of palms or soles *JAAD 49:1109–1111, 2003*

Methyl bromide *AD 124:917–921, 1988*

Mustard gas exposure *AD 128:775–780, 1992; JAAD 32:765–766, 1995, JAAD 39:187–190, 1998*

Self-defense sprays (orthochlorobenzylidene malononitrile) *AD 129:913, 1993*

## TRAUMA

Amputation stump friction blisters *Rook p.905, 1998, Sixth Edition*

Burns – thermal, chemical (hydrofluoric acid) *Cutis 59:306–308, 1997*), ultraviolet, infrared; chemical burn – bullous pemphigoid induced by chemical burn *JAAD 38:337–340, 1998*

Chilblains – vesicles, bullae, ischemic necrosis; calcification *Rook p.3021, 1998, Sixth Edition*

Child abuse – bullae from burns *JAAD 5:203–212, 1981*

Cold weather immersion foot – acral bullae *Derm Clinics 17:1–17, 1999*

Coma bullae – facial bullae, linear bullae *Cutis 69:265–268, 2002; Am J Dermatopathol 15:208–216, 1993; Cutis 45:423–426, 1990*

Cryotherapy

Electron beam therapy

Erythema ab igne *Rook p.937, 1998, Sixth Edition*

Fracture blisters *JAAD 30:1033–1034, 1994*

Friction blisters *Rook p.893–894, 1998, Sixth Edition*

Frostbite *Cutis 63:21–23, 1999; Rook p.958–959, 1998, Sixth Edition*

Neonatal sucking blister – fingers, lips, forearms *Pediatrics 32:1099–2001, 1963*

Nerve injury, traumatic – surgical injury to lateral femoral cutaneous nerve with bulla and subsequent ulceration of lateral lower leg *Dermatol Wochenschri 136:971–973, 1957*

Pressure bullae

Pressure urticaria – bullous delayed pressure urticaria *BJD 153:435–439, 2005*

Pulling boat hands *JAAD 12:649–655, 1985*

Radiation dermatitis, acute *Acta DV 49:64–71, 1969;* lymphangiomatous papules following radiation therapy *Histopathology 35:319–327, 1999;* bulla of the legs with pruritic eruption with eosinophilia *AD 137:821–822, 2001;* eosinophilic polymorphic and pruritic eruption associated with radiotherapy (EPPER) – bullae, red papules, pruritic *AD 137:821–822, 2001*

Subcutaneous emphysema of eyelids – bullae over medial canthi *Rook p.2988, 1998, Sixth Edition*

Superficial mucocoele – oral bulla *Rook p.3085, 1998, Sixth Edition*

Tape stripping bullae

### VASCULAR

Chylous reflux *BJD 120:695–700, 1989*

Churg–Strauss disease – vesicles and bullae *JAAD 47:209–216, 2002; Medicine 78:26–37, 1999*

Edema – acute edema bullae of legs *BJD 144:580–582, 2001*

Erythema elevatum diutinum – PCT-like bullae *BJD 124:89–91, 1991;* perilesional vesicles and bullae *Ann DV 104:75–76, 1977; BJD 80:178–183, 1968*

Erythromelalgia – edema and bullae of legs *BJD 151:708–710, 2004*

Henoch–Schönlein purpura *Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995*

Lymphangioma circumscriptum *BJD 83:519–527, 1970*

Lymphangioma, diffuse – may or may not have widely distributed vesicles *Rook p.2283, 1998, Sixth Edition; BJD 134:1135–1137, 1996; AD 129:194–197, 1993*

Lymphangiosarcoma (Stewart–Treves tumor) – bullae and nodules in lymphedematous extremity *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphedema, including congenital lymphedema (Milroy's disease); engorged dermal lymphatics mimicking appearance of vesicles *Rook p.2285, 1998, Sixth Edition*

Polyarteritis nodosa – in children; fever, peripheral gangrene, black necrosis, livedo reticularis, ulcers, nodules, vesiculobullous lesions, arthralgia, nodules of face and extremities, conjunctivitis *JAAD 53:724–728, 2005; Ann Rheum Dis 54:134–136, 1995*

Reactive angioendotheliomatosis – red purple-purpuric patches and plaques; includes acroangiomatosis, diffuse dermal angiomatosis, intravascular hitiocytosis, glomeruloid angioendotheliomatosis, angiopericomatosis (angiomatosis with cryoproteins); associated with subacute bacterial endocarditis, hepatitis, cholesterol emboli, arteriovenous shunt, anti-phospholipid antibody syndrome, chronic lymphocytic leukemia, monoclonal gammopathy, chronic renal failure, rheumatoid arthritis *JAAD 49:887–896, 2003*

Stasis bullae

Temporal arteritis – bullae of scalp *BJD 76:299–308, 1964*

Urticarial vasculitis, including urticarial vasculitis associated with mixed cryoglobulins, hepatitis B or C infection, IgA multiple myeloma, infectious mononucleosis, monoclonal IgM gammopathy (Schnitzler's syndrome), fluoxetine ingestion, metastatic testicular teratoma, serum sickness, Sjögren's syndrome, systemic lupus erythematous *JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992*

Vasculitis – idiopathic, drug-induced *Cutis 67:303–307, 2001;* acantholytic vesicular dermatitis with leukocytoclastic vasculitis *JAAD 15:1083–1089, 1986*

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wegener's granulomatosis *JAAD 31:605–612, 1994*

### PAPULOVESICULAR DERMATITIS IN INFANTS

Absent dermatoglyphics and transient facial milia (vesicles) *JAAD 32:315–318, 1995*

Behcet's disease, neonatal

Congenital candidiasis

Congenital self-healing Langerhans cell histiocytosis *JAAD 31:910–6, 1994*

Eosinophilic pustular folliculitis

Erythema toxicum neonatorum

Herpes simplex infection

Infantile acropustulosis

Incontinentia pigmenti

Listeria monocytogenes infection, perinatal

Miliaria

Transient neonatal pustular melanosis

## BULLAE, HEMORRHAGIC

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis to poison ivy

Bullous pemphigoid *Clin Exp Dermatol 13:242–243, 1988*

Cicatricial pemphigoid – including hemorrhagic bullae of buccal mucosae; adult or childhood form of cicatricial pemphigoid

Dermatitis herpetiformis *JAAD 16:1274–1276, 1987*

Epidermolysis bullosa acquisita, including buccal mucosa *JAAD 11:820–832, 1984*

Graft vs. host disease

Linear IgA disease (chronic bullous disease of childhood) – perioral, eyelids, ears, scalp, perineum, vulva; annular polycyclic bullae; hemorrhagic bullae *Ped Derm 15:108–111, 1998;* neonatal linear IgA disease *Ped Derm 10:171–176, 1993*

Lupus erythematosus – systemic lupus – bullous sunburn reaction *Rook p.2472–2473, 1998, Sixth Edition; BJD 82:125–128, 1970; AD 83:910–914, 1961*

Mixed connective tissue disease – with vasculitis

Morphea *Cutis 44:118–119, 1989*

Pemphigus vulgaris

Rheumatoid vasculitis *JAAD 53:191–209, 2005; BJD 147:905–913, 2002; AD 125:1101–1104, 1989*

### CONGENITAL LESIONS

Aplasia cutis congenital *Ped Derm 21:150–153, 2004*

### DRUG-INDUCED

Bullous pemphigoid – penicillin, sulfasalazine, topical 5-fluorouracil, PUVA, electron beam radiotherapy *Clinics in Derm 11:515–520, 1993*

Chemotherapy extravasation

Coumarin necrosis – associated with protein C deficiency (autosomal dominant); begins 3–5 days after commencing coumarin therapy

Fixed drug reaction

Gemcytabine extravasation

Heparin necrosis

Iododerma *Australas J Dermatol 28:119–122, 1987*

Linear IgA disease – somatostatin, vancomycin, captopril, phenytoin, lithium, diclofenac, cefamandole, amiodarone, furosemide *JAAD 41:103–105, 1999; Clinics in Derm 11:529–533, 1993*

Penicillamine – hemorrhagic bullae of dorsum of feet *AD 95:196–198, 1967*

PPD reaction – bullous

Vasculitis, leukocytoclastic – drug-induced

## INFECTIONS AND/OR INFESTATIONS

*Aeromonas sobria Pathol Int 49:541–546, 1999*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Aspergillosis – primary cutaneous *JAAD 38:797–798, 1998;* primary cutaneous aspergillosis in premature infants *Ped Derm 19:439–444, 2002; AD 136:1165–1170, 2000; JAAD 12:313–318, 1985;* sepsis in leukemic patients *AD 141:633–638, 2005*

Brucellosis

*Capnocytophagia canimorsus*

Caterpillar dermatitis – puss caterpillar (larval stage of flannel moth, *Megalopyge opercularis*) – hemorrhagic papulovesicles or bullae *Cutis 71:445–448, 2003*

*Clostridium perfringens/septicum Ann Emerg Med 10:312–314, 1981*

Cowpox – papule progresses to vesicle to hemorrhagic vesicle to umbilicated pustule, then eschar with ulcer *JAAD 44:1–14, 2001; BJD 1331:598–607, 1994*

Ecthyma gangrenosum
- *Pseudomonas*
- Enteric rods
- *Aeromonas hydrophila*
- *Xanthomonas maltophila*
- *Aspergillus* species
- *Candida albicans*
- *Capnocytophaga canimorsus*

*Enterobacter cloacae JAAD 27:637–638, 1992; Rev Infect Dis 44:13–28, 1982*

Erysipelas, bullous

*Flavobacterium odoratum* – necrotizing fasciitis *J Clin Inf Dis 21:1337–1338, 1995*

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985; NEJM 282:793–794, 1970*

Herpes simplex

Herpes zoster *Tyring p.133, 2002*

Impetigo

Insect bite reaction *Rook p.1425–1426, 1998, Sixth Edition;* mosquitoes *The Clinical Management of Itching; Parthenon; p.64, 2000*

*Klebsiella* sepsis

Leprosy – erythema nodosum leprosum *AD 132:1432–1434, 1996;* nerve involvement – plantar hemorrhagic bulla *Rook p.1228, 1998, Sixth Edition*

Lyme disease *NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

Meningococcemia – acute or chronic (petechial); acute; initially ecchymoses, purpuric papules and plaques with surrounding erythema, vesicles, bullae, hemorrhagic necrosis, purpura fulminans *Textbook of Neonatal Dermatology, p.195, 2001*

*Morganella morganii JAAD 12:575–576, 1985*

Mosquito bite hypersensitivity syndrome in Epstein–Barr virus-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Necrotizing fasciitis *AD 138:893–898, 2002*

*Nocardia asteroides AD 121:898, 1985*

Orf *AD 126:356–358, 1990; Isr J Med Sci 24:54–56, 1988*

Papular purpuric gloves and socks syndrome *J Dermatol 29:371–375, 2002*

Pneumococcal cellulitis *AD 132:81–86, 1996*

Portuguese man of war

*Proteus mirabilis*

*Pseudomonas* sepsis

Purpura fulminans – variety of bacterial, fungal, and viral organisms

*Salmonella NY State J Med 81:1639–1641, 1981*

Sea anemone sting

Smallpox

Snake bite

Spider bites – brown recluse spider bite *Clin Inf Dis 32:595,636–637, 2001*

Staphylococcal sepsis

Subacute bacterial endocarditis

Tropical ulcer (phagedenic ulcer) – mixed infection with *Fusobacterium ulcerans* and other organisms; papule or bulla (hemorrhagic) which breaks down to form ulcer with undermined border *Int J Dermatol 27:49–53, 1988*

Typhoid fever

Varicella

*Vibrio cholerae* non-01 *Clin Inf Dis 21:1330–1333, 1995*

*Vibrio vulnificus Clin Inf Dis 40:718,754–755, 2005; AD 122:818–820, 1986*

## INFILTRATIVE DISORDERS

Amyloidosis – the separation of epidermis and dermis occurs within the dermal deposits of amyloid; protein AL consists of a polypeptide of light chain immunoglobulin composed of fragments of the variable (amino-terminal) region; clinical lesions include petechiae, purpura, ecchymoses, plaques, tumefactive lesions, pigmentary changes, scleroderma-like infiltration, bullae, alopecia, cord-like blood vessel thickening, nail dystrophy, and cutis laxa *Eur J Dermatol 10:139–142, 2000; Medicine 24:124–128, 1994; Cutis 43:346–352, 1989; AD 124:1683–1686, 1988; BJD 113:85–95, 1985; AD 117:782–784, 1981;* oral hemorrhagic bullae *Rook p.3056, 1998, Sixth Edition*

Langerhans cell histiocytosis – purpuric vesicles *JAAD 37:314–317, 1997; JAAD 13:481–496, 1985*

Mastocytosis – bullous mastocytosis presents before age of 9 months; occurs in absence of pigmentary changes and without lesions of urticaria pigmentosa; if present in infancy, extracutaneous involvement is common *Ped Derm 19:375–381, 2002; AD 127:1049–1054, 1991; AD 101:547–562, 1970*

## INFLAMMATORY DISORDERS

Erythema multiforme with epidermal necrosis

Pyoderma gangrenosum, bullous *BJD 102:235–237, 1980; Trans St John's Hosp Dermatol Soc 60:142–151, 1974;* association with polycythemia vera *Clin Exp Dermatol 12:375–377, 1987;* leukemia *JAAD 9:751–758, 1983;* CML *Proc R Soc Med 67:1239–1240, 1974;* hairy cell leukemia *JAAD 11:300–302, 1985*

## METABOLIC

Acrodermatitis enteropathica

Cryoglobulinemia – mixed cryoglobulinemia secondary to hepatitis C infection *Cutis 72:290,295, 2003*

Diabetic bulla – intraepidermal or subepidermal separation without acantholysis *JAAD 7:427–455, 1982*

Disseminated intravascular coagulation – obstetric complications, extensive tissue damage, gram-negative septicemias, immune reactions, malignancy, snake bites, angiomas, protein S or protein C deficiency *Br Med J 312:683–687, 1996; BJD 88:221–229, 1973*

Hyperhomocysteinemia and antiphospholipid antibodies *JAAD 49:S161–163, 2003*

Neonatal purpura fulminans – ecchymoses of limbs at sites of pressure in first day of life; enlarge rapidly, hemorrhagic bullae with central necrosis; homozygous protein C or protein S deficiency *Semin Thromb Hemost 16:299–309, 1990*

Paroxysmal nocturnal hemoglobinuria – petechiae, ecchymoses, red plaques which become hemorrhagic bullae with necrosis; lesions occur on legs, abdomen, chest, nose, and ears; deficiency of enzymes – decay-accelerating factor (DAF) and membrane inhibitor of reactive lysis (MIRL); acquired intravascular hemolytic anemia; due to a drop in pH of serum during sleep; Ham test (acid hemolysis); sucrose lysis test, low leukocyte alkaline phosphatase; anemia, hemoglobinuria (dark urine), increased serum hemoglobin, hemosiderinuria; abdominal pain, recurrent infections, headache, venous thrombosis, progressive bone marrow failure, and ultimately lymphoreticular malignancy (especially, leukemia) *AD 138:831–836, 2002; AD 122:1325–1330, 1986; AD 114:560–563, 1978*

Pellagra *Cutis 69:96–98, 2002; Semin Dermatol 10:282,1991*

Porphyria cutanea tarda (PCT)

Pseudo-PCT

Renal failure with or without furosemide

Scurvy *JAAD 41:895–906, 1999*

Wilson's disease *JAAD 21:1030, 1989*

## NEOPLASTIC DISEASES

Congenital self-healing reticulohistiocytosis *JAAD 48:S75–77, 2003*

Lymphoma – cutaneous T-cell lymphoma *Bull Soc Fr Derm Syph 73:373–376, 1966*

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus *BJD 144:1255–1261, 2001*

## PHOTOSENSITIVITY DISORDERS

Hydroa vacciniforme – red macules progress to tender papules, hemorrhagic vesicles or bullae, umbilication and crusting; pock-like scars *Ped Derm 18:71–73, 2001; JAAD 42:208–213, 2000; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; JAAD 25:401–403, 1991; BJD 118:101–108, 1988; AD 118:588–591, 1982;* familial *BJD 140:124–126, 1999; AD 114:1193–1196, 1978; AD 103:223–224, 1971;* late onset *BJD 144:874–877, 2001*

Polymorphic light eruption

Sunbed use *BMJ 296:1708, 1988*

## PRIMARY CUTANEOUS DISEASE

Angina bullosa hemorrhagica *AD 135:593–598, 1999*

Balanitis xerotica obliterans *JAAD 37:1–24, 1997*

Benign hemorrhagic bullous stomatitis *Ann DV 126:525–526, 1999*

Darier's disease of the hands and feet *AD 89:523–527, 1964*

Epidermolysis bullosa, many types; EBS herpetiformis – Dowling–Meara – begins in infancy with hemorrhagic blisters of fingers and toes *JAAD 28:859–861, 1993;* EBS, Ogna variant – autosomal dominant; plectin abnormality; seasonal blistering of hands and feet, bruising, hemorrhagic bullae, onychogryphotic first toenails *Hum Hered 23:189–196, 1973;* epidermolysis simplex with mottled pigmentation – acral blistering, hemorrhagic bullae, focal punctate keratoderma, dystrophic thick nails *BJD 144:40–45, 2001*

Epidermolysis bullosa atrophicans generalisata mitis *JAAD 12:836–844, 1985*

Erythema elevatum diutinum *AD 132:1360–1364, 1996*

Lichen nitidus *AD 105:430–431, 1972*

Lichen planus, bullous

Lichen sclerosus et atrophicus, bullous *JAAD 39:500–501, 1998; JAAD 10:346–350, 1984*

Toxic erythema of the newborn

Transient acantholytic dermatosis (Grover's disease)

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis

## SYNDROMES

Antiphospholipid antibody syndrome

Behçet's disease *JAAD 36:689–696, 1997*

Ichthyosiform dermatosis with superficial blister formation and peeling *JAAD 34:379–385, 1996*

Kindler's syndrome

Reflex sympathetic dystrophy (bullae on dorsal foot) *JAAD 28:29–32,1993*

Sweet's syndrome – predominance of women; upper extremities, neck and upper trunk; arthralgias, conjunctivitis, episcleritis, aphthosis, proteinuria, and high ESR; 10–15% associated with malignancy, most commonly acute myelogenous leukemia. In malignancy-associated Sweet's, male to female ratio is 1:1 and patients more likely to have bullous or ulcerative lesions *AD 126:527–532, 1990*

Wells' syndrome

## TRAUMATIC

Altitude injury – petechiae and hemorrhagic bullae of external auditory canal in pilots descending from high altitudes *Laryngoscope 56:225–236, 1946*

Burns, electrical, thermal, ultraviolet

Coma bullae – sweat gland necrosis *Cutis 45:423, 1990*

Cryotherapy

Erythema ab igne

Frostbite

Pressure bullae

Sunburn

### VASCULAR

Acquired digital arteriovenous malformation *BJD 142:362–365, 2000*

Churg–Strauss disease *BJD 150:598–600, 2004; JAAD 47:209–216, 2002; J Dermatol 22:46–51, 1995*

Disseminated intravascular coagulation (DIC)

Henoch–Schönlein purpura *AD 139:215–220, 2003; Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995*

Ischemic gangrene

Polyarteritis nodosa, systemic – cutaneous infarcts presenting as purpuric plaques *Rook p.2212, 1998*

Purpura fulminans

Pustular vasculitis of hands *JAAD 32:192–198, 1995*

Vasculitis – large and/or small vessel – leukocytoclastic vasculitis *Rook p.2178, 1998, Sixth Edition;* urticarial vasculitis *AD 134:231–236, 1998*

Venous gangrene (acral) – combination of severe pain, extensive edema, and cyanosis of the limb; in arterial gangrene edema is absent or minimal, cutaneous hemorrhage does not occur, skin is pale, subcutaneous veins are poorly filled and empty with leg elevation *AD 123:933–936, 1987*

Wegener's granulomatosis *BJD 143:207–209, 2000; AD 113:175–182, 1977*

## BULLAE, HEMORRHAGIC, SEPTIC

*Aeromonas hydrophilia NY State J Med 82:1461–1464, 1982*

*Aeromonas sobria Pathol Int 49:541–546, 1999*

Anthrax – *Bacillus anthracis;* malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Aspergillosis *AD 141:633–638, 2005; AD 136:1165–1170, 2000; JAAD 12:313–318, 1985;* primary cutaneous aspergillosis in premature infants *Ped Derm 19:439–444, 2002;* primary cutaneous *JAAD 38:797–798, 1998*

*Bacillus cereus AD 127:543, 1991*

Brucellosis

*Capnocytophagia canimorsus*

Cellulitis of the extensor compartment

Chagas' disease

*Citrobacter JAAD 5:613, 1981*

*Clostridium perfringens/septicum NEJM 323:1406, 1990; Ann Emerg Med 10:312–314, 1981*

Cowpox – papule progresses to vesicle to hemorrhagic vesicle to umbilicated pustule, then eschar with ulcer *JAAD 44:1–14, 2001; BJD 1331:598–607, 1994*

Cytomegalovirus *JAAD 11:743–747, 1984*

Dermatophyte infection

Disseminated intravascular coagulation (DIC) – gram-negative septicemias *Br Med J 312:683–687, 1996; BJD 88:221–229, 1973*; variety of infections

Ecthyma gangrenosum
- *Pseudomonas*
- Enteric rods
- *Aeromonas hydrophila*
- *Xanthomonas maltophila*
- *Aspergillus* species
- *Candida albicans*
- *Capnocytophaga canimorsus*

*Enterobacter cloacae JAAD 27:637–638, 1992; Rev Infect Dis 44:13–28, 1982*

Erysipelas

*Escherichia coli AD 110:105–106, 1974*

*Flavobacterium odoratum* – necrotizing fasciitis *J Clin Inf Dis 21:1337–1338, 1995*

*Fusarium*, localized – plantar hemorrhagic bulla *JAAD 47:659–666, 2002*

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985; NEJM 282:793–794, 1976*

Herpes simplex infection

Herpes zoster

*Klebsiella*

Lyme disease

Meningococcemia *JAMA 134:513–518, 1947*

*Morganelli morganii JAAD 12:575–576, 1985*

Mucormycosis – *Rhizopus oryzi*

Necrotizing fasciitis *AD 138:893–898, 2002*

*Nocardia asteroides AD 121;898, 1985*

Orf *AD 126:356, 1990*

*Proteus mirabilis*

*Pseudomonas* – ecthyma gangrenosum *JAAD 11:781–787, 1984; Arch Int Med 128:591–595, 1971; Am J Med 25:877–889, 1958;* neonatal infection *Textbook of Neonatal Dermatology, p.139,147, 2001*

Rhizopus azygosporus *BJD 153:428–430, 2005*

Rocky Mountain spotted fever

*Salmonella enteritidis NYS Jnl Med 81:1639–1641, 1981*

*Scedosporium* – bullous necrotic purpura *Ann DV 125:711–714, 1998*

*Staphylococcus aureus* sepsis

*Streptococcus pneumoniae* sepsis *AD 132:81–86, 1996*

*Streptococcus pyogenes*, group A

Toxic shock syndrome *JAAD 10:267–272, 1984*

*Trichosporon beigelli Mayo Clin Prog 58:684, 1983*

Tropical ulcer (phagedenic ulcer) – mixed infection with *Fusobacterium ulcerans* and other organisms; papule or bulla (hemorrhagic) which breaks down to form ulcer with undermined border *Int J Dermatol 27:49–53, 1988*

Typhoid fever

Varicella

Non-01 *Vibrio cholerae JAAD 29:909–912, 1993*

*Vibrio vulnificus Clin Inf Dis 40:718,754–755, 2005; BJD 142:386–387, 2000; Int J Dermatol 28:313–316, 1989; AD 122:818–820, 1986; JAAD 12:575–576, 1983*

*Yersinia enterocolitica Am J Med Sci 287:38, 1984*

# BULLAE IN NEWBORN

***Textbook of Neonatal Dermatology, p.138, 2001; Rook p.489, 1998, Sixth Edition***

Absent dermal ridges and congenital milia syndrome – multiple bullae of fingertips and soles *Textbook of Neonatal Dermatology, p.138,151, 2001*

Acrodermatitis enteropathica *Textbook of Neonatal Dermatology, p.138,150, 2001*

AEC syndrome

Aplasia cutis congenita, membranous *Textbook of Neonatal Dermatology, p.138,150, 2001;* bulla of scalp *AD 137:45–50, 2001*

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) *Rook p.1505–1507, 1998, Sixth Edition*

Bullous impetigo

Bullous pemphigoid *Clin Exp Dermatol 8:329–332, 1983*

Burns, thermal or chemical

*Candida* – congenital cutaneous candidiasis – bullae, maculovesicular eruption *JAAD 37:817–823, 1997; AJDC 135:273–275, 1981*

Combined immunodeficiency – desquamative erythematous, morbilliform or vesiculopapular eruption of newborn (3 weeks) *Rook p.498–499, 1998, Sixth Edition*

Congenital absence of skin

Congenital erosive dermatosis with reticulated supple scarring – most infants premature; extensive symmetrical erosions with scattered vesicles; scarring with hypohidrosis, patchy alopecia, hypoplastic nails *JAAD 32:873–87, 1995; AD 126:544–546, 1990; JAAD 17:369–376, 1987; AD 121:361–367, 1985*

Congenital cytomegalovirus infection

Congenital bullous ichthyosiform erythroderma

Down's syndrome – with transient myeloproliferative disorder (leukemoid reactions) – neonatal pustules, vesicles, papulovesicles *Ped Derm 20:232–237, 2003*

Epidermolysis bullosa

Focal dermal hypoplasia (Goltz's syndrome) *Textbook of Neonatal Dermatology, p.150, 2001*

Generalized mottled pigmentation with postnatal blistering *JAAD 50:S65–69, 2004; Arch fur Dermatolgie und Syphilis 139:80–112, 1922*

Group B streptococcal infections *Textbook of Neonatal Dermatology, p.139,147, 2001*

Herpes gestationes, passively transferred

Herpes simplex, intrauterine

Herpes zoster

Ichthyosis bullosa of Siemens, bullous *Bolognia p.499, 2004*

Impetigo

Incontinentia pigmenti *AD 139:1163–1170, 2003*

Kindler's syndrome – acral blistering on dorsal aspects of hands and feet at birth; progressive poikiloderma; atrophy of hands and feet, photosensitivity *AD 140:939–944, 2004; AD 132:1487–1490, 1996; AD 133:1111–1117, 1997; Ped Derm 6:82–90, 1989*

Linear IgA disease *Textbook of Neonatal Dermatology, p.138,149, 2001*

Lipoid proteinosis *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Lymphangioma *Ghatan p.106, 2002, Second Edition*

Mastocytosis *Textbook of Neonatal Dermatology, p.148, 2001*

Maternal bullous disease – pemphigus vulgaris, herpes gestationes, pemphigus foliaceus *Textbook of Neonatal Dermatology, p.138,148, 2001*

Miliaria crystallina *JAAD 47:S270–272, 2002*

Pemphigus vulgaris, passively transferred

Porphyrias – erythropoietic protoporphyria, hepatoerythropoietic porphyria, congenital erythropoietic porphyria, harderoporphyria; erythropoietic porphyria, congenital *Bolognia p.499, 2004*

*Pseudomonas* infections – hemorrhagic bullae *Textbook of Neonatal Dermatology, p.139,147, 2001*

Rudimentary meningocoele – bulla of scalp *AD 137:45–50, 2001*

Staphylococcal scalded skin syndrome *Zentralseit Kinderheilkd 2:3–23, 1878*

Sucking blisters – on radial or ulnar side of wrist

Syphilis, congenital *Textbook of Neonatal Dermatology, p.139,147, 2001*

Toxic epidermal necrolysis *Textbook of Neonatal Dermatology, p.138,149, 2001*

Transient bullous dermatosis of the newborn *J Cut Pathol 18:328–332, 1991*

Varicella – fetal varicella syndrome

# BULLAE OF INFANTS AND CHILDREN

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous pemphigoid *Ped Derm 21:160–163, 2004; Ped Derm 19:119–121, 2002; AD 136:527–532, 2000*

Chronic bullous disease of childhood *Bolognia p.512, 2004*

Cicatricial pemphigoid

Combined immunodeficiency – desquamative erythematous, morbilliform or vesiculopapular eruption of newborn (3 weeks) *Rook p.498–499, 1998, Sixth Edition*

Dermatitis herpetiformis

Epidermolysis bullosa acquisita *JAAD 47:169–187, 2002*

Fogo selvagem (endemic pemphigus) *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Herpes gestationis – due to transplacental transmission of antibodies *AD 112:1129–1131, 1976*

IgA pemphigus – neonatal vesicopustules in a one-month old *JAAD 48:S22–24, 2003*

Linear IgA disease *JAAD 47:169–187, 2002*

Lupus erythematosus, bullous *JAAD 47:169–187, 2002*

Pemphigus foliaceus *AD 131:1308–1311, 1995;* neonatal *JAAD 49:S187–189, 2003; JAAD 43:1130–1134, 2000*

Pemphigus vulgaris, neonatal – due to transplacental transmission of antibodies *JAAD 48:623–625, 2003; BJD 147:801–805, 2002; Ped Derm 3:468–472, 1986*

## CONGENITAL LESIONS

Aplasia cutis congenita – bulla of scalp *JAAD 48:S95–98, 2003; AD 137:45–50, 2001; Textbook of Neonatal Dermatology, p.129, 2001*

Congenital absence of skin

Congenital erosive dermatosis with reticulated supple scarring – most infants premature; extensive symmetrical erosions with scattered vesicles; scarring with hypohidrosis, patchy alopecia, hypoplastic nails *AD 126:544–546, 1990; JAAD 17:369–376, 1987; AD 121:361–367, 1985*

Rudimentary meningocoele – bulla of scalp *AD 137:45–50, 2001*

Transillumination unit – thermal burn *Textbook of Neonatal Dermatology, p.114, 2001*

## DRUGS

Fixed drug eruptions

Methotrexate – bullous acral erythema *JAAD 52:S93–95, 2005*

## EXOGENOUS AGENTS

Alcohol burn of premature infant *Eichenfeld, 2001, p.108*

Phototherapy of neonatal jaundice after injection of methylene blue in amniotic cavity – erythema and blistering *JAMA 208:1703, 1969*

## INFECTIONS

*Aspergillus Bolognia p.511, 2004*

Blistering distal dactylitis – *Staphylococcus aureus*, *Streptococcus pyogenes*

*Candida* – congenital cutaneous candidiasis – bullae, maculovesicular eruption *JAAD 37:817–823, 1997; AJDC 135:273–275, 1981*

Congenital cytomegalovirus infection

Coxsackie A (5,9,10,16) – maculopapular–vesicular *Tyring p.3,463, 2002; Rook p.998, 1998, Sixth Edition;* Coxsackie A4 – widespread vesicular eruption *Pediatrics 41:873–882, 1968*

Dermatophytosis

Group B streptococcal infection *Textbook of Neonatal Dermatology, p.147, 2001*

Hand, foot and mouth disease (Coxsackie A5,10,16) – vesicular *Caputo p.157–158, 2000; Rook p.998,1086, 1998, Sixth Edition; BJD 79:309–317, 1967;* Enterovirus 71 *Clin Inf Dis 32:236–242, 2001*

Hepatitis B virus vaccine – Arthus reaction – vesicles *Clin Inf Dis 33:906–908, 2001*

Herpes simplex virus *Tyring p.81,89–90, 2002;* intrauterine infection; neonatal – face and scalp *Textbook of Neonatal Dermatology, p.202, 2001;* eczema herpeticum *J Infect Dis 158:109–116, 1988; Pediatrics 66:489–494, 1980*

Herpes zoster

Impetigo, bullous *JAAD 47:169–187, 2002*

Insect bites *The Clinical Management of Itching; Parthenon Publishing, 2000; p.xiii*

Meningococcemia

Necrotizing fasciitis – bullae, purpura, lakes of pus, necrosis *Ann Surg 199:101–103, 1984*

*Pseudomonas aeruginosa* infection *Textbook of Neonatal Dermatology, p.147, 2001*

Rat bite fever

Scabies *Caputo p.166, 2000; Rook p.1460, 1998, Sixth Edition*

Staphylococcal scalded skin syndrome *Textbook of Neonatal Dermatology, p.147, 2001; Caputo p.137, 2000*; *Zentralseit Kinderheilkd 2:3–23, 1878*

Syphilis, congenital – pemphigus syphiliticus *Rook p.1254, 1998, Sixth Edition*

Tinea pedis

Varicella *JAAD 47:169–187, 2002; Textbook of Neonatal Dermatology, p.147, 2001*

## INFILTRATIVE LESIONS

Langerhans cell histiocytosis – varicella-like *JAAD 47:169–187, 2002; J Dermatol 21:197–204, 1994*

Mastocytosis, including xanthelasmoidea – generalized cutaneous mastocytosis *Ped Derm 19:220–223, 2002; AD 138:831–836, 2002; BJD 144:355–358, 2001;* urticaria pigmentosa; *Rook p.2341–2344, 1998, Sixth Edition; Acta DV (Stockh) 42:433–439, 1962*

## INFLAMMATORY DISEASES

Edematous scarring vasculitic panniculitis – hydroa vacciniforme-like lesions with vesicles, deep ulcers, varicelliform scars *JAAD 32:37–44, 1995*

Erythema multiforme

Toxic epidermal necrolysis *Textbook of Neonatal Dermatology, p.149, 2001*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Ped Derm 19:426–431, 2002; Textbook of Neonatal Dermatology, p.150, 2001*

Diabetic bullae *Ghatan p.112, 2002, Second Edition*

Miliaria crystallina, congenital – generalized vesicular eruption *Ped Derm 21:171–173, 2004; JAAD 47:S270–272, 2002*

Porphyria, congenital; erythropoietic protoporphyria – vesicles *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Protein C deficiency

Pseudo-porphyria cutanea tarda

## NEOPLASTIC

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003*

## PHOTODERMATITIS

Photosensitive eruption – transient porphyrinemia in infant with hemolytic disease of newborn *Textbook of Neonatal Dermatology, p.110, 2001*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acropustulosis of infancy

Acute parapsoriasis mimicking varicella

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) *Rook p.1505–1507, 1998, Sixth Edition*

Ectodermal dysplasia – AEC (Hay–Wells) syndrome

Ectodermal dysplasia with plakophilin 1 deficiency

Epidermolysis bullosa, multiple variants; EBS of hands and feet – Weber Cockayne; EBS, generalized – Koebner variant – bullae of occiput, back, legs in infants; hands and feet in children; EBS herpetiformis – Dowling–Meara *JAAD 28:859–861, 1993;* EBS

with or without neuromuscular diseases – autosomal recessive; muscular dystrophy, myasthenia gravis, spinal muscular atrophy; possible mental retardation; early death reported *AD 125:931–938, 1989;* lethal autosomal recessive EBS *BJD 113:135–143, 1985; Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer, 1992:89–117;* EB atrophicans generalisata gravis, Herlitz type – extensive blistering and erosions at birth; perioral and nasal exuberant granulation tissue; bulbous finger tips with crusting and erosions *Rook p.1828–1829, 1998, Sixth Edition; Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer, 1992:118–134;* generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; atrophic scarring; alopecia of scalp, eyebrows, eyelashes *Dermatologica 152:72–86, 1976;* pyloric atresia and junctional epidermolysis bullosa *JAAD 36:304–310, 1997;* EB pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994;* transient bullous dermolysis of newborn *AD 121:1429–1438, 1985;* epidermolysis bullosa simplex with mutation of collagen 17A1 gene; ITGB4 coding for integrin $\beta_4$ *BJD 151:669–674, 2004; JID 118:185–192, 2002*

Erythema toxicum neonatorum *JAAD 47:169–187, 2002*

Ichthyosis bullosa of Siemens

Miliaria crystallina *JAAD 47:S270–272, 2002; Rook p.455, 1998, Sixth Edition*

Pityriasis rosea – cutaneous and intraoral blisters

Transient bullous dermolysis of the newborn – oral bullae, bullae of newborn *Ped Derm 20:535–537, 2003; J Cutan Pathol 18:328–332, 1991; JAAD 21:708–713, 1989; AD 121:1429–1438, 1985*

## SYNDROMES

Absent dermal ridges and congenital milia syndrome – multiple bullae of fingertips and soles in neonate *Textbook of Neonatal Dermatology, p.138,151, 2001*

Alagille syndrome – with porphyria cutanea tarda due to retained porphyrins

Amniotic band syndrome

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; blisters of nose and cheeks; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Curr Prob Derm 14:41–70, 2002; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; AD 114:755–760, 1978; Clin Genet 12:85–96, 1977; Am J Hum Genet 21:196–227, 1969; Am J Dis Child 116:409–413, 1968; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Ehlers–Danlos syndrome *Ghatan p.112, 2002, Second Edition*

Generalized mottled pigmentation with postnatal blistering *JAAD 50:S65–69, 2004; Arch fur Dermatolgie und Syphilis 139:80–112, 1922*

Goltz's syndrome – neonatal bullae *Textbook of Neonatal Dermatology, p.150, 2001*

Incontinentia pigmenti *AD 139:1163–1170, 2003; JAAD 47:169–187, 2002;* palmar and plantar bullae in infancy *Ped Derm 15:108–111, 1998; Curr Prob Derm VII:143–198, 1995*

Kindler's syndrome *Bolognia p.512, 2004*

Lipoid proteinosis – vesicles early *BJD 148:180–182, 2003*

Mendes da Costa syndrome (dystrophia bullosa, typus maculatus) – X-linked recessive; tense bullae, alopecia, coarse reticulated hyperpigmentation of face and extremities with atrophy, mental retardation *Acta DV* (*Stockh*) *18:265, 1937*

NOMID syndrome

Pachyonychia congenita

Peeling skin syndrome

Reticulate hyperpigmentation with alopecia, nail changes, and growth retardation with or without blisters *Schweiz Med Wochenschr 100:228–233, 1970; Monatsschr Kinderheilkd 78:773–781, 1939*

Shabbir's syndrome (laryngo-onychocutaneous syndrome)

## TRAUMA

Burn, thermal – due to transcutaneous oxygen monitoring *Paediatrician 5:335–369, 1976;* chemical

Child abuse – bullae of buttocks due to scalding *AD 138:318–320, 2002*

Friction blisters

Garlic burns *Ped Derm 17:475–476, 2000*

Sucking blisters, neonatal – fingers, lips, forearms *Eichenfeld, 2001, p.95; Pediatrics 32:1099–2001, 1963*

## VASCULAR DISEASES

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *Rook p.2294–2295, 1998, Sixth Edition; BJD 132:1014–1016, 1996*

Lymphangioma circumscriptum *BJD 83:519–527, 1970*

Lymphedema, congenital (Milroy's disease)

Polyarteritis nodosa – in children; fever, peripheral gangrene, black necrosis, livedo reticularis, ulcers, nodules, vesiculobullous lesions, arthralgia, nodules of face and extremities, conjunctivitis *JAAD 53:724–728, 2005; Ann Rheum Dis 54:134–136, 1995*

# BULLAE OF THE FINGERS OR TOES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis including nickel sensitivity resembling bullous pemphigoid

Anti-epiligrin cicatricial pemphigoid *AD 130:1521–1529, 1994*

Anti-p105 pemphigoid *AD 130:343–347, 1994*

Autoimmune progesterone dermatitis

Bullous pemphigoid

Cicatricial pemphigoid

Cicatricial pemphigoid-like syndrome due to linear IgA disease directed against a 290 kDa antigen *JAAD 31:884–888, 1994*

Dermatitis herpetiformis *Cutis 37:184–187, 1986*

Epidermolysis bullosa acquisita *Caputo, p.26, 2000*

Graft vs. host disease – bullous scleroderma-like changes *AD 121:1189–1192, 1985*

Intraepidermal neutrophilic IgA dermatosis (IgA pemphigus) *JAAD 31:502–504, 1994*

Lupus erythematosus – bullous LE

Neonatal linear IgA disease *Ped Derm 10:171–176, 1993*

Pemphigus vulgaris – neonatal pemphigus *Ped Derm 10:169–170, 1993;* pemphigus with giant lymph node hyperplasia *JAAD 26:105–109, 1992*

Rheumatoid vasculitis – bullae of fingertips and toetips with or without purpura *Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965*

## DEGENERATIVE DISEASES

Neuropathic bullae of fingers and toes

## DRUG-INDUCED

Chemotherapy-induced acral erythema *Cutis 51:175–179, 1993*

Bleomycin – intralesional therapy of warts *JAAD 40:367–398, 1999*

Cantharadine – iatrogenic blisters

Drug-induced pemphigus/penicillamine

Epsilon amino caproic acid infusion *JAAD 27:880–882, 1992*

Extravasation from intravenous infusion

Fixed drug reaction

Furosemide, in chronic renal failure *JAAD 21:1049–1051, 1989*

Interleukin-2 reaction *AD 130:890–893, 1994*

Linear IgA disease
- Drug-induced
  - Amiodarone *JAAD 31:809–811, 1994*
  - Ampicillin
  - Captopril *Cutis 44:393–396, 1989*
  - Diclophenac *AD 124:1186–1188*
  - Glibenclamide *AD 123:1121–1122, 1987*
  - Interferon-$\alpha$
  - Interleukin-2
  - Iodine
  - Lithium *AD 124:1186–1188, 1988*
  - Penicillin
  - Vancomycin *JAAD 26:45–48, 1992*

Methotrexate and leucovorin (palms and soles) *AD 123:990–992, 1987;* bullous acral erythema of toes *JAAD 52:S93–95, 2005*

Pemphigus vegetans due to captopril *JAAD 27:281–284, 1992*

Penicillamine *AD 128:977–982, 1992*

Penicillamine-induced bullous pemphigoid-like eruption *AD 123:1119–1120, 1987*

Penicillin-induced bullous pemphigoid mimicking erythema multiforme *JAAD 18:345–349, 1988*

Phenacetin-induced bullous pemphigoid-like eruption *AD 120:1196–1199, 1984*

Phlebogram dye – toxic reaction

Piroxicam photodermatitis

Pseudo-PCT *AD 138:1607–1612, 2002; JAAD 31:500, 1994*
- Drug-induced
  - Amiodarone
  - B complex vitamins
  - Bumetanide
  - Chlorthalidone
  - Cyclosporine
  - Dapsone
  - Etretinate
  - Fluoroquinolones
  - 5-fluorouracil
  - Furosemide
  - Hemodialysis in chronic renal failure
  - Hydrochlorthizide
  - Naproxen
  - Pyridoxine
  - SOMA
  - Sulfonamides
  - Tanning bed *AD 125:1236–1237, 1989*
  - Tetracycline

PUVA blisters *AD 123:1471–1477, 1987*

PUVA-induced bullous pemphigoid *Cutis 41:199–202, 1988*

Pyridoxine abuse – PCT-like *JAAD 14:915–917, 1986*

Retinoid skin fragility with impetigo

Tiopronin *Ann DV 117:9, 1990*

Vasopressin, intravenous *JAAD 15:393–398, 1988*

## EXOGENOUS AGENTS

Irritant contact dermatitis

## INFECTIONS AND INFESTATIONS

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Aspergillosis – primary cutaneous

*Bacillus cereus* (necrotic bulla) *AD 127:543–546, 1991*

Blister beetle dermatosis *JAAD 22:815–819, 1990; Ped Derm 9:246–250, 1992*

Blistering distal dactylitis *Ped Derm 13:292–293, 1996; AD 118:879–880, 1982; JAAD 5:592–594, 1981*

Brown recluse spider bite *Clin Inf Dis 32:595,636–637, 2001*

Bullous impetigo

Cat scratch disease (inoculation vesicle) *Ped Derm 5:1–9, 1988*

Cytomegalovirus *JAAD 18:1330–1338, 1988; JAAD 12:720–721, 1985*

Enteroviral infection – vesicular lesions in AIDS

*Escherichia coli* sepsis

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985*

Gram-negative web space infection

Hand foot and mouth disease – Coxsackie A16, A5, A7, A9, A10, B2, B3, B5, enterovirus 7; vesicular *Ped Derm 20:52–56, 2003; Rook p.998,1086, 1998, Sixth Edition; BJD 79:309–317, 1967*

Herpes simplex – dyshidrosis-like herpes simplex in AIDS *AAD 13:845–852, 1985;* herpetic whitlow *Clin Inf Dis 40:579, 609, 2005; Tyring p.81, 2002; Caputo p.154, 2000; Arch Emerg Med 7:124–125, 1990;* disseminated herpes simplex infection

Herpes zoster *Tyring p.133, 2002*

Insect bite reaction

Leprosy – Lucio's phenomenon – bullae and necrosis leaving deep painful ulcers *Int J Lepr 47:161–166, 1979*

Meningococcemia

Milker's nodules

Necrotizing fasciitis *JAAD 20:774–781, 1989*

*Nocardia asteroides AD 121:898–900, 1985*

Orf *AD 126:356–358, 1990*

Papular urticaria

Pediculid, bullous *Cutis 41:281, 1988*

*Pseudomonas* sepsis *Ped Derm 4:18–20, 1987*

Rat bite fever

Rheumatoid arthritis – bullae of fingertips and/or toetips – arteritis *BJD 77:207–210, 1965*

Scabies – bullous pemphigoid-like eruption *JAAD 24:179–181, 1991*

Snake bites *An Trop Med Parasitol 93:401–408, 1999; Am J Trop Hyg 58:22–25, 1998*

Staphylococcal sepsis

Syphilis, congenital; vesicular Jarisch–Herxheimer reaction *AD 125:77–81, 1989*

Tinea manuum, bullous

*Trichosporon beigelii AD 129:1020–1023, 1993*

Vaccinia – progressive vaccinia

Varicella

Verruca vulgaris with secondary infection

Vesicular stomatitis virus – vesicles of fingers, gums, buccal, and pharyngeal mucosa *NEJM 277:989–994, 1967*

## INFILTRATIVE DISEASES

Bullous amyloidosis *Cutis 43:346–352, 1989*

Langerhans cell histiocytosis (vesiculo-papules) *AD 127:1049–1054, 1991*

Nodular eosinophilic infiltration *JAAD 24:352–355, 1991*

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis of palms and soles

Erythema multiforme

Pyoderma gangrenosum *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988;* bullous pyoderma gangrenosum *JAAD 27:804–808, 1992*

## METABOLIC DISEASES

Acrodermatitis enteropathica or acquired zinc deficiency *Ped Derm 19:426–431, 2002;* with anorexia nervosa *JAMA 288:2655–2656, 2002*

Bullous dermatosis of hemodialysis *JAAD 21:1049–1051, 1989*

Diabetic bullae *Int J Derm 39:196–200, 2000; JAAD 13:799–805, 1985*

Hypothyroidism with bullae

Miliaria crystallina

Paroxysmal nocturnal hemoglobinuria *AD 122:1327–1330, 1986*

Pellagra

Porphyria – congenital erythropoietic porphyria *BJD 148:160–164, 2003;* hepatoerythropoietic porphyria *JAAD 11:1103–1111, 1984;* porphyria cutanea tarda (PCT); variegate porphyria *Rook p.2586–2587, 1998, Sixth Edition; Wien Klin Wochenschr 50:830–831, 1937; BMJ ii:89, 1955*

Wilson's disease – pretibial vesicles with hyperpigmentation *JAAD 21:1030–1032, 1989*

## NEOPLASTIC

Congenital self-healing reticulohistiocytosis *AD 126:210–212, 1990*

Leukemia – chronic lymphocytic leukemia *JAAD 15:943–950, 1986*

Lymphoma – bullous CTCL *AD 104:402–406, 1971*

Lymphomatoid papulosis – papulovesicles *JAAD 38:877–905, 1998*

Squamous syringometaplasia of eccrine glands (papulovesicles) *AD 129:231–236, 1993*

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus resembling bullous pemphigoid *JAAD 29:815–817, 1993*

## PHOTODERMATOSES

Celery ingestion with phototoxic burn *AD 126:1334–1336, 1990*

Hydroa vacciniforme *AD 114:1193–1196, 1978*

Photoallergic drug reaction

Phyotophotodermatitis

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis continua *Ghanan p.72, 2002, Second Edition*

Anetoderma – bullous appearance of anetoderma overlying a pilomatrixoma *JAAD 25:1072–1076, 1991*

Congenital erosive dermatosis with reticulated supple scarring *AD 126:544–546, 1990; AD 121:361–367, 1985*

Dyshidrotic eczema, including dyshidrotic id reaction

Epidermolysis bullosa – simplex, recessive dystrophic *AD 133:1111–1117, 1997;* epidermolysis bullosa simplex with superficial erosions resembling peeling skin syndrome *AD 125:633–638, 1989;* EBS herpetiformis – Dowling–Meara – begins in infancy with hemorrhagic blisters of fingers and toes *JAAD 28:859–861, 1993;* Kallin's syndrome – bullae of hands and feet, nail dystrophy, anodontia, alopecia, deafness *Acta DV (Stockh) 65:526–530, 1985;* EB atrophicans generalisata gravis, Herlitz type – extensive blistering and erosions at birth; perioral and nasal exuberant granulation tissue; bulbous finger tips with crusting and erosions *Rook p.1828–1829, 1998, Sixth Edition; Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer, 1992:118–134;* autosomal recessive epidermolysis bullosa with muscular dystrophy or congenital myasthenia gravis *AD 125:931–938, 1989;* epidermolysis bullosa simplex with mutation of collagen 17A1 gene; ITGB4 coding for integrin beta-4 *BJD 151:669–674, 2004; JID 118:185–192, 2002*

Erythema elevatum diutinum – PCT-like bullae *BJD 124:89–91, 1991*

Hailey–Hailey disease – pemphigoid-like Hailey–Hailey disease

Id reaction

Lichen planus, bullous

Lichen planus pemphigoides *JAAD 22:626–631, 1990*

Miliaria

Pityriasis rosea

Transient bullous dermatosis of infancy *JAAD 21:708–713, 1989; AD 129:1209–1210, 1993*

### PSYCHOCUTANEOUS DISEASES

Factitial friction blisters *Acta DV 55:65–71, 1975*

### SYNDROMES

Alagille syndrome

Amniotic band syndrome

Bart's syndrome *AD 131:663–668, 1995*

Behçet's syndrome *JAAD 19:767–779, 1988*

Familial Mediterranean fever *Cutis 37:290–292, 1986*

Glucagonoma syndrome *JAAD 30:324–329, 1994*

Goltz's syndrome

Hereditary acral keratotic poikiloderma of Weary *Ped Derm 13:427–429, 1996*

Incontinentia pigmenti

Job's syndrome – vesicles on face and scalp *Ped Derm 5:175–182, 1988*

Kindler's syndrome *JAAD 6:263–265, 1982*

NOMID syndrome

Pachyonychia congenita – bullae of palms and soles *JAAD 19:705–711, 1988*

Reflex sympathetic dystrophy *JAAD 28:29–32, 1993*

Rothmund–Thomson syndrome

Weber–Cockayne syndrome *Ghanan p.72, 2002, Second Edition*

### TOXINS

Mustard gas exposure *AD 128:775–780, 1992*

Self-defense sprays (orthochlorobenzylidene malononitrile) *AD 129:913, 1993*

### TRAUMA

Chilblains

Coma blisters *Cutis 45:423–426, 1990*

Cryotherapy or cantharadin for warts

Erythema ab igne

Fracture blisters *JAAD 30:1033–1034, 1994*

Friction blisters *Rook p.893–894, 1998, Sixth Edition*

Frostbite *Rook p.958–959, 1998, Sixth Edition; Hand 15:185–191, 1983*

Neonatal sucking blisters – on radial forearm, wrist, or hand *Cutis 62:16–17, 1998*

Nerve injury, traumatic *Rook p.2776, 1998, Sixth Edition*

Neurotrophic blisters *Dermatologica 166:212–214, 1983*

Pressure bullae

Pulling-boat hands *JAAD 12:649–655, 1985*

Runner's blisters

Thermal burns

### VASCULAR

Acantholytic vesicular dermatitis with leukocytoclastic vasculitis *JAAD 15:1083–1089, 1986*

Congenital lymphedema – Milroy's disease

## BURNING TONGUE

***Ghatan p.93, 2002, Second Edition***

Anxiety

Cancerophobia

Candidiasis

Contact dermatitis

Drugs

Geographic tongue

Herpes simplex

Herpes zoster

Iron deficiency

Menopause

Nutritional deficiencies (B vitamins)

Poor hygiene

Squamous cell carcinoma

Trauma

Xerostomia

## BUTTERFLY RASH

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Dermatomyositis

Graft vs. host reaction, acute – malar flush *Rook p.1919, 1998, Sixth Edition*

Lupus erythematosus – systemic lupus; discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* neonatal LE *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* systemic lupus *Rook p.2473, 1998, Sixth Edition*

Pemphigus erythematosus (Senear–Usher syndrome) *Int J Derm 24:16–25, 1985; JAAD 10:215–222, 1984; AD 13:761–781, 1926*

Pemphigus foliaceus – starts in seborrheic distribution *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961;* pemphigus foliaceus of children – arcuate, circinate, polycyclic lesions *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986;* endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

Pemphigus vulgaris

Urticaria

### DRUG-INDUCED

Chlorpromazine pigmentation

Corticosteroid atrophy and/or telangiectasias

Docataxel-induced recall reaction *BJD 153:441–443, 2005*

Facial flush due to niacin, nicotinic acid; nifedipine

5-fluorouracil therapy, systemic or topical

Fixed drug eruption

Steroid rosacea

### EXOGENOUS AGENTS

Irritant contact dermatitis

## INFECTIONS AND INFESTATIONS

AIDS – HIV photosensitivity, seborrheic dermatitis

*Candida albicans* – chronic mucocutaneous candidiasis

Demodex folliculitis *Ped Derm 14:219–220, 1997*

Erysipelas

Gianotti–Crosti syndrome

Herpes simplex – of face; perianal! butterfly rash *BJD 147:134–138, 2002*

Impetigo

Infectious eczematoid dermatitis

Leishmaniasis, including post-kala-azar dermal leishmaniasis

Leprosy

Lyme disease – malar erythema *NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

Measles

*Mycobacterium tuberculosis* – lupus vulgaris

*Nocardia asteroides BJD 144:639–641, 2001*

Papular acrodermatitis of childhood (Gianotti–Crosti syndrome)

Parvovirus B19 – erythema infectiosum (fifth disease) *Hum Pathol 31:488–497, 2000; J Clin Inf Dis 21:1424–1430, 1995;* lupus-like rash *Hum Pathol 31:488–497, 2000*

Rubella

Sporotrichosis – rosacea-like

Tinea faciei *Cutis 67:7, 2001*

Varicella

Viral exanthem

Yaws

## INFILTRATIVE DISEASES

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991*

Jessner's lymphocytic infiltrate

Telangiectasia macularis eruptiva perstans *Ghatan p.253, 2002, Second Edition*

## INFLAMMATORY DISEASES

Erythema multiforme

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – resembles lupus erythematosus or polymorphic light eruption *Ped Derm 18:403–405, 2001*

Lymphocytoma cutis

Popsicle panniculitis

Sarcoid – LE-like and lupus pernio *Rook p.2688, 1998, Sixth Edition*

## METABOLIC DISEASES

Cushing's syndrome

Diabetic rubor *Diabetes 14:201–208, 1965*

Homocystinuria – red cheeks *JAAD 40:279–281, 1999*

Lysinuric protein intolerance – autosomal recessive; defect in membrane transport of cationic amino acids (lysine, arginine, ornithine); hyperammonemia; dermatitis resembling neonatal lupus *Lancet 363:1038, 2004; Eur J Pediatr 160:5223, 2001*

Mastocytosis

Melasma

Ochronosis – mottled pigmentation of face *Rook p.1810, 1998, Sixth Edition*

Pellagra (niacin deficiency) *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999; BJD 125:71–72, 1991*

Pregnancy – hyperpigmentation including melasma *Rook p.1780, 1998, Sixth Edition*

Zinc deficiency

## NEOPLASTIC DISEASES

Atrial myxoma – red–violet malar flush *Cutis 62:275–280, 1998; Br Heart J 36:839, 1994; JAAD 21:1081, 1989*

Diffuse cutaneous reticulohistiocytosis

Kaposi's sarcoma

Leukemia – acute myelogenous leukemia

Lymphocytoma cutis

Lymphoma – angiocentric CTCL of childhood (hydroa-like lymphoma) of Latin America and Asia *JAAD 38:574–579, 1998;* cutaneous T-cell lymphoma; HTLV-1 lymphoma; lymphoplasmacytoid lymphoma (B-cell lymphoma, immunocytoma) *JAAD 49:1159–1162, 2003*

Metastases – metastatic telangiectatic breast carcinoma *JAAD 48:635–636, 2003*

Nevus of Ota, bilateral

Polycythemia vera – suffusion of the face

Syringomas

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia

Xanthomas, normolipemic – associated with myeloma

## PHOTODERMATOSES

Actinic prurigo *BJD 144:194–196, 2001; JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Ped Derm 3:384–389, 1986; JAAD 5:183–190, 1981*

Hydroa vacciniforme – red macules progress to tender papules, hemorrhagic vesicles or bullae, umbilication and crusting; pock-like scars *JAAD 42:208–213, 2000; Rook p.988, 1998, Sixth Edition; BJD 118:101–108, 1988; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; JAAD 25:401–403, 1991; BJD 118:101–108, 1988; AD 118:588–591, 1982;* familial *BJD 140:124–126, 1999; AD 114:1193–1196, 1978; AD 103:223–224, 1971;* late onset *BJD 144:874–877, 2001*

Lichen planus actinicus – mimicking melasma *JAAD 18:275–278, 1988*

Melasma – upper lip, cheeks, forehead, chin *JAAD 15:894–899, 1986; JAAD 4:698–710, 1981*

Phototoxic eruptions

Polymorphic light eruption – papules, plaques, and vesicles *BJD 144:446–447, 2001; JID 115:467–470, 2000; JAAD 42:199–207, 2000*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition*

Acne vulgaris

Atopic dermatitis

Darier's disease

Epidermolysis bullosa, junctional lethal type (atrophicans generalisata gravis, Herlitz type) – extensive blistering and erosions at birth; perioral and nasal exuberant granulation tissue in butterfly distribution *Rook p.1828–1829, 1998, Sixth Edition; Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:118–134*

Erythromelanosis follicularis faciei *JAAD 32:863–866, 1995*

Erythrosis pigmentata faciei (erythrose peribuccale pigmentaire of Brocq) *Ghatan p.60,253, 2002, Second Edition*

Granuloma faciale

Granulosis rubra nasi

Impetigo herpetiformis

Keratosis pilaris

Lentiginosis – acquired generalized

Ofuji's disease – eosinophilic pustular folliculitis

Perioral dermatitis

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis

Seborrheic dermatitis, including AIDS-associated seborrheic dermatitis *BJD 111:603–607, 1984*

Ulerythema ophyrogenes

Vitiligo

## PSYCHOCUTANEOUS

Factitial dermatitis

## SYNDROMES

Ataxia telangiectasia – telangiectasias in butterfly distribution, of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *Rook p.2095,1998, Sixth Edition; JAAD 10:431–438, 1984; Ann Intern Med 99:367–379, 1983*

Bazex syndrome (acrokeratosis paraneoplastica)

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; Am J Hum Genet 21:196–227, 1969; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Carcinoid syndrome – foregut (stomach, lung, pancreas) – bright red geographic flush, sustained, with burning, lacrimation, wheezing, sweating; hindgut (ileal) – patchy, violaceous, intermixed with pallor, short duration *Rook p.2101, 1998, Sixth Edition;* edema, telangiectasia, cyanotic nose and face, rosacea *Acta DV* (*Stockh*) *41:264–276, 1961;* white macules surrounded by erythema and telangiectasia *BJD 90:547–551, 1974;* pellagrous lesions *Am Heart J 47:795–817, 1954*

Cockayne syndrome – autosomal recessive; xerosis with rough, dry skin, anhidrosis, erythema of hands, hypogonadism; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *Ped Derm 20:538–540, 2003; Am J Hum Genet 50:677–689, 1992; J Med Genet 18:288–293, 1981*

Dubowitz's syndrome

Haber's syndrome – rosacea-like facial erythema

Hartnup's disease

Reiter's syndrome

Reticular erythematous mucinosis syndrome (REM syndrome)

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive *Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210–212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992*

Sjögren's syndrome – erythema of nose and cheeks *Rook p.2572, 1998, Sixth Edition*

Sweet's syndrome

Touraine centrofacial lentiginosis

Tuberous sclerosis

## TOXINS

Mercury poisoning – butterfly rash, flushing, perspiration of face, palmar erythema *JAAD 45:966–967, 2001*

Scombroid fish poisoning – facial flush

## TRAUMA

Air bag dermatitis *AD 138:1383–1384, 2002*

Post-inflammatory hyperpigmentation secondary to burn

Sunburn

## VASCULAR DISEASES

Acute hemorrhagic edema of infancy (Finkelstein's disease) *AD 139:531–536, 2003; Cutis 68:127–129, 2001; J Dermatol 28:279–281, 2001; Cutis 61:283–284, 1998; AD 130:1055–1060, 1994*

Emboli – from cardiac myxomas; red–violet malar flush *BJD 147:379–382, 2002*

Mitral stenosis – malar flush

Primary pulmonary hypertension

Superior vena cava obstruction – suffusion of face

Takayasu's arteritis

Temporal arteritis *BJD 76:299–308, 1964*

Vasculitis

# CAFÉ AU LAIT MACULES, ASSOCIATIONS

***Ped Clin North Am 47:783–812, 2000; JAAD 37:864–869, 1997***

Agminated café au lait macules (CALMs)

Ataxia telangiectasia *BJD 144:369–371, 2001; JAAD 42:939–969, 2000; JAMA 195:746–753, 1966*

Bannayan–Riley–Ruvalcaba syndrome *Ped Derm 16:77–83, 1999*

Bloom's syndrome *Curr Prob Derm VII:143–198, 1995*

CALM and intertriginous freckling

CALM and pulmonary stenosis *Ann DV 107:313–327, 1980*

CALM, temporal dysrhythmia, emotional instability *Int J Neuropsychiatry 2:179–187, 1966*

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) (NS) – autosomal dominant; xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Cowden's syndrome *Bolognia p.859, 2003*

Darier's disease *Cutis 59:193–195, 1997*

Del (15q) syndrome *Am J Med Genet 29:149–154, 1988*

Dubowitz syndrome *Am J Med Genet 2:275–284, 1978*

Dyskeratosis congenita *Ghatan p.239, 2002, Second Edition*

Epidermal nevus syndrome *Ped Derm 6:316–320, 1989*

FACES (unique facies, anorexia, cachexia, eye, skin lesions) *J Craniofac Genet Dev Biol 4:227–231, 1984*

Familial CALMs *AD 130:1425–1426, 1994*

Familial CALMs – NF type VI *Curr Prob Derm VII:143–198, 1995*

Fanconi's anemia *Ped Derm 16:77–83, 1999*

Gaucher's disease

Gastrocutaneous syndrome – peptic ulcer/hiatal hernia, multiple lentigines, café-au-lait macules, hypertelorism, myopia *Am J Med Genet 11:161–176, 1982*

Hunter's disease

Jaffe–Campanacci syndrome – coast of Maine CALMs, pigmented nevi and freckle-like macules, fibromas in long bones and jaw, mental retardation, hypogonadism, cryptorchidism, precocious puberty, ocular anomalies, cardiovascular malformations and kyphoscoliosis *Curr Prob Derm VII:143–198, 1995; Clin Orthop Rel Res 168:192–205, 1982*

Johanson–Blizzard syndrome – autosomal recessive; growth retardation, microcephaly, ACC of scalp, sparse hair, hypoplastic ala nasi, CALMs, hypoplastic nipples and areolae, hypothyroidism, sensorineural deafness *Clin Genet 14:247–250, 1978*

Johnson–McMillin syndrome – autosomal dominant, facial nerve palsy, hearing loss, hyposmia, hypogonadism, microtia, alopecia *Bolognia p.859, 2003*

Juvenile xanthogranulomas – juvenile chronic myeloid leukemia with familial or sporadic neurofibromatosis *Bolognia p.859, 2003*

Klippel–Trenaunay–Weber syndrome *Clin Exp Dermatol 12:12–17, 1987*

LEOPARD (Moynahan's) syndrome – autosomal dominant; CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *Ped Derm 20:173–175, 2003; JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973; Am J Dis Child 117:652–662, 1969*

Leschke's syndrome – growth retardation, mental retardation, diabetes mellitus, genital hypoplasia, hypothyroidism *Bolognia p.859, 2003*

Maffucci's syndrome *JAAD 52:191–195, 2005; Ped Derm 16:77–83, 1999*

McCune–Albright syndrome (polyostotic fibrous dysplasia) – giant café au lait macules *Ped Derm 8:35–39, 1991; Dermatol Clin 5:193–203, 1987*

MEN type I, III, or IIb *JAAD 42:939–969, 2000; Ped Derm 8:124–128, 1991*

Mukamel syndrome – autosomal recessive; premature graying in infancy, lentigines, depigmented macules, mental retardation, spastic paraparesis, microcephaly, scoliosis *Bolognia p.859,988, 2003*

Neurofibromatosis type I (von Recklinghausen's syndrome) *Dermatol Clinics 13:105–111, 1995; Curr Prob Cancer 7:1–34, 1982; NEJM 305:1617–1627, 1981*

Neurofibromatosis type I-Noonan syndrome *Curr Prob Derm VII:143–198, 1995*

Neurofibromatosis type II (central neurofibromatosis) *Curr Prob Derm VII:143–198, 1995*

Neurofibromatosis type III (mixed) *Bolognia p.859, 2003*

Neurofibromatosis type IV (variant) *Bolognia p.859, 2003*

Neurofibromatosis, segmental – NF type V *Bolognia p.859, 2003*

Nevoid basal cell carcinoma syndrome

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency *Rook p.2644, 1998, Sixth Edition*

Nijmegen breakage syndrome – autosomal recessive; microcephaly, mental retardation, prenatal onset short stature, bird-like facies, café-au-lait macules *Am J Med Genet 66:378–398, 1996*

Noonan's syndrome – lax skin *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; Curr Prob Derm VII:143–198, 1995; J Pediatr 66:48–63, 1965*

Partial unilateral lentiginosis *Bolognia p.859, 2003*

Patau syndrome (trisomy 13) *Rook p.2812, 1998, Sixth Edition*

Phakomatosis pigmentokeratotica – coexistence of CALM, an organoid nevus and a popular speckled lentiginous nevus *Skin and Allergy News, page 34, Sept 2000*

Phakomatosis pigmentovascularis type Ia – port wine stain, congenital Becker's nevus, café au lait macules, and lentigines *J Dermatol 26:834–836, 1999*

Piebaldism *Curr Prob Derm VII:143–198, 1995*

Proteus syndrome – café au lait macules *Ped Derm 14:1–5, 1997;* port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Ring chromosomes 7, 12, 15 *Bolognia p.859, 2003*

Ring chromosome 11 – CALMs microcephaly, mental retardation *Am J Med Genet 30:911–916, 1988; JAAD 40:877–890, 1999*

Ring chromosome 17 – multiple café au lait macules, short stature *Ped Derm 22:270–275, 2005*

Rubenstein–Taybi syndrome – arciform keloids, hypertrichosis, long eyelashes, thick eyebrows, keratosis pilaris or ulerythema ophyrogenes, low-set ears, very short stature, broad terminal phalanges of thumbs and great toes, hemangiomas, nevus flammeus, café au lait macules, pilomatrixomas, cardiac anomalies, mental retardation *Ped Derm 19:177–179, 2002; Am J Dis Child 105:588–608, 1963*

Russell–Silver syndrome – large head, short stature, premature sexual development, CALMs, clinodactyly, syndactyly of toes, small triangular face, ambiguous genitalia, excessive sweating *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999; Curr Prob Derm VII:143–198, 1995; Am J Med Genet 35:245–250, 1990*

Schimke immuno-osseous dysplasia *Eur J Pediatr 159:1–7, 2000*

Tay syndrome – autosomal recessive, growth retardation, triangular face, cirrhosis, trident hands, premature canities, vitiligo *Bolognia p.859, 2003*

Tuberous sclerosis *Clin Exp Dermatol 10:562–565, 1985*

Turner's syndrome

Urticaria pigmentosa – simulates café au lait macules

Von Hippel–Lindau disease – macular telangiectatic nevi, facial or occipitocervical; retinal angiomatosis, cerebellar or medullary or spinal hemangioblastoma, renal cell carcinoma. pheochromocytoma, café au lait macules *Arch Intern Med 136:769–777, 1976*

Watson syndrome – autosomal dominant; intertriginous (axillary and perianal) freckling, CALMs, short stature, intellectual deficit, pulmonary valve stenosis *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; Curr Prob Derm VII:143–198, 1995*

Westerhof syndrome – autosomal dominant, hyper- and hypopigmented macules on trunk and extremities, short stature, small sella turcica, cervical ribs *AD 114:931–936, 1978*

## CELLULITIS IN THE IMMUNOCOMPROMISED HOST

Acanthamebiasis in AIDS *AD 131:1291–1296, 1995*

Alternariosis *AD 124:1822–1825, 1988; Alternaria chartarum* – red, scaly plaque *BJD 142:1261–1262, 2000*

Anthrax *Int J Derm 203, 4/81*

Aspergillosis, primary cutaneous *JAAD 12:313–318, 1985; JAAD 31:344–347, 1994*

Bacillary angiomatosis – plaque with hyperkeratotic center *BJD 126:535–541, 1992*

*Campylobacter jejuni* – erysipelas-like lesions in patient with hypogammaglobulinemia *Eur J Clin Microbiol Infect Dis 11:842–847, 1992*

Candidiasis

Chagas' disease (reactivation post-transplant) *Cutis 48:37–40, 1991*

Clostridium septicum *Rev Infect Dis 1:13, 1991*

Cryptococcosis – cellulitis *Cutis 72:320–322, 2003; J Dermatol 30:405–410, 2003; Clin Inf Dis 33:700–705, 2001; Australas J Dermatol 38:29–32, 1997; JAAD 32:844–850, 1995; Scand J Infect Dis 26:623–626, 1994; Clin Inf Dis 16:826–827, 1993; Clin Inf Dis 14:666–672, 1992; Int J Dermatol 29:41–44, 1990; JAAD 17:329–332, 1987; Cutis 34:359–361, 1984*

Cunninghamella *Am J Clin Pathol 80:98, 1983*

Dematiaceous fungal infections in organ transplant recipients
- *Alternaria*
- *Bipolaris hawaiiensis*
- *Exophiala jeanselmei*, *E. spinifera*, *E. pisciphera*, *E.castellani*
- *Exserohilum rostratum*
- *Fonsacaea pedrosoi*
- *Phialophora parasitica*

Escherichia coli *Clin Pediatr 26:592, 1987*

Erysipelothrix insidiosa

*Fusarium solanae* – digital cellulitis *Rook p.1375, 1998, Sixth Edition*

Group G streptococcus *AD 118:934, 1982*

Helicobacter cinaedi *Ann Intern Med 121:90, 1994*

*Hemophilus influenzae Am J Med 63:449, 1977*

Herpes simplex

Herpes zoster

Histoplasmosis – cellulitis *AD 118:3–4, 1982; S Med J 74:635–637, 1981; AD 95:345–350, 1967;* panniculitis *AD 132:341–346, 1996; JAAD 25:912–914, 1991; JAAD 25:418–422, 1991*; *Medicine 60:361–373, 1990; AD 118:3–4, 1982*

*Legionella micdadei Am J Med 92:104–106, 1992*

*Moraxella* species – preseptal cellulitis and facial erysipelas *Clin Exp Dermatol 19:321–323, 1994*

Mucormycosis

*Mycobacterium abscessus* – cellulitis *J Clin Inf Dis 24:1147–1153, 1997*

*Mycobacterium avium intracellulare JAAD 33:528–531, 1995; JAAD 21:574–576, 1989*

*Mycobacterium bovis AD 126:123–124, 1990*

*Mycobacterium chelonae* – cellulitis *J Infect Dis 166:405–412,1992;* with pustules *JAAD 24:867–870, 1991;*

*Mycobacterium fortuitum* – panniculitis *JAAD 39:650–653, 1998;* cellulitis *Dermatol Surg 26:588–590, 2000*

*Mycobacterium haemophilum Am J Transplant 2:476–479, 2002; BJD 149:200–202, 2003; JAAD 40:804–806, 1994*

*Mycobacterium kansasii* – red plaque *JAAD 41:854–856, 1999; JAAD 40:359–363, 1999; JAAD 36:497–499, 1997; Cutis 31:87–89, 1983; Am Rev Resp Dis 112:125,1979*

*Mycobacterium szulgai* – diffuse cellulitis, nodules, and sinuses *Am Rev Respir Dis 115:695–698, 1977*

*Mycobacterium* thermoresistible – violaceous indurated plaque *Clin Inf Dis 31:816–817, 2000*

*Mycobacterium tuberculosis Clin Exp Dermatol 25:222–223, 2000*

Myiasis – palpebral myiasis presenting as preseptal cellulitis *Arch Ophthalmol 116:684, 1998*

*Morganella morganii*

Nocardiosis *JAAD 23:399–400, 1990; JAAD 13:125–133, 1985*

*Nocardia asteroides AD 121:898–900, 1985*

Onchocerciasis

*Paecilomyces JAAD 37:270–271, 1997; JAAD 35:779–781, 1996;AD 122:1169, 1986*

Phaeohyphomycosis *JAAD 18:1023–1030, 1988*

Phlegmon

*Prevotella* species *J Clin Inf Dis (Suppl 2)*:*S88–93, 1997*

Protothecosis *JAAD 31:920–924, 1994; AD 125:1249–1252, 1989;* cellulitis *Cutis 63:185–188, 1999; JAAD 32:758, 1995; BJD 146:688–693, 2002*

*Pseudallescheria boydii JAAD 21:167–179, 1989*

*Pseudomonas aeruginosa JAMA 248:2156, 1982*

*Rhizopus Arch Surg 111:532, 1976*

*Serratia marcescens* – cellulitis *JAAD 49:S193–194, 2003*; *JAMA 250:2348, 1983*

Sporotrichosis *JAAD 40:272–274, 1999*

*Staphylococcus aureus Ped 18:249, 1956*

*Staphylococcus epidermidis AD 120:1099, 1984*

Staphylococcal folliculitis in AIDS *JAAD 21:1024, 1026, 1989*

*Streptococcus iniae NEJM 337:589–594, 1997*

*Streptococcus pneumoniae Am J Med 59:293, 1975*

*Streptococcus zooepidemicus Aust NZ J Med 20:177–178, 1990*

*Trichophyton rubrum*, invasive *Cutis 67:457–462, 2001*

*Trichosporon cutaneum AD 129:1020–1023, 1993*

Vibrio vulnificus *Ann Intern Med 129:318, 1988*

*Yersinia enterocolitica*

*Xanthomonas maltophilia AD 128:702, 1992*

Zygomycosis *Ped Inf Dis J 4:672–676, 1985;* red plaque with central eschar *AD 131:833–834, 836–837, 1995*

# CEREBRIFORM LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSREGULATION

Graft vs. host disease, chronic – ripply skin *AD 138:924–934, 2002*

Pemphigus vegetans – cerebriform tongue *BJD 104:587–591, 1981*

Severe combined immunodeficiency – skin redundancy

## CONGENITAL ANOMALIES

Abnormal nevoblast migration mimicking neurofibromatosis *AD 127:1702–1704, 1991*

Congenital fascial dystrophy (rippled skin) *JAAD 943–950, 1989*

Congenital cutaneous plate-like osteoma cutis – mountain range topography *Ped Derm 10:371–376, 1993*

Double lip *Cutis 66:253–254, 2000*

## EXOGENOUS AGENTS

Aquagenic wrinkling of hands due to rofecoxib *Ped Derm 19:353–355, 2002*

Aquagenic wrinkling of hands in cystic fibrosis *Med Biol Immunol 25:205–210, 1975*

## INFECTIONS AND INFESTATIONS

Lobomycosis

## INFILTRATIVE DISEASES

Amyloidosis – nodular cutaneous amyloidosis *AD 133:909–914, 1997*

Juvenile xanthogranuloma

Langerhans cell histiocytosis *AD 126:1617–1620, 1990*

Localized lichen myxedematosus (papular mucinosis) in morbid obesity *BJD 148:165–168, 2003*

Mastocytoma *BJD 144:208–209, 2001; BJD 103:329–34, 1980;* diffuse cutaneous mastocytosis

Pretibial myxedema *AD 127:247–252, 1991*

Scleromyxedema (papular mucinosis) – thick folding of skin; cerebriform palmar rippling *JAAD 44:273–281, 2001;* lichen myxedematosus – cerebriform infiltration of palms and soles

Verruciform xanthoma of toes in a patient with Milroy's disease due to persistent leg edema *Ped Derm 20:44–47, 2003; JAAD 20:313–317, 1989*

Xanthoma disseminatum – mountain range topography *AD 121:1313–1317, 1985*

## INFLAMMATORY DISORDERS

Dissecting cellulitis of the scalp (perifolliculitis capitis abscessus et suffodiens) *JAAD 53:1–37, 2005*

## METABOLIC DISEASES

ACTH overproduction in infants – redundant thickened skin

Erythropoietic protoporphyria

Hunter's syndrome – decreased sulfoiduronate sulfatase *Ped Derm 15:370–373, 1998*

Hyaluronan metabolic abnormality – generalized lax and cerebriform redundant skin *J Pediatr 136:62–68, 2000*

Obesity – redundant skin

Pretibial myxedema

Thyroid acropachy

Tuberous xanthoma

## NEOPLASTIC DISEASES

Apocrine acrosyringeal keratosis arising in syringocystadenoma papilliferum *BJD 142:543–547, 2000*

Apocrine epithelioma *JAAD 13:355–363, 1985*

Bowenoid papulosis *AD 130:1311–1316, 1994*

Clear cell acanthoma (giant) *BJD 143:1114–1115, 2000*

Connective tissue nevus (collagenoma) – paving stone nevus *Ped Derm 11:84–85, 1994;* isolated palmar cerebriform collagenoma *AD 133:909–914, 1997;* isolated plantar cerebriform collagenoma *AD 127:1589–1590, 1991*

Connective tissue nevi may be seen in:
- Buschke–Ollendorf syndrome
- Down's syndrome
- Ehlers–Danlos syndrome
- Eruptive collagenoma
- Familial cutaneous collagenoma
- Hunter's syndrome (pectoral and scapular)
- Knuckle pads
- Proteus syndrome
- Pseudoxanthoma elasticum
- Tuberous sclerosis

Cylindromas *AD 137:219–224, 2001*

Dermatofibrosarcoma protuberans

Eccrine syringofibroadenoma *AD 126:945–949, 1990*

Elastoma in actinically damaged skin *JAAD 52:1106–1108, 2005*

Epidermal nevus

Keloid

Keratoacanthoma

Leiomyomatosis

Lipoma

Lymphoma – cutaneous T-cell lymphoma *AD 138:191–198, 2002;* primary cutaneous large B-cell lymphoma of the legs *AD 132:1304–1308, 1996;* Ki-1$^+$ lymphoma

Melanocytic nevus, congenital *J Pediatr 120:906–911, 1992; Rook p.1733–1735, 1998, Sixth Edition*; giant cerebriform intradermal nevus *Dermatol Surg 28:75–79, 2002; Ann Plast Surg 19:84–88, 1987*

Melanoma arising in a giant cerebriform nevus *AD 96:536–539, 1967;* nodular amelanotic metastases *BJD 142:533–536, 2000*

Mucinous nevus (connective tissue hamartoma) *AD 141:897–902, 2005*

Nevus lipomatosis superficialis *Ped Derm 20:313–314, 2003; Ped Derm 13:345–346, 1996; Arch Dermatol Syphilol 130:327, 1921*

Nevus sebaceus *Textbook of Neonatal Dermatology, p.409, 2001; Rook p.535, 1998, Sixth Edition*

Seborrheic keratosis *Rook p.1659–1660, 1998, Sixth Edition*

Smooth muscle hamartoma

Trichoblastoma *J Dermatol 24:174–178, 1997*

Verrucous carcinoma

## PARANEOPLASTIC DISORDERS

Tripe palms – rippled skin *Clinics Derm 11:165–174, 1993*

## PRIMARY CUTANEOUS DISEASES

Aquagenic syringeal acrokeratoderma *Dermatology 204:8, 2002; JAAD 45:124, 2001*

Cutis laxa – redundant skin

Cutis verticis gyrata
- Acromegaly
- Amyloidosis, primary systemic *Ped Derm 20:358–360, 2003*
- Apert's syndrome *Am J Med Genet 44:82–89, 1992*
- Beare–Stevenson syndrome – acanthosis nigricans, hypertelorism, cleft palate, bifid scrotum, large umbilical stump, skin furrows of the face, hands, feet, axilla, and/or perineum, cutis verticis gyrata, acanthosis nigricans, craniosynostosis, craniofacial dysmorphism, digital anomalies, umbilical and anogenital anomalies, early death *Ped Derm 20:358–360, 2003; Am J Med Genet 44:82–89, 1992; BJD 81:241, 1969*
- Cutis verticis gyrata–mental deficiency syndrome *Clin Dysmorphol 7:131–134, 1998*
- Darier's disease
- Dermatomyositis *Ped Derm 20:358–360, 2003*
- Ehlers–Danlos syndrome *Ped Derm 20:358–360, 2003*
- Fibromas *Ann Surg 118:154–158, 1943*
- Fragile X syndrome *Lancet 2:279, 1989*
- Idiopathic
- Inflammatory dermatoses
- Lennox–Gastaut syndrome (retardation with EEG abnormalities) *Dev Med Child Neurol 16:196–200, 1974*
- Melanocytic nevi, congenital *Ped Derm 20:358–360, 2003*
- Mental retardation *Ped Derm 20:358–360, 2003*
- Myxedema
- Neonatal *Ped Derm 1:153–156, 1983*
- Neurofibromas
- Pachydermoperiostosis (Touraine–Solente–Golé syndrome) *Ped Derm 20:358–360, 2003*
- Post-traumatic
- Thyroid aplasia *Ped Derm 20:358–360, 2003*
- Tuberous sclerosis *Ped Derm 20:358–360, 2003*

Dissecting cellulitis of the scalp

Striae, cerebriform

## SYNDROMES

Beare–Stevenson syndrome – cutis verticis gyrata of scalp, cutis gyrata (furrowed skin), corrugated forehead, acanthosis nigricans, macular hyperpigmentation of antecubital and popliteal fossae, hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and umbilical herniation *Ped Derm 20:358–360, 2003*

Cardio-facio-cutaneous syndrome – skin redundancy

Cutis verticis gyrata-mental deficiency syndrome *Clin Dysmorphol 7:131–134, 1998*

Donahue's syndrome (leprechaunism) – redundant thickened skin

Ehlers–Danlos syndrome – redundant skin on palms and soles

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa with cerebriform tongue, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Laron dwarfism – redundant thickened skin

Maffucci's syndrome

Michelin tire syndrome with smooth muscle hamartoma in males – diffuse smooth muscle hamartoma; excessive folds of firm skin on extremities, especially ankles and wrists; generalized hypertrichosis, palmar cerebriform plaques *JAAD 46:477–490, 2002; JAAD 28:364–370, 1992; Ped Derm 6:329–331, 1989;* nevus lipomatosis in females *JAAD 46:477–490, 2002;* congenital diffuse lipomatosis *Textbook of Neonatal Dermatology, p.428, 2001*

Mucopolysaccharidoses

Neurofibromatosis type I – neurofibromas of the feet *Rook p.379, 1998, Sixth Edition; Dermatol Clinics 13:105–111, 1995; Curr Prob Cancer 7:1–34, 1982; NEJM 305:1617–1627, 1981*

Pachydermoperiostosis – cerebriform facial features *JAAD 31:947–953, 1994; Medicine 70:208–214, 1991; AD 124:1831–1834, 1988;* cerebriform rippling of palms and soles *J Dermatol 27:106–109, 2000*

Proteus syndrome – cerebroid thickening of palms and soles (connective tissue nevi) *JAAD 52:834–838, 2005; JAMA 285:2240–2243, 2001; AD 133:77–80, 1997; JAAD 25:377–383, 1991; Ped Derm 6:344–345, 1989; AD 125:1109–1114, 1989; Eur J Pediatr 140:5–12, 1983*

Pseudoxanthoma elasticum – redundant skin

Rubinstein–Taybi syndrome

Shulman's syndrome (eosinophilic fasciitis) – rippled skin

Turner's syndrome – lymphedema of the scalp mimicking cutis verticis gyrata *Ped Derm 15:18–22, 1998*

## TRAUMA

Immersion foot (rippled skin)

## VASCULAR LESIONS

Giant angiofibroma *Cutis 42:429–432, 1988*

Hemangioma

Lymphangioma

Lymphedema, congenital (Milroy's disease)

Lymphedema precox

Lymphostasis verrucosa cutis (chronic lymphedema) (Kaposi–Stemmer sign) – failure to pick up fold of skin *Rook p.2285, 1998, Sixth Edition*

# CHALKY MATERIAL EXTRUDED FROM LESION

Calcinosis cutis – idiopathic calcinosis cutis *Rook p.2664, 1998, Sixth Edition;* dystrophic calcification in chronic renal failure, scleroderma, CREST syndrome *Rook p.2529, 1998, Sixth Edition;* tumoral calcinosis – around hip, elbow, ankle, and scapula *Seminars in Dermatol 3:53–61, 1984;* exogenous calcium *AD 89:360–363, 1964;* EEG/EMG paste – firm yellow plaque with or without extrusion of white material; red nodule with white extrusion *Cutis 52:161–164, 1993;* calcinosis cutis secondary to subcutaneous calcium heparin injections *JAAD 50:210–214, 2004*; tumoral calcinosis *J Dermatol 23:545–550, 1996*

Calcium oxalate

Epidermoid cyst

Gouty tophi *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Idiopathic calcinosis of the scrotum *Eur Urol 13:130–131, 1987*

Multicentric reticulohistiocytosis

Myeloma with cryoglobulinemia – follicular spicules *JAAD 32:834–839, 1995*

Osteoma cutis *Am J Dermatopathol 15:77–81, 1993*

Pilomatrixoma

Rheumatoid nodules

Xanthomas

# CHEILITIS (CRUSTED LIPS)

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – multiple allergens; lipsticks, lip salves, mouthwashes, dentifrices, dental preparations, foods, citrus fruits, mango, nail polish, sunscreen *Contact Dermatitis 45:173, 2001; AD 134:511–513, 1998; JAAD 39:488–490, 1998; Contact Dermatitis 33:365–370, 1995;* angular cheilitis; granulomatous cheilitis – cobalt *Clin Exp Dermatol 15:384–396, 1990;* cinnamic aldehyde (food additive) *BJD 131:921–922, 1994*; sodium laurel sulfate in toothpaste *Contact Dermatitis 42:111, 2000;* potassium persulfate in dental cleanser Contact *Dermatitis 41:268–271, 1999;* colophonium in dental floss *Am J Contact Dermatitis 10:198–200, 1999;* castor oil in lipstick *Contact Dermatitis 42:114–115, 2000*

Chronic granulomatous disease – cheilitis *JAAD 36:899–907, 1997; JAAD 23:444–450, 1990*

Cicatricial pemphigoid

Lupus erythematosus – systemic lupus erythematosus *BJD 144:1219–1223, 2001; BJD 135:355–362, 1996; BJD 121:727–741, 1989;* discoid LE – lip ulcer, systemic lupus erythematosus, subacute cutaneous lupus erythematosus *BJD 135:355–362, 1996; Clin Exp Dermatol 11:309–313, 1986*

Pemphigus vegetans, Neumann variant *JAAD 39:872–875, 1998*

Pemphigus vulgaris; IgA/IgG pemphigus *Ped Derm 22:321–327, 2005*

Sjögren's syndrome – red swollen lip *J Dermatol 28:47–49, 2001;* angular cheilitis *Rook p.2572, 1998, Sixth Edition*

## DRUG-INDUCED

Anticholinergics

Anticonvulsants

Antihistamines

Antineoplastics

Capecitabine (Xeloda) *JAAD 45:790–791, 2001*

Diuretics

Drug eruptions, multiple types

5-fluorouracil

Fixed drug eruptions *Int J Derm 37:833–838, 1998*

HAART (high activity antiretroviral therapy) therapy – eruptive cheilitis *Med Oral 6:19–30, 2001*

Indinivir (cheilitis) – lip fissures and cheilitis *JAAD 46:284–293, 2002; Sex Transm Infect 76:323–324, 2000*

Itraconazole – photodermatitis and retinoid-like dermatitis *J Eur Acad Dermatol Venereol 14:501–503, 2000*

Lovastatin – cheilitis *Cutis 62:197–198, 1998*

Mevastatin – cheilitis *Cutis 62:197–198, 1998*

Narcotics *Postgrad Med J 68:303–304, 1992*

Pellagrous dermatitis – drug-induced pellagra-like dermatitis – 6-mercaptopurine, 5-fluorouracil, INH (all of the above – also seborrhic dermatitis-like); resembles Hartnup disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999; BJD 125:71–72, 1991*

Penicillamine *Arch Int Med 120:374–376, 1967*

Pravastatin – cheilitis *Cutis 62:197–198, 1998*

Protease inhibitors *AIDS 14:1289–1291, 2000*

Quinidine photo-induced lichen planus

Retinoid cheilitis *Rook p.1969, 1998, Sixth Edition; Clin Pharm 8:344–351, 1989; Dermatologica 175 Suppl 1:151–157, 1987*

Simvastatin *Cutis 62:197–198, 1998*

Toxic epidermal necrolysis *BJD 68:355–361, 1956*

Voriconazole – photodermatitis with acute and chronic changes of sun damage *JAAD 52:S81–85, 2005;* photodermatitis and retinoid-like dermatitis *Ped Derm 21:675–678, 2004; Pediatr Infect Dis J 21:240–248, 2002; Clin Exp Dermatol 26:648–653, 2001*

## EXOGENOUS AGENTS

Betel chewer's perleche *BJD 89:98, 1973*

Chlorhexidine

Irritant contact dermatitis – many agents; capsicum (red peppers) red hands and red lips *Cutis 72:21–23, 2003*

Silica granuloma – mimics granulomatous cheilitis *Dermatologica 181:246–247, 1990*

Tattooing, cosmetic *AD 141:918–919, 2005*

Vitamin A toxicity *J Hepatol 31:142–148, 1999; Ann DV 118:51–52, 1991*

## INFECTIONS AND/OR INFESTATIONS

AIDS – photo-lichenoid eruption of AIDS

Bejel

Botryomycosis *Cutis 55:149–152, 1995*

Cancrum oris (noma)

*Candida* cheilitis (angular cheilitis) (perleche) *Med Oral 2:201–208, 1997; J Oral Pathol 15:213–217, 1985;* chronic mucocutaneous candidiasis; candidiasis in AIDS

Elephantiasis nostras of the lips – presumed streptococcal infection *Oral Surg Oral Med Oral Pathol Endod 84:297–300, 1997*

Hand, foot and mouth disease (Coxsackie virus) *Rook p.3133–3134, 1998, Sixth Edition*

Herpes simplex – primary, recurrent, eczema herpeticum *Rook p.3133–3134, 1998, Sixth Edition*

Herpes zoster *Rook p.3133–3134, 1998, Sixth Edition*

Impetigo – streptococcal or staphylococcal *Rook p.3133–3134, 1998, Sixth Edition*

*Leishmania brasiliensis J Clin Inf Dis 22:1–13, 1996*

Measles – red granular lips *Tyring p.408, 2002*

Orf *Br Dent J 173:343–344, 1992*

Parvovirus B19, including papular–purpuric 'gloves and socks' syndrome – swollen lips with painful erosive cheilitis *JAAD 41:793–796, 1999*

Scarlet fever

Scopulariopsis brevicaulis – ulcerous granulomatous cheilitis *JAAD 31:881, 1994*

*Staphylococcus aureus* – angular cheilitis *Rook p.1068, 1998, Sixth Edition;* fissuring of midline of lower lip *Clin Exp Dermatol 11:289–291, 1986*

Syphilis – primary chancre; secondary – split papules (angular cheilitis) *Rook p.1247, 1998, Sixth Edition;* congenital syphilis – split papules *Rook p.1254, 1998, Sixth Edition*

*Trichophyton rubrum Oral Surg Oral Med Oral Pathol 30:201–206, 1970*

Vaccinia *Br Dent J 143:57–59, 1977*

Varicella

Yaws

## INFILTRATIVE

Plasma cell cheilitis – with lip ulcer *JAAD 30:789–780, 1994*

## INFLAMMATORY DISEASES

Cheilitis granulomatosa (Miescher's cheilitis) *Oral Dis 3:188–192, 1997; AD 124:1706–1709, 1988; J Oral Maxillofac Surg 44:474–478, 1986; Dermatologica 91:57–64, 1945*

Crohn's disease – granulomatous cheilitis, fissures of lips, and angular cheilitis with ulceration; multiple aphthae, cobblestoning of the buccal mucosa, linear ulcers of the sulci, pyostomatitis vegetans, fissures of the lower lip, tiny nodules of the gingival and alveolar mucosa *J Pediatr Gastroenterol Nutr 32:339–341,2001; AD 135:439–442, 1999; JAAD 36:986–988, 1997; J R Soc Med 75:414–417, 1982; JAAD 5:689–695, 1981;* angular cheilitis *Rook p.3120, 1998, Sixth Edition*

Erythema multiforme – hemorrhagic cheilitis of Stevens–Johnson syndrome *Rook p.3133, 1998, Sixth Edition*

Orofacial granulomatosis *Br Dent J 163:154–157, 1987*

Periadenitis mucosae necrotica recurrens (Sutton's disease) *AD 133:1161–1166, 1997*

Pyostomatitis vegetans *Rook p.3142, 1998, Sixth Edition*

Sarcoid – granulomatous cheilitis *JAAD 29:822–824, 1993*

Toxic epidermal necrolysis *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

## METABOLIC

Acrodermatitis enteropathica (zinc deficiency) – angular cheilitis *Ped Derm 19:426–431, 2002; Rook p.2670, 1998, Sixth Edition;* acquired zinc deficiency with erythema and scaling of entire vermilion

Ariboflavinosis – angular stomatitis

Celiac disease – angular cheilitis *Rook p.3120, 1998, Sixth Edition*

Folic acid – angular cheilitis *Lancet Aug 28;2 (7722):453–454, 1971*

Hartnup's disease – cheilitis and angular stomatitis

Iron deficiency – angular cheilitis *J Am Dent Assoc 99:640–641, 1979*

Kwashiorkor (protein and caloric deprivation) – angular cheilitis and cheilitis *Cutis 67:321–327, 2001; JAAD 21:1–30, 1989*

Liver disease, chronic (cirrhosis) – cheilitis; zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Malabsorption – angular cheilitis *Rook p.3120, 1998, Sixth Edition*

Methylmalonic acidemia, cobalamin C type – red lips *Dermatol Pediatr Lat 1:46–48, 2003; AD 133:1563–1566, 1997*

Pellagra (niacin deficiency) – crusted lips; Casal's necklace; red pigmented sharply marginated photodistributed rash, including drug-induced pellagra-like dermatitis – 6-mercaptopurine, 5-fluorouracil, INH (all of the above – also seb derm-like); resembles Hartnup disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999; BJD 125:71–72, 1991*

Pernicious anemia – angular cheilitis *Rook p.3120, 1998, Sixth Edition*

Porphyria cutanea tarda – cheilitis of lower lip *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:705–708, 2000;* angular cheilitis

Pseudoglucagonoma syndrome due to malnutrition – angular cheilitis *AD 141:914–916, 2005*

Vitamin $B_2$ (riboflavin) deficiency – angular cheilitis; sore red lips, tongue, and mouth *Clinics in Derm 17:457–461, 1999; AD 112:70–72, 1976*

## NEOPLASTIC DISEASES

Actinic cheilitis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 88:181–186, 1999; Rook p.1676, 1998, Sixth Edition; Derm Surg 23:15–21, 1997*

Basal cell carcinoma

Benign lymphoplasia – pruritic cheilitis; itching of the vermilion border *Oral Surg Oral Med Oral Pathol 55:759–767, 1983; Oral Surg Oral Med Oral Pathol 55:359–362, 1983*

Hyperkeratotic cheilitis in association with proliferative verrucous leukoplakia *JAAD 41:481–483, 1999*

Leukoplakia

Leukemic macrocheilitis *JAAD 14:353–358, 1986*

Squamous cell carcinoma

## PARANEOPLASTIC DISEASES

Glucagonoma syndrome (necrolytic migratory erythema) – angular cheilitis; scaling papules and plaques *JAAD 24:473–477, 1991*

Paraneoplastic pemphigus – erosive cheilitis; associated with Castleman's disease, non-Hodgkin's lymphoma, thymoma, or follicular dendritic cell sarcoma *BJD 153:558–564, 2005; Hautarzt 52:159–172, 2001; NEJM 323:1729–1735, 1990*

### PHOTODERMATITIS

Acute sunburn *Rook p.3137, 1998, Sixth Edition*

Actinic prurigo *BJD 144:194–196, 2001; JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Ped Derm 3:384–389, 1986; JAAD 5:183–190, 1981*

Hydroa vacciniforme *AD 122:1310–1313, 1986*

Phytophotodermatitis

### PRIMARY CUTANEOUS DISEASE

Angular cheilitis – candida, staphylocci, immune deficiency, dentures, overbite, atopic dermatitis, riboflavin, iron, folate deficiencies, protein malnutrition, hypersalivation (drooling) (Down's syndrome), edentulous patients, prognathism *Rook p.3135–3136, 1998, Sixth Edition*

Atopic cheilitis *Am J Contact Dermatitis 10:198–200, 1999; Allergy 46:125–128, 1991; Dermatologica 177:360–364, 1988*

Cheilitis exfoliativa (chapped lips) *Dermatology 196:253–255, 1998; Rook p.3131, 1998, Sixth Edition*

Cheilitis glandularis (Puente's disease) – inflammatory condition of the lower lip minor salivary glands; enlargement with a mucus ductal discharge, eversion, and hardening of the lip *Oral Surg Oral Med Oral Pathol 78:319–322, 1994; Oral Surg Oral Med Oral Pathol 62:654–656, 1986*

Chronic fissural cheilitis – due to anterior dental crowding *Am J Orthod Dentofacial Orthop 119:71–75, 2001*

Focal acantholytic dyskeratosis – crusted patch of lip *Am J Dermatopathol 17:189–191, 1995*

Ichthyosiform dermatosis with superficial blister formation and peeling *JAAD 34:379–385, 1996*

Kimura's disease – hemorrhagic cheilitis *JAAD 43:905–907, 2000*

Lichen planus *BJD 138:145–146, 1996; BJD 132:1000–1002, 1995*

Median deep vertical fissure of lower lip

Xerosis *Ghatan p.75, 2002, Second Edition*

### PSYCHOCUTANEOUS DISEASE

Factitial cheilitis (cheilitis exfoliativa, cheilorrhagia and cheilitis glandularis) *Ped Derm 16:12–15, 1999; Dermatologica 170:93–97, 1985; JAAD 8:368–372, 1983; AD 117:338–340, 1981*

### SYNDROMES

Bloom's syndrome – bullae, crusting, and bleeding of the lips *Ped Derm 14:120–124, 1997*

Darier's disease

Down's syndrome – cheilitis with fissured lip *Ghatan p.130, 2002, Second Edition*

Hereditary mucoepithelial dystrophy – angular cheilitis *Ped Derm 12:195, 1995*

Hughes' syndrome – acromegaloid features and thickened oral mucosa; thickened fissured lips *J Med Genet 22:119–125, 1985*

Hyper-IgE syndrome

IFAP – ichthyosis follicularis with alopecia and photophobia – angular cheilitis *BJD 142:157–162, 2000; Ped Derm 12:195, 1995*

Kawasaki's disease – erythematous and/or fissured lips *JAAD 39:383–398, 1998*

Keratosis–ichthyosis–deafness syndrome – bright red thickened lips; hyperkeratotic papules and plaques of face, scalp, trunk, extremities; exaggerated diaper dermatitis *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990*

Kindler's syndrome

Lesch–Nyhan syndrome – cheilitis due to biting *Ped Derm 13:169–170, 1996*

Mal de Meleda – cheilitis

Melkersson–Rosenthal syndrome *AD 136:1557–1558, 2000; JAAD 21:1263–1270, 1989*

Mucoepithelial dysplasia (gap junction disease) – perleche

Peeling skin syndrome, fissured cheilitis, blistering of palms and soles, and desmosomal abnormalities *JAAD 34:379-385, 1996*

Progressive symmetric erythrokeratoderma

Reiter's syndrome

Shedding oral mucosa syndrome – may be HIV-associated

Shwachman syndrome *Ped Derm 9:57–61, 1992*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – cheilitis, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Xeroderma pigmentosum

### TOXINS

Acrodynia – mercury poisoning *Ped Derm 21:254–259, 2004*

### TRAUMATIC

Biting

Burns – heat, irradiation, chemicals, electricity *Rook p.3144, 1998, Sixth Edition*

Clarinetist's cheilitis *Cutis 38:183–184, 1986*

Cold and wind

Dental flossing – angular cheilitis *JAAD 15:113–114, 1986*

Electrical burn

Lip licking *Am J Contact Dermatitis 10:198–200, 1999*

Mechanical trauma

Radiation

Teething ring cheilitis *Cutis 34:362,364, 1984*

### VASCULAR DISEASES

Arteriovenous malformation

Pyogenic granuloma

## CHEST WALL TUMORS

***J Thoracic Cardiovasc Surg 111:96–105, 1996; Surg Gynecol Obstet 104:390, 1995***

### BENIGN TUMORS

Chondromas

Enchondromas

Eosinophilic granuloma

Fibromas
Lipomas
Neurilemmomas
Neurofibromas
Osteochondromas
Osteomyelitis

### MALIGNANT TUMORS

Chondrosarcomas
Clear cell carcinoma
Ewing's sarcoma
Lymphoma
Malignant fibrous histiocytoma
Metastases
Osteosarcoma
Plasmacytomas
Rhabdomyosarcoma

## CLEFT LIP/PALATE – ASSOCIATED SKIN DISORDERS

***Bolognia p.930, 2003***
AEC syndrome (Hay–Wells syndrome)
Beare–Stevenson cutis verticis gyrata syndrome
Branchio–oculo–facial syndrome
Cleft lip/palate-ectodermal dysplasia
Dermal melanocytosis
EEC syndrome
Encephaloceles
Nasal glioma
Nail–patella syndrome
Nevoid basal cell carcinoma syndrome
Oculocerebrotendinous syndrome
Oral–facial–digital syndrome type 1
Pai syndrome – facial skin tags, nasal polyps, CNS lipomas
Popliteal pterygium syndrome
Rapp–Hodgkin syndrome
Van der Woude syndrome
Waardenburg syndrome type 1 or 3
4p-syndrome (Wolf–Hirschhorn syndrome)

## COBBLESTONE APPEARANCE OF THE ORAL MUCOSA

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – cobblestoning of lips
Dermatitis herpetiformis – maculopapular lesions on alveolar mucosa
Desquamative gingivitis
Graft vs. host disease
Pemphigus vegetans *AD 128:397–402, 1992; AD 121:271–272, 1985;* pemphigus vegetans, Neumann variant – cobblestoned lips, palate, and tongue *JAAD 39:872–875, 1998;* cerebriform tongue *BJD 104:587–591, 1981*
Systemic lupus erythematosus

### DRUGS

Corticosteroid atrophy
Cyclosporine – gingival hyperplasia
Tacrolimus – personal observation

### EXOGENOUS AGENTS

Bromides – verrucous or vegetative lesions
Dentures – verrucous or vegetative lesions
Iodides – verrucous or vegetative lesions
Silica granuloma (white cobblestoned) *AD 127:692–694, 1991*

### INFECTIONS AND INFESTATIONS

Bartonellosis – verrucous and/or vegetative lesions
Bejel (endemic syphilis) – verrucous or vegetative lesions
*Calymmatobacterium granulomatis* (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*
Candidiasis – chronic nodular candidiasis *Rook p.1341, 1998, Sixth Edition;* papillary hyperplasia of the palate; chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981;* atrophic candidiasis; cobblestoning of lips
Coccidioidomycosis – verrucous or vegetative lesions
*Condyloma acuminata*
Focal epithelial hyperplasia (Heck's disease) – lips and/or palatal cobblestoning; HPV 13, 32 *AD 140:1227–1231, 2004; AD 138:1309–1314, 2002; BJD 144:1067–1069, 2001; Ped Derm 10:240–244, 1993; AD 127:887–892, 1991; JAAD 1:499–502, 1979*
Granuloma inguinale
Herpetic gingivostomatitis
Histoplasmosis *Cutis 55:104–106, 1995*
Koplik's spots
  Measles
  Parvovirus B19
Leishmaniasis, mucocutaneous
Leprosy
Mucormycosis
Mycobacterium tuberculosis – lupus vulgaris *Ped Derm 20:429–431, 2003;* tuberculosis verrucosa cutis
North American blastomycosis
Oral hairy leukoplakia (tongue)
Paracoccidioidomycosis (palate) *Cutis 40:214–216, 1987*
Pinta – verrucous or vegetative lesions
Rhinoscleroma – verrucous or vegetative lesions
Rhinosporidiosis
Streptococcal gingivostomatitis
Syphilis – chancre (primary) – verrucous or vegetative lesion; mucous patch, hyperplastic syphilis, interstitial glossitis (tertiary lues); syphilitic oral condylomata *JAAD 29:756, 1993;* cobblestoning of lips
Verrucae vulgaris – of lips *Tyring p.272, 2002*
Yaws – verrucous or vegetative lesions

## INFILTRATIVE DISEASES

Amyloidosis

Infantile systemic hyalinosis – gingival thickening

Juvenile hyaline fibromatosis – gingival thickening

Lichen myxedematosus

Plasma cell orificial mucositis (lips and tongue) *AD 122:1321–1324, 1986*

Verruciform (verrucous) xanthoma – gingiva and alveolar ridge are most common locations *JAAD 42:343–347, 2000; Cutis 51:369–372, 1993*

Xanthoma disseminatum *JAAD 26:433–436, 1991*

## INFLAMMATORY DISEASES

Cheilitis granulomatosa – cobblestoned lips

Crohn's disease – palatal or intraoral cobblestoning or granular appearance *AD 135:439–442, 1999;* nodules of gingiva *JAAD 36:697–704, 1997; AD 127:887–892, 1991, JAAD 12:260–268, 1985; JAAD 27:40, 1990;* cobblestoned lips *Rook p.2722, 1998, Sixth Edition*

Desquamative gingivitis

Eruptive lingual papillitis – tongue papules composed of fungiform papillae of tip and side of tongue *BJD 150:299–303, 2004*

Granular appearance *JAAD 27:40, 1990*

Migratory mucositis of the lip

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Pyostomatitis vegetans – deep fissures, pustules, papillary projections *Oral Surg Oral Med Oral Pathol 75:220–224, 1993; J Oral Pathol Med 21:128–133, 1992; Gastroenterology 103:668–674, 1992; JAAD 21:381–387, 1989; AD 121:94–98, 1985*

Sarcoidosis

Verrucous hyperplasia of the mucosa

Whipple's disease

## METABOLIC DISEASES

Pernicious anemia – cobblestoned deep red tongue *Rook p.2736, 1998, Sixth Edition*

Plane xanthomas

Pregnancy gingivitis

## NEOPLASTIC DISEASE

Acquired dyskeratotic leukoplakia *AD 124:117–120, 1988*

Adenoid cystic carcinoma

Basal cell carcinoma

Bowen's disease

Epithelioma – verrucous or vegetative lesion

Erythroplasia of Queyrat

Fordyce spots

Hereditary benign intraepithelial dyskeratosis

Leukemia – acute myelomonocytic leukemia; erythroleukemia

Lymphoma – cutaneous T-cell lymphoma (CTCL) *JAAD 22:569–577, 1990;* Hodgkin's disease

Melanocytic nevi

Mucosal neuroma

Plasmacytoma – cobblestoning of lips

Plasmoacanthoma – cobblestoning of lips

Proliferative verrucous hyperplasia (leukoplakia) *AD 127:887–892, 1991*

Sebaceous adenoma

Seborrheic keratosis

Squamous cell carcinoma *Rook p.3075, 1998, Sixth Edition*

Sublingual keratosis (leukoplakia) *Rook p.3098, 1998, Sixth Edition*

Verrucous carcinoma (oral florid papillomatosis) *JAAD 32:1–21, 1995; AD 127:887–892, 1991*

Verrucous leukoplakia – verrucous lesion

White sponge nevus *AD 117:73–76, 1981*

## PARANEOPLASTIC DISEASES

Acanthosis nigricans, malignant *JAAD 25:361–365, 1991;* lips and/or palatal cobblestoning *AD 130:649–654, 1994; JAAD 31:1–19, 1994; Clin Genet 50:160, 1991*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans – lips and/or palatal cobblestoning *AD 130:649–654, 1994*

Black hairy tongue – verrucous or vegetative changes

Cheilitis glandularis

Darier's disease (keratosis follicularis) – *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992; JAAD 27:40–50, 1992*

Diffuse epithelial hyperplasia

Fissured tongue

Geographic stomatitis *J Oral Pathol Med 20:425–428, 1991*

Geographic tongue (normal variant, psoriasis, pustular psoriasis, Reiter's syndrome) *J Oral Pathol Med 20:425–428, 1991*

Hypertrophy of fungiform papillae of tongue

Lichen planus; lichen planus vegetans

Scrotal tongue

## PSYCHOCUTANEOUS DISEASES

Factitial cheilitis – cobblestoned lips *Ped Derm 16:12–15, 1999*

## SYNDROMES

Bannayan–Riley–Ruvalcaba syndrome *AD 132:1214–1218, 1996*

Birt–Hogg–Dube syndrome – fibrofolliculomas *AD 135:1195–1202, 1999*

Cowden's syndrome (multiple hamartoma syndrome) – verrucous and papillomatous lesions on labial and buccal mucosa, fauces, and oropharynx; palatal cobblestoning *Rook p.2711, 1998, Sixth Edition; JAAD 11:1127–1141, 1984; Ann DV 106:453–463, 1979; AD 114:743–746, 1978;* smooth pink or whitish papules of palatal, gingival, and labial mucosa *Oral Surg 49:314–316, 1980*

Dermochondrocorneal dystrophy *AD 124:424–428, 1988*

Dyskeratosis congenita

Epidermal nevus syndrome *Syndromes of the Head and Neck, p.363, 1990*

Goltz's syndrome

Lipoid proteinosis *JAAD 39:149–171, 1998*

Melkersson–Rosenthal syndrome

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988; Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple endocrine neoplasia syndrome (MEN I) – gingival cobblestoning *AD 133:853–857, 1997*

Multiple mucosal neuroma syndrome – MEN Type II (palate)

Neurofibromatosis – papillomatosis of the palate

Nevus sebaceous syndrome (Schimmelpenning–Feuerstein–Mims syndrome) – cobblestoning of hard palate *JAAD 52:S62–64, 2005; Am J Dis Child 104:675–679, 1962; Fortschr Roentgenstr 87:716–720, 1957*

Pachyonychia congenita

Pseudoxanthoma elasticum *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988*

Reiter's syndrome

Sjögren's syndrome

Sweet's syndrome

Tuberous sclerosis – gingival fibromas

Xerostomia – tongue cobblestoning

### TOXINS

Nicotine stomatitis

Tobacco chewing – diffuse epithelial hyperplasia

### TRAUMA

Morsicatio buccarum (cheek biting) – oral papillomatosis due to chronic buccal trauma *Cutis 43:254–257, 1989;* cobblestoning with biting papillomas *Bolognia p.1085, 2003;* Dentate tongue – scalloping

Papillary hyperplasia of the palate

### VASCULAR

Lymphangioma circumscriptum *Rook p.2292,3066, 1998, Sixth Edition; Otolaryngol Head Neck Surg 90:283, 1982*

Lymphatic malformation *BJD 148:1279–1282, 2003*

Pyogenic granuloma – verrucous or vegetative lesion

Wegener's granulomatosis (gingival hyperplasia) *AD 130:861–867, 1994; JAMA 246:2610, 1981*

## COBBLESTONE APPEARANCE OF SKIN

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – cutaneous mucinosis *JAAD 14:1–18, 1986*

Lupus erythematosus – discoid lupus erythematosus; papular and nodular mucinosis with SLE *BJD 115:631–636, 1986*

Scleroderma – cobblestoning of dorsum of hand *Rook p.2529, 1998, Sixth Edition*

### CONGENITAL LESIONS

Smooth muscle hamartoma

### DRUG-INDUCED

Cyclosporine-induced folliculodystrophy – cobblestoned follicular facial and earlobe papules (viral-associated trichodysplasia?) *JAAD 50:318–322, 2004*) *JAAD 50:310–315, 2004*

### EXOGENOUS AGENTS

Aquagenic syringeal acrokeratoderma (aquagenic palmoplantar keratoderma, aquagenic keratoderma *BJD 152:394–395, 2005; Dermatology 204:8, 2002; JAAD 45:124, 2001*

Cold urticaria – positive ice cube test

Exogenous ochronosis (grainy appearance) – topical application of hydroquinone *JAAD 22:529–531, 1990*

### INFECTIONS AND/OR INFESTATIONS

Blastomycosis-like pyoderma

Botryomycosis *JAAD 9:428–434, 1983*

Condyloma acuminatum *Rook p.3216, 1998, Sixth Edition*

Generalized deep dermatophytosis (trichophytic granuloma) – *Trichophyton rubrum AD 140:624–625, 2004*

Leishmaniasis – post-kala-azar dermal leishmaniasis; rippled skin *BJD 143:136–143, 2000*

Leprosy, lepromatous

Lobomycosis

Molluscum contagiosum in AIDS *Ped Derm 20:436–439, 2003; Rook p.2752, 1998, Sixth Edition*

Pitted keratolysis

Protothecosis *BJD 146:713–715, 2002*

Schistomiasis – vulvar cobblestoned nodule *Am J Surg Pathol 8:787–790, 1984*

Small pox scarring

Verrucae vulgaris, including flat warts in AIDS – HPV 5, 6 or 11 *Cutis 63:91–94, 1999; JAAD 23:978–981, 1990;* warts in Netherton's syndrome *BJD 144:1044–1049, 2001*

### INFILTRATIVE

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*; macular amyloid tumefactive (nodular) amyloidosis – uncommon variant of cutaneous localized amyloid; female predominance; deposits of amyloid in papillary and reticular dermis and subcutaneous fat; 15% of these patients actually have primary systemic amyloidosis *AD 124:769–774, 1988; AD 102:8–19, 1970; BJD 82:129–136, 1970*

Benign non-X histiocytosis – including xanthoma disseminatum, generalized eruptive histiocytoma, or indeterminate cell disorder *JAAD 18:1282–1289, 1988*

Colloid milium

Focal cutaneous mucinosis

Langerhans cell histiocytosis *Clin Exp Dermatol 27:135–137, 2002*

Lichen myxedematosis *BJD 144:594–596, 2001*; scleromyxedema – associated with paraproteinemia (IgG lambda light chains) (110 Kd 7S IgG); may be missing a portion of the Fc fragment; not usually associated with myeloma (those are IgG kappa light chains) *Cutis 39:219–223, 1987*

Localized lichen myxedematosus (papular mucinosis) in morbid obesity *BJD 148:165–168, 2003*

Mastocytosis – crocodile-like pachydermic skin; mastocytoma *BJD 144:208–209, 2001; BJD 103:329–34, 1980;* xanthelasmoidea *Med Chir Trans 66:329–347, 1883*

Primary cutaneous mucinoses include acral mucinosis, self healing juvenile cutaneous mucinois, focal cutaneous mucinosis, lichen myxedematosus, and cutaneous mucinosis of infancy *JAAD 28:797–798, 1993*

Self-healing juvenile cutaneous mucinosis – 'corrugated' appearance of papules; rapid onset asymptomatic papules in linear arrays; face, neck, scalp, trunk, and thighs; nodules on face and joints with arthritis underlying joints *JAAD 11:327–332, 1984*

Verruciform (verrucous) xanthoma – gingiva and alveolar ridge are most common locations; may be found on genitalia or extragenital sites; isolated flat papillomatous plaque; no associated hyperlipidemia; mimics verrucous carcinoma or squamous cell carcinoma of genitalia; may be seen with ILVEN or in CHILD syndrome *JAAD 42:343–347, 2000; Cutis 51:369–372, 1993*

Xanthoma disseminatum – normolipemic mucocutaneous xanthomatosis; yellow to orange papules in flexures and intertriginous areas; internal involvement of pituitary, bone marrow, brain, respiratory system, heart, kidney, pancreas, lymph nodes, uterus, muscles, and mucous membranes; associated with diabetes insipidus; blindness, cerebellar ataxia, and internal hydrocephalus due to lesions on or near the hypophysis *BJD 150:346–349, 2004; JAAD 23:341–346, 1990*

## INFLAMMATORY

Chronic peristomal papillomatous dermatitis *BJD 143:1248–1260, 2000*

Crohn's disease – peristomal Crohn's disease *BJD 143:1248–1260, 2000*

Eosinophilic fasciitis *Curr Rheum Reports 4:113, 2002; Rheum Dis Clin North Am 21:231, 1995; Assoc Am Physicians 88:70, 1985*

Lymphocytoma cutis

Rosai–Dorfman disease *BJD 149:672–674, 2003*

## METABOLIC

Anasarca – with bullae

Cystic fibrosis – wrinkling of skin after immersion in water *Lancet ii:358–359, 1974*

Diabetic finger pebbling (Huntley's papules) (finger pebbles) *Cutis 69:298–300, 2002; JAAD 14:612–617, 1986*

Osteomas – multiple miliary facial osteomas (miliary osteoma cutis) *Cutis 69:383–386, 2002*

Porphyria – erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976;* porphyria cutanea tarda, variegate porphyria

Pretibial myxedema – occurs in 1–10% of patients with Grave's disease. Often associated with exophthalmos *NEJM 352:918, 2005; JAAD 14:1–18,1986; AD 117:250–251, 1981;* elephantiasic pretibial myxedema *JAAD 46:723–726, 2002*

Thyroid acropachy

Xanthomatosis – type II hypercholesterolemia – including tuberous xanthomas of the eyelids *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.139, 1999*

## NEOPLASTIC

Acquired digital fibrokeratoma *JAAD 48:S67–68, 2003*

Bowen's disease, vulvar *Ann DV 109:811–812, 1982; Cancer 14:318–329, 1961*

Bowenoid papulosis (vulvar) *Rook p.3234, 1998, Sixth Edition; JAAD 29:644–646, 1993*

Chordoma (sacral tumor) – non-tender, firm, flesh colored smooth surfaced nodules; may be painful; tumors arising from the notochord (embryonic precursor of axial skeleton); localize in midline; sacrococcygeal (50%), non-sacral vertebrae (15%), and at base of skull (35%); metastases may occur *JAAD 29:63–66, 1993*

Clear cell acanthoma (velvety plaque) – usually on legs; 3–20 mm *JAAD 44:314–316, 2001; JAAD 21:313–315, 1989*

Connective tissue nevus *Ped Derm 11:84–85, 1994; Curr Prob Derm 8:137–188, 1996;* disseminated collagenomas

Dermatofibrosarcoma protuberans – starts as indurated dermal plaque which becomes cobblestoned or multilobulated; trunk more common than proximal extremities or head and neck *JAAD 20:151–152, 1989*

Eccrine syringofibroadenoma – acrosyringeal hamartoma; may be solitary, dermatomal or multiple nevoid tumors; associated with other eccrine tumors or ectodermal dysplasia syndromes; face, back, abdomen, buttock, or extremities; tapioca pudding-like surface; 0.1–25 cm papules, nodules, fleshy, spongy, or verrucous plaques; *AD 126:945–949, 1990*

Epidermal nevus – systematized (ichthyosis hystrix)

Granular cell tumor of the vulva – single or multiple; slow growing solitary nodules or plaques with smooth or hyperkeratotic surface; tongue (35%), head and neck (50%), vulva (5.3%) *Ped Derm 10:153–155, 1993*

Grzybowski's eruptive keratoacanthomas – non-familial; crops of pruritic lesions on head and neck; numerous lesions under 1 cm; heal with scarring *JAAD 21:1023–1024, 1989*

Hamartomas – multiple hamartomas of the ears *JAAD 24:293–295, 1991*

Hidrocystomas, multiple

Kaposi's sarcoma

Leukemia – adult T-cell leukemia (HTLV-1 leukemia/lymphoma); Southwest Japan, Caribbean, Southeast US, South America, Africa; all areas where HTLV-1 is endemic; three-quarters of patients have cutaneous involvement which resembles that of CTCL; acute and progressive course; ATL cells are suppressor T-cells and express Tac (IL-2R) on the cell surface *AD 134:439–444, 1998; JAAD 34:69–76, 1996; BJD 128:483–492, 1993; Am J Med 84:919–928, 1988; JAAD 13:213–219, 1985*

Lymphoma – cutaneous T-cell lymphoma *JAAD 23:653–662, 1990;* Hodgkin's disease *AD 116:1038–1040, 1980*

Melanocytic nevus – congenital melanocytic nevus – *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.80, 1999; Rook p.1733–1735, 1998, Sixth Edition*

Metastases – bile duct carcinoma (rippled appearance) – percutaneous biliary catheterization may disseminate tumor cells along the catheter tract *JAAD 25:848–849, 1991*

Mucinous nevus *BJD 148:1064–1066, 2003*

Nevoid epidermoid cysts

Nevus lipomatosis superficialis *Ped Derm 20:313–314, 2003; Arch Dermatol Syphilol 130:327, 1921*

Nevus sebaceus *Bolognia p.1736, 2003*

Osteoma cutis with unilateral linear basal cell nevus – may be seen as multiple primary osteomas of the face of women,

diffuse multiple osteomas of the extremities, Albright's hereditary osteodystrophy (short stature, round face, absence of several knuckles with or without mental retardation), fibrodysplasia ossificans progressiva (ossification of fascia, aponeurosis, and muscular structures, microdactyly) *JAAD 20:973–978, 1989*

Papillomatosis cutis carcinoides *Cutis 62:77–80, 1998*

Penile carcinoma with HPV 18 – either HPV 16 or 18 may be implicated in penile carcinoma *JAAD 20:887–889, 1989*

Sebaceous gland hypertrophy of labia minora *Genital Skin Disorders, Fischer and Margesson, CV Mosby, p.104, 1998; Rook p.3205, 1998, Sixth Edition*

Seborrheic keratosis

Smooth muscle hamartoma

Spitz nevus *Great Cases from the South; AAD Meeting; March 2000*

Squamous cell carcinoma

Syringocystadenoma papilliferum

Trichoblastoma *AD 137:219–224, 2001*

Trichodiscomas – multiple agminated trichodiscomas of earlobe *JAAD 49:729–730, 2003*

Trichoepitheliomas, multiple *Bolognia p.1736, 2003; Am J Dermatopathol 24:402–405, 2002;* of nose *AD 87:102–114, 1963*

Xanthogranulomas – generalized lichenoid juvenile xanthogranulomas *Br J Derm 126:66–70,1992*

## PARANEOPLASTIC

Acanthosis nigricans, malignant

Bazex syndrome *BJD 103:301–306, 1980*

Necrobiotic xanthogranuloma *Cutis 59:333–336, 1997*

Tripe palms *J Clin Oncol 7:669–678, 1989; JAAD 16:217–219, 1987*

## PHOTODERMATOSES

Actinic reticuloid (chronic actinic dermatitis) – chronic photosensitivity disorder associated with CTCL; sensitive to UVB *JAAD 21:1134–1137, 1989; JAAD 38:877–905, 1998; Sem Derm 161, Sept 1982; AD 115:1078–1083, 1979*

## PRIMARY CUTANEOUS DISEASE

Acantholytic dermatosis of the vulvocrural area – vulvar papules, cobblestoning of the vulva and thighs *Cutis 67:217–219, 2001*

Acanthosis nigricans, pseudo-acanthosis nigricans, benign

Acquired plantar hyperkeratosis

Acrokeratoelastoidosis of Costa

Darier's disease *JAAD 27:40–50, 1992*

Epidermolytic hyperkeratosis *AD 130:1026–1033, 1994*

Excess skin folds with cobblestone appearance in:
Dermatosparaxis *AD 129:1310–1315, 1993*
Cutis laxa – autosomal dominant (good prognosis), autosomal recessive (one form with severe cardiorespiratory symptoms), X-linked recessive (X-linked Ehlers–Danlos syndrome-joint laxity, bladder diverticula, hernia, cranial occipital exostoses), or acquired (may follow febrile illnesses, seen in offspring of mothers with cystinuria taking penicillamine; also DeBarsy syndrome, Patterson syndrome, wrinkly skin syndrome, geroderma osteoplastica, pseudoxanthoma elasticum, SCARF syndrome (skeletal abnormalities, ambiguous genitalia, craniostenosis, retardation, and facial abnormalities), amyloidosis and plasma cell dyscrasia) *AD 129:757–762, 1993*

Fox–Fordyce disease

Granular parakeratosis *Ped Derm 20:215–220, 2003*

Hailey–Hailey disease *JAAD 26:951–955, 1992*

Hyperkeratosis of the nipple and areola (hyperkeratosis areolae mammae) *JAAD 41:274–276, 1999; Eur J Dermatol 8:131–132, 1998 JAAD 13:596–598, 1985; AD 126:687, 1990;* estrogen-induced *Cutis 26:95–96, 1980*

Ichthyosis hystrix (Lambert type) *JAAD 36:646–647, 1997*

Lichen planus

Lichen simplex chronicus; of the vulva *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.158;* nodular lichen simplex chronicus of the scrotum *BJD 144:915–916, 2001*

Mal de Meleda (recessive transgressive palmoplantar keratoderma) – lichenoid cobblestoned plaques on the knees *Ped Derm 14:186–191, 1997*

Ofuji's disease (eosinophilic pustular folliculitis) – crops of follicular papules and pustules on face, trunk and extremities; leukocytosis with eosinophilia and elevated IgG, IgA and IgE *JAAD 12:268–273, 1985*

Perforating granuloma annulare *AD 137:1647–1652, 2001*

Perianal pseudoverrucous papules and nodules *AD 128:24–242, 1992*

Pityriasis rubra pilaris in AIDS *JAAD 27:260–262, 1992*

Pseudoepitheliomatous keratotic and micaceous balanitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.84, 1998; Cutis 35:77–79, 1985*

Psoriasis with tripe palms *Clin Exp Dermatol 5:181–189, 1980*

Pseudoxanthoma elasticum-like papillary dermal elastolysis *JAAD 51:165–185, 2004*

Rhinophyma

Scleredema

Scrotal glans penis *Int J Derm 36:762–763, 1997*

Striae atrophicae

Terra firme

Vohwinkel's palmoplantar keratoderma

White fibrous papulosis of the neck (fibroelastolytic papulosis) – cobblestoning with 2–4-mm skin-colored papules *JAAD 51:958–964, 2004; Int J Derm 35:720–722, 1996; JAAD 20:1073–1077, 1989*

## SYNDROMES

Birt–Hogg–Dube syndrome – fibrofolliculomas; autosomal dominant; fibrofolliculomas (of mesodermal and epithelial origin), trichodiscomas (of mesodermal origin) and acrochordons on face, neck, scalp and upper trunk; differential diagnosis includes multiple trichoepitheliomas (autosomal dominant), Cowden's syndrome (autosomal dominant), fibrofolliculomas (autosomal dominant), trichodiscomas (autosomal dominant), perifollicular fibromas and adenoma sebaceum (autosomal dominant); association with renal cell carcinoma *JAAD 16:452–457, 1987*

Buschke–Ollendorff syndrome – skin-colored to yellow papules *Ped Derm 22:133–137, 2005; JAAD 49:1163–1166, 2003; BJD 144:890–893, 2001*

Congenital erosive and vesicular dermatitis with reticulate scarring – cobblestoned scars *AD 121:361–367, 1985*

Cowden's syndrome (multiple hamartoma syndrome) – trichilemmomas coalescing around the eyes and mouth *JAAD 11:1127–1141, 1984; AD 114:743–746, 1978*

Epidermodysplasia verruciformis *JAAD 32:523–524, 1995*

Hunter's syndrome (mucopolysaccharidosis IIb) – X-linked recessive; scapular papules; also posterior axillary lines, upper arms, forearms, chest, outer thighs; decreased sulfoiduronate sulfatase; flesh colored papules overlying scapulae; linear and reticular patterns; also on shoulder, upper arms and chest, and lateral thighs; rough thickened skin, coarse scalp hair and hirsutism; coarse facies with frontal bossing, hypertelorism and thick tongue; dysostosis multiplex; hunched shoulders and characteristic posturing; hepatosplenomegaly; upper respiratory infections due to laryngeal or tracheal stenosis; mental retardation; deafness; retinal degeneration and corneal clouding; umbilical and inguinal hernias; thickened heart valves leading to congestive heart failure *BJD 148:1173–1178, 2003; Clin Exp Dermatol 24:179–182, 1999; AD 134:108–109, 1998; JAAD 39:1013–1015, 1998; Ped Derm 15:370–373, 1998; Am J Med Genet 47:456–457, 1993; Ped Derm 7:150–152, 1990*

Hurler's syndrome – scapular papules; pebbling of skin between scapulae or on deltoid region; also posterior axillary lines, upper arms, forearms, chest, outer thighs *Acta Paediatr 41:161–167, 1952*

Hutchinson–Guilford syndrome – soft and pebbly nodules

HID syndrome (hystrix-like ichthyosis with deafness) – autosomal dominant; shark-skin appearance, sensorineural deafness, spiky and cobblestoned hyperkeratosis, neonatal erythroderma, scarring alopecia, occasional punctate keratitis; probably variant of KID syndrome with mutation of connexin 26 (gap junction protein) *BJD 146:938–942, 2002*

Juvenile hyaline fibromatosis – autosomal recessive; ages 2 to adult; myofibroblastic origin; face, scalp and back; joint deformities, gingival hyperplasia and papillomatous perianal lesions *Ped Derm 6:68, 1989*

Lipoid proteinosis – hyaline-like material is $PAS^+$ and diastase resistant *JAAD 16:1193–1201, 1987*

Michelin tire baby syndrome

Multicentric reticulohistiocytosis *Clin Derm 11:107–111, 1993*; *JAAD 11:713–723, 1984*

Neurofibromatosis type I – elephantiasis neurofibromatosa

Pachydermoperiostosis – cobblestoned palmoplantar hyperkeratosis *J Dermatol 27:106–109, 2000*

Perioral cobblestoning, ichthyosis and deafness *AD 124:102–106, 1988*

Proteus syndrome – cerebriform hyperplasia or connective tissue nevus of soles *AD 140:947–953, 2004; JAMA 285:2240–2243, 2001; Ped Derm 6:344–345, 1989*

Pseudoxanthoma elasticum – linear and reticulated cobblestoned yellow papules and plaques *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988;* PXE and acrosclerosis *Proc R Soc Med 70:567–570, 1977*

ROMBO syndrome – autosomal dominant; grainy skin, multiple basal cell carcinomas, vermicular atrophoderma, trichoepitheliomas, hypotrichosis, cyanosis of hands and feet; differential diagnosis includes Bazex syndrome (follicular atrophoderma, hypotrichosis, basal cell carcinomas), Rasmussen syndrome (milia, trichoepithliomas and cylindromas), and Birt–Hogg–Dube *JAAD 28:1011–1014, 1993*

Tuberous sclerosis – connective tissue nevus; adenoma sebaceum

### TOXINS

Eosinophilic myalgia syndrome – L-tryptophan *Am J Med 88:542–546, 1990*

### TRAUMA

Scar

Verrucous hyperplasia of the stump

Warm weather immersion foot – wrinkled appearance *Dermatol Clinics 17:1–17, 1999*

Wrestler's ear

### VASCULAR

Elephantiasis verrucosa nostra – lymphostasis verrucosa cutis; chronic lymphedema – congenital, inherited, acquired *Cutis 62:77–80, 1998;* elephantiasis nostras of penis *AD 137:1095–1100, 2001;* lymphedema of vulva *Arch Pathol Lab Med 124:1697–1699, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.222, 1998*

Glomangioma *JAAD 45:239–245, 2001*

Glomerulovenous malformation *AD 140:971–976, 2004*

Hemolymphangioma

Klippel–Trenaunay–Weber syndrome with lymphangiomas

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *Rook p.2294–2295, 1998, Sixth Edition; BJD 132:1014–1016, 1996*

Lymphangioma circumscriptum *Rook p.2292, 1998, Sixth Edition; J Derm Surg Oncol 14:357–364, 1988*

Lymphedema, congenital

Port wine stain (nevus flammeus) *JAAD 37:523–549, 1997;* old port wine stain *AD 120:1453–1455, 1984;* port wine stain with epithelial and mesenchymal hamartomas *JAAD 50:608–612, 2004*

Varicosities – chronic congestive heart failure

Venous stasis ulceration (chronic venous insufficiency) and stasis dermatitis – cobblestoning and papillomatosis around ulcer *Rook p.2258, 1998, Sixth Edition*

Vulvar papillomatosis (angiofibromas) (vestibular papillae) – papules *Rook p.3216, 1998, Sixth Edition*

## CONJUNCTIVAE, PIGMENTED LESIONS

***JAAD 38:971–978, 1998***

### NON-MELANOCYTIC

Blue sclerae
- Thinning of sclerae
  - Collagen necrosis due to autoimmune disorders (rheumatoid arthritis) or osteogenesis imperfecta
- Stretching of sclerae
  - Glaucoma
  - High myopia
- Senile hyaline plaque – blue sclerae at 3 and 9 o'clock
- Minocycline *Arthr Rheum 50:3698–3701, 2004*
- Ochronosis *NEJM 347:2111–2121, 2003*
- Ehlers–Danlos syndrome

Brown pigmentation
- Band keratopathy
- Cicatricial pemphigoid with symblepharon
- Lupus erythematosus – nodular episcleritis
- Gaucher's disease
- Jaundice
- Adrenochrome deposits – due to topical epinephrine – flecks of pigmentation in caruncle and plica
- Silver
- Mascara
- Ochronosis
- Quinine
- Iron
- Hemosiderin
- Wilson's disease

Dendritic melanocytic lesions
- Benign epithelial melanosis (congenital melanosis; racial variant)
- Secondary acquired melanosis – associated with inflammatory conditions, scar tissue and conjunctival tumors
- Primary acquired melanosis – with or without atypia; may be pre-malignant

Fusiform melanocytic lesions
- Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *BJD 67:317–319, 1955*
- Pigmented episcleral spot (Axenfeld's nerve loop)

LEOPARD syndrome *JAAD 50:S70–74, 2004*

Melanoma

Nevomelanocytic proliferation
- Blue nevi of sclerae or conjunctiva *AD 139:1209–1214, 2003*
- Melanocytic nevi (conjunctival nevi) – brown periphery, blue center
- Spitz nevus

Pigmented spindle cell tumor of the limbus

## CUTANEOUS HORNS

***Cutis 64:111–112, 1999***

Actinic keratosis *Cutis 64:111–112, 1999; JAAD 37:392–394, 1997*

Adenoacanthoma *Cutis 64:111–112, 1999*

Angiokeratoma circumscriptum

Angioma

Acquired digital fibrokeratoma

Arsenical keratosis *Cutis 64:111–112, 1999*

Basal cell carcinoma *Cutis 64:111–112, 1999;* pseudohorn *Cutis 48:379, 1991*

Benign lichenoid keratosis

Bowen's disease *Cutis 64:111–112, 1999*

Buschke–Fischer–Brauer keratoderma (punctate palmoplantar keratoderma) (keratodermia palmo-plantaris papulosa) (keratodermia palmoplantare papuloverrucoides progressiva) *Clin Cases Dermatol 4:27, 1992*

Congenital trichoid keratosis – cutaneous horns on scalp *AD 128:1549–1550, 1992*

Cutaneous horn, undefined

Darier's disease, cornifying *AD 112:495–503, 1976*

Dermatofibroma

Dermatophytes – hyperkeratosis with cutaneous horns *Ann DV 125:705–707, 1998*

Ectopic nail *JAAD 10:114–116, 1984;* post-traumatic ectopic nail *JAAD 50:323–324, 2004*

Epidermal inclusion cyst

Epidermal nevus

Epidermolytic acanthoma

Fibroma

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) – palmoplantar keratoderma, leukoplakia and cutaneous horn of the lips *BJD 146:680–683, 2002*

Giant cutaneous horns *Ann Plast Surg 43:674, 1999*

Granular cell tumor *Ghatan p.128, 2002, Second Edition*

Histoplasmosis – transepidermal elimination of histoplasmosis in AIDS *Cutis 47:397–400, 1991*

Hypertrophic lichen planus *BJD 144:424–425, 2001*

Inverted follicular keratosis

Kaposi's sarcoma *Cutis 64:111–112, 1999; Cutis 31:610–612, 1983*

Keratoacanthoma *Cutis 64:111–112, 1999; AD 120:736–740, 1984*

Keratotic and micaceous pseudoepitheliomatous balanitis

Leishmaniasis *AD 123:168–169, 1987*

Lichen planus hypertrophicus *BJD 144:424–425, 2001*

Lupus erythematosus *AD 121:837–838, 1985;* discoid lupus erythematosus

Melanocytic nevus – intradermal nevus *BJD 124:449–452, 1991*

Metastases – renal cell carcinoma *Cutis 64:111–112, 1999;* cutaneous horn of forehead *J Derm Surg Oncol 8:815, 1983*

Molluscum contagiosum *JAAD 43:409–432, 2000*

Nevus corniculatus – filiform keratoses, cutaneous horns and giant comedones *BJD 122:107–112, 1990*

Nevus sebaceus of Jadassohn

Organoid nevus

Paget's disease of the nipple *J Surg Oncol 29:237–239, 1985*

Palmoplantar keratoderma with cutaneous horns *Int J Dermatol 31:369–370, 1992*

Penile horn *Urology 30:156–158, 1987; JAAD 13:369–373, 1985; J Urol 132:1192–1193, 1984*

Pilar cyst *Rook p.1668, 1998, Sixth Edition*

Pilomatrixoma *Cutis 69:23–24, 2002*

Pityriasis rubra pilaris – spiny hyperkeratoses *Tyring p.352, 2002*

Prurigo nodularis *Acta DV (Stockh) 76:85–86, 1996*

Psoriasis *JAAD 5:681–683, 1981*

Pyogenic granuloma *Cutis 31:610–612, 1983*

Sebaceous adenoma *Cutis 64:111–112, 1999; J Cutan Pathol 22:185–187, 1995; J Cutan Pathol 11:396–414, 1984*

Sebaceous carcinoma *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985; Cutis 31:610–612, 1983*

Seborrheic keratosis

Squamous cell carcinoma *Cutis 64:111–112, 1999*

Syringocystadenoma papilliferum *BJD 142:1242–1244, 2000*

Trichilemmal carcinoma *BJD 143:646–647, 2000*

Trichelemmal cyst with horn

Trichilemmal horn *JAAD 39:368–371, 1998; BJD 100:303–309, 1979*

Trichilemmoma

Trichofolliculoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.67, 1999*

Verrucous acanthoma

Verruca vulgaris *Tyring p.260, 2002*; *Cutis 64:111–112, 1999*

# CUTIS LAXA-LIKE APPEARANCE

## AUTOIMMUNE DISEASES AND DISEASES OF IMMUNE DYSFUNCTION

Complement deficiency *Lancet ii:858, 1983*

Cutis laxa with hypocomplementemia and nephrotic syndrome *AD 123:1211–1216, 1987*

Dermatitis herpetiformis *Bolognia p.1477, 2003*

Lupus erythematosus – systemic LE *JAAD 8:869, 1983;* lupus panniculitis (lupus profundus) – thighs, buttocks, arms, breasts, face *Rook p.2451, 1998, Sixth Edition; Ann DV 117:841–844, 1990*

Rheumatoid arthritis – acral cutis laxa *JAAD 46:128–130, 2002*

Urticaria – acquired cutis laxa *JAAD 46:128–130, 2002*

## CONGENITAL LESIONS

Congenital cutis laxa *AD 92:373, 1965*

## DEGENERATIVE DISORDERS

Aging

## DRUG-INDUCED

Hypersensitivity reaction *AD 123:1211–1216, 1987*

Isoniazid (INH) – acquired cutis laxa *JAAD 46:128–130, 2002*

Minocycline-induced generalized post-inflammatory elastolysis *Am J Med 109:340–341, 2000*

Penicillamine *Cutis 76:49–53, 2005; BJD 142:560–561, 2000; Isr J Med Sci 30:667–669, 1994; Lancet ii:858, 1983*

Penicillin allergy – acquired cutis laxa *JAAD 46:128–130, 2002; Am J Dermatopathol 5:267–276, 1993*

## EXOGENOUS AGENTS

Leeches applied to skin – anetoderma *Int J Derm 35: 226–227, 1996*

Saltpeter-induced atrophy

## INFECTIONS

Acrodermatitis chronica atrophicans – Lyme borreliosis

Onchocerciasis – 'hanging groin' due to destruction of elastic fibers *Cutis 65:293–297, 2000*

Syphilis – localized cutis laxa *JAAD 46:128–130, 2002*

## INFILTRATIVE DISEASES

Amyloidosis – elastolytic lesions of myeloma-associated amyloidosis *AD 126:657–660, 1990; Clin Exp Dermatol 11:87–91, 1986;* ptosis and dermatochalasis in primary systemic amyloidosis *Ophthalmic Surg 18:495–497, 1987*; hemodialysis-associated beta-2 microglobulin amyloidosis *BJD 152:250–257, 2005*

## INFLAMMATORY DISEASES

Amyotrophic lateral sclerosis *JAAD 17:1006–1012, 1987*

Angioedema *Bolognia p.1477, 2003*

Chronic urticaria – acquired cutis laxa *JAAD 33:896–899, 1995*

Erythema multiforme – acquired cutis laxa *JAAD 46:128–130, 2002*

Granulomatous slack skin *BJD 142:353–357, 2000*

Post-inflammatory cutis laxa *Bolognia p.1477, 2003; JAAD 22:40–48, 1990*

Sarcoid – localized cutis laxa *JAAD 46:128–130, 2002*

## METABOLIC DISEASES

Celiac disease – acquired cutis laxa *JAAD 46:128–130, 2002; BJD 135:130–134, 1996*

Congenital hemolytic anemia *Bolognia p.1477, 2003*

Gangliosidosis – X-linked; gingival hypertrophy, macroglossia, coarse facies, micrognathia, loose skin, inguinal hernia, delayed growth, hepatosplenomegaly, neonatal hypotonia, delayed motor development *Ped Derm 18:534–536, 2001*

Lysyl oxidase deficiency *Clin Genet 51:109–114, 1997*

Marasmus – severe protein and caloric deprivation; wrinkled, loose, redundant dry skin; extensive loss of subcutaneous fat *JAAD 21:1–30, 1989*

Mucopolysaccharidosis type III (Sanfilippo syndrome) – skin thickened and loose

Mucopolysaccharidosis type VII (Sly syndrome) – skin laxity

Necrobiosis lipoidica diabeticorum – localized cutis laxa *JAAD 46:128–130, 2002*

Nephrogenic fibrosing dermopathy, resolved

Nephrotic syndrome – acquired cutis laxa *JAAD 46:128–130, 2002*

Wasting syndrome – cutaneous laxity due to marked weight loss

## NEOPLASTIC DISEASES

Generalized smooth muscle hamartomas with skin folding

Granulomatous slack skin syndrome – $CD30^+$ T-cell lymphoproliferative disorder *BJD 147:998–1002, 2002*

Lymphoma – cutaneous angiocentric T-cell lymphoma – acquired cutis laxa *Int J Dermatol 36:772–776, 1997;* lymphoplasmacytoid lymphoma *AD 131:110–111, 1995;* cutaneous T-cell lymphoma (CTCL) – granulomatous slack skin *JAAD 51:165–185, 2004; JAAD 46:325–357, 2002; BJD 142:353–357, 2000; Ped Derm 14:204–208, 1997; JID 89:183, 1987; AD 121:250–252, 1985*

Myeloma – acquired cutis laxa *JAAD 46:128–130, 2002;* acral acquired cutis laxa *Cutis 69:114–118, 2002; JAAD 21:33–40, 1989; AD 112:853–855, 1976*

Neurofibroma – localized cutis laxa *JAAD 46:128–130, 2002*

## PARANEOPLASTIC DISEASES

Acquired cutis laxa *Bolognia p.1528, 2003*

## PHOTODERMATOSES

Severe actinic damage (dermatoheliosis)

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, generalized – periflexural laxity *Ped Derm 18:213–216, 2001*

Acral localized acquired cutis laxa *BJD 134:973–976, 1996; JAAD 21:33–40, 1989*

Anetoderma *AD 120:1032–1939, 1984*

Blepharochalasis (Fuchs syndrome) *Hautarzt 29:474–477, 1978*

Cutis laxa *Ped Derm 19:412–414, 2002; JAAD 29:846–848, 1993, Ped Derm 2:282–288, 1985*
- Inherited (dermatochalasis connata)
  - Autosomal dominant *Clin Genet 39:321–329, 1991*
  - Autosomal recessive
  - X-linked dominant (occipital horn syndrome (formerly Ehlers–Danlos syndrome type IX)
- Transient neonatal
- Acquired – associated with:
  - Type 1 – generalized acquired elastolysis
    - Complement deficiency *AD 123:1211–1216, 1987*
    - Drug hypersensitivity
    - Inflammatory skin disease
    - Klippel–Trenaunay–Weber syndrome
    - Malignancy
    - Multiple myeloma *Cutis 57:267–270, 1996; Am J Dermatopathol 18:533–537, 1996*
    - Penicillamine dermatopathy *AD 125:92–97, 1989*
    - Sarcoid *JAAD 29:846–848, 1993*
    - Systemic lupus erythematosus
    - Syphilis
  - Type 2 – Marshall's syndrome – Sweet's syndrome followed by cutis laxa *AD 131:1175–1177, 1995*
    - Acrolocalized acquired cutis laxa *BJD 134:973–976, 1996; JAAD 21:33–40, 1989*

Elastoderma – localized skin laxity of the neck, trunk or arm *JAAD 53:S147–149, 2005; JAAD 33:389–392, 1995*

Elastolysis of the earlobes *JAAD 14:145–146, 1986*

Elastosis perforans serpiginosa with pseudoxanthoma elasticum-like changes in Moya-Moya disease (bilateral stenosis and occlusion of basa intracranial vessels and carotid arteries) *BJD 153:431–434, 2005*

Lichen myxedematosus *Cutis 39:219–223, 1987*

Multiple benign ring-shaped skin creases *Eur J Ped 138:301–3,1982*

Pseudoxanthoma elasticum – linear and reticulated yellow papules and plaques *JAAD 42:324–328, 2000; JAAD 43:337–339, 2000; Dermatology 199:3–7, 1999; AD 133:664–666, 1997; AD 124:1559, 1988;* acquired pseudoxanthoma elasticum – farmers exposed to saltpeter (calcium-ammonium-nitrate salts); antecubital fossa *JAAD 51:1–21, 2004; Acta DV 78:153–154, 1998; Acta DV 58:319–321, 1978;* periumbilical perforating pseudoxanthoma elasticum *JAAD 51:1–21, 2004; JAAD 26:642–644, 1992; AD 115:300–303, 1979*

## SYNDROMES

Ablepharon macrostomia syndrome with cutis laxa *Hum Genet 97:532–536, 1996*

Acrogeria of the Gottron type *Eur J Dermatol 10:36–40, 2000*

Alagille syndrome – cutis laxa-like changes with resolution of xanthomas after liver transplantation *Ped Derm 15:199–202, 1998*

Ankyloblepharon–ectrodactyly–cleft lip/palate syndrome (AEC syndrome) – periorbital wrinkling

Ascher syndrome *Int J Derm 31:710–712, 1992*

Barber–Say syndrome – autosomal dominant; wrinkled lax, atrophic skin, hypertrichosis of back and neck, eyebrows, eyelashes, lower lid ectropion, large mouth, and abnormal external ears, hypoplastic or absent nipples, growth retardation *Am J Med Genet 86:54–56, 1999*

Beare–Stevenson cutis gyrata syndrome – redundant loose facial skin

Cantu syndrome

Chromosome 6q deletion syndrome – cutaneous and joint laxity *Ped Derm 11:281–282, 1994*

Coffin–Lowry syndrome – X-linked inheritance; straight coarse hair, prominent forehead, prominent supraorbital ridges, hypertelorism, large nose with broad base, thick lips with mouth held open, large hands, tapering fingers, severe mental retardation; loose skin easily stretched, cutis marmorata, dependent acrocyanosis, varicose veins *Clin Genet 34:230–245, 1988; Am J Dis Child 112:205–213, 1966*

Costello syndrome – loose skin of neck, hands and feet; papillomas around nose and mouth *J Med Genet 31:486–489, 1994*

Cutis laxa – autosomal dominant; mild disease of late onset; mutation in elastin gene *AD 140:1135–1139, 2004; Ped Derm 21:167–170, 2004; Clin Genet 39:321–329, 1991*

Cutis laxa type I – autosomal recessive; diaphragmatic hernia, gastrointestinal and genitourinary diverticulae, pulmonary emphysema, cardiac abnormalities *Ped Derm 21:167–170, 2004*

Cutis laxa type II – autosomal recessive; pre and postnatal growth retardation, delayed motor development, delayed closure of large fontanelle, congenital hip dislocation, bone dysplasias, parallel strips of redundant skin of back *Ped Derm 21:167–170, 2004*

Cutis laxa type III – autosomal recessive; severe mental retardation, corneal clouding *Ped Derm 21:167–170, 2004*

Cutis laxa – X-linked recessive (occipital horn syndrome; formerly Ehlers–Danlos type IX) – lysyl oxidase deficiency, skeletal dysplasias, joint hypermobility, chronic diarrhea, obstructive uropathy *Ped Derm 21:167–170, 2004*

Cutis laxa, congenital with ligamentous laxity, delayed development, Dandy–Walker malformation, minor heart and osseous defects *Clin Genet 45:318–322, 1994*

Cutis laxa with bone dystrophy (osteoporosis) *Am J Dis Child 137:452–454, 1983*

Cutis laxa, craniofacial defects, and hypotonia *J Clin Dysmorphol 1:24–25, 1983*

Cutis laxa with early-onset emphysema *Thorax 49:836–837, 1994*

Cutis laxa, late closure of fontanels, intrauterine growth retardation, hyperlaxity of joints *Pediatrics 72:850–856, 1983*

DeBarsy syndrome – autosomal recessive progeroid syndrome; lax wrinkled skin; cloudy corneas, mental retardation, pseudoathetoid movements, synophrys, pinched nose, thin skin, lack of subcutaneous tissue, sparse hair *Ped Derm 19:412–414, 2002; Eur J Pediatr 144:348–354, 1985*

Duplication of the eyebrows, stretchable skin and syndactyly

Dwarfism–alopecia–pseudoanodontia–cutis laxa

Edward's syndrome (trisomy 18) – cutis laxa of neck, hypertrichosis of the forehead and back, hemangiomas *J Med Genet 15:48–60, 1978*

Ehlers–Danlos syndrome – scarring; cutis laxa complicating Ehlers–Danlos syndrome type II *Clin Exp Derm 21 (2)*: *135–137, 1996;* Ehlers–Danlos syndrome type IX – X-linked

Elejalde syndrome (acrocephalopolydactylous dysplasia) *Birth Defects 13:53–67, 1977*

Gerodermia osteodysplastica (Bamatter syndrome) (osteodysplastic geroderma) – short stature, cutis laxa-like changes with drooping eyelids and jowls (characteristic facies), osteoporosis and skeletal abnormalities; lax skin and joints, growth retardation *Am J Med Genet 3:389–395, 1979; Hum Genet 40:311–324, 1978*

Hemolytic anemia with emphysema and cutis laxa

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Lenz–Majewski hyperostotic syndrome – cutis laxa, skeletal anomalies and ambiguous genitalia

Leprechaunism (Donohue syndrome) – cutis laxa-like wrinkling *Am J Dis Child 122:442–445, 1971*

Marfan's syndrome – lax skin in the neonate

Marshall's syndrome – Sweet's syndrome followed by cutis laxa *AD 131:1175–1177, 1995;* following Sweet's syndrome ($\alpha_1$-antitrypsin deficiency) *Ped Derm 14:370, 1994*

Menkes' kinky hair syndrome – loose skin *Ped Derm 14:347–350, 1997;* silvery hair, generalized hypopigmentation, lax skin of brows, neck and thighs *Ped Derm 15:137–139, 1998*

Michelin tire baby syndrome

Neurofibromatosis

Noonan's syndrome – lax skin *JAAD 46:161–183, 2002; Curr Prob Derm VII:143–198, 1995; J Pediatr 66:48–63, 1965*

Occipital horn syndrome *Clin Dysmorphol 8:179–183, 1999*

Patterson–David syndrome – pseudoleprechaunism

Premature aging with short stature and pigmented nevi (Baraitser syndrome)

Progeria *AD 125:540–544, 1989*

Prune belly syndrome (aplastic abdominal musculature syndrome)

SCARF syndrome – ambiguous genitalia associated with skeletal abnormalities, cutis laxa, joint hyperextensibility, webbed neck, craniostenosis, psychomotor retardation, and facial abnormalities *Am J Med Genet 34:305–312, 1989*

Soto's syndrome – joint hyperextensibility; cutis laxa; cerebral gigantism *J Med Genet 36:51–56, 1999*

Sweet's syndrome – healed *AD 119:998–1002, 1983*

Thrombocytopenia–absent radius syndrome (TAR syndrome) – cutis laxa of the neck; congenital thrombocytopenia, bilateral absent or hypoplastic radii, port wine stain of head and neck *AD 126:1520–1521, 1990; Am J Pediatr Hematol Oncol 10:51–64, 1988*

Tricho-rhino-phalangeal syndrome type II (Langer–Giedion syndrome) – loose, redundant, wrinkled skin early; facies, bulbous nose, and sparse hair as in TRPS-I – microcephaly, exostoses *Birth Defects X:147–164, 1974*

Trisomy 13 (Patau syndrome) – neck

Trisomy 18 – redundant skin, rocker-bottom feet, clenched fist

Turner's syndrome (XO in 80%) – peripheral edema at birth which resolves by age 2; redundant neck skin in newborn; cutis laxa of neck and buttocks; small stature, broad shield-shaped chest with widely spaced nipples, arms show wide carrying angle, webbed neck, low posterior hairline, low misshapen ears, high arched palate, short fourth and fifth metacarpals and metatarsals, hypoplastic nails, keloid formation, increased number of nevi; skeletal, cardiovascular, ocular abnormalities; increased pituitary gonadotropins with low estrogen levels *JAAD 50:767–776, 2004; JAAD 40:877–890, 1999*

Weaver syndrome – prenatal overgrowth syndrome *Am J Dis Child 138:1113–1115, 1984*

Werner's syndrome

Wiedemann–Rautenstrauch syndrome (neonatal pseudohydrocephalic progeroid syndrome of Wiedemann–Rautenstrauch) *Clin Genet 51:200–204, 1997; Eur J Pediatr 136:245–248, 1981*

Wrinkly skin syndrome – autosomal recessive *Clin Genet 38:307–313, 1990;* same as cutis laxa with growth and developmental delay *Am J Med Genet 85:194, 1999*

### VASCULAR LESIONS

Edema – recovery from severe edema
Varicose veins – acquired localized elastolysis *Clin Exp Dermatol 20:492–495, 1995*

## CYSTS, WITH OR WITHOUT DRAINAGE

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Scleroderma – soft cystic nodules (focal mucinosis) over interphalangeal joints *BJD 136:598–600, 1997*

### CONGENITAL ANOMALIES

Branchial cleft cyst and/or sinus – cyst overlying anterior border of the sternocleidomastoid muscle *Textbook of Neonatal Dermatology, p.119, 2001; Int J Oral Maxillofac Surg 25:449–452, 1996; Int J Dermatol 19:479–486, 1980;* differential diagnosis includes malignant or tuberculous lymphadenopathy, parotid or thyroid tumor, thymopharyngeal cyst, thyroglossal cyst, dermoid cyst, teratoma, carotid body tumor, hemangioma, neurofibroma

Bronchogenic cyst – keratotic papule, sinus tract or cyst in midline at the suprasternal notch, neck, shoulders, back or chest *Textbook of Neonatal Dermatology, p.120, 2001; Ped Derm 15:277–281, 1998; Int J Derm 37:137–140, 1998; JAAD 31:120–122, 1994;* subcutaneous bronchogenic cyst *J Pediatr Surg 23:993–995, 1988*

Cervicothymic cyst – resembles branchial cleft cyst

Congenital sinus or cyst of genitoperineal raphe (mucous cysts of the penile skin) *Eichenfeld p.89, 2001; Cutis 34:495–496, 1984; AD 115:1084–1086, 1979*

Cutaneous ciliated cyst *Ghatan p.18, 2002, Second Edition*

Cyst of first branchial cleft (congenital postauricular swelling) *Ped Derm 19:246–249, 2002*

Dermoid cyst – midline of nose, lateral eyebrow, scrotum, sternum, perineal raphe and sacral areas *Textbook of Neonatal Dermatology, p.122, 2001; Curr Prob Derm 8:137–188, 1996; Neurosurg Clin North Am 6:359–366, 1995; AD 107:237–239, 1973*

Diastrophic dysplasia – cystic masses of ears

Ectopic respiratory epithelium *BJD 136:933–934, 1997*

Encephalocele *Ped Neurosurg 27:214–217, 1997*

Epstein's pearls – keratinous cysts of palatal or alveolar mucosa in neonates *Int Dent J 27:261–262, 1988*

Foreskin cysts *Eichenfeld, 2001, p.89*

Heterotopic brain tissue – bald cyst of the scalp – hair collar sign *AD 125:1253–1256, 1989*

Heterotopic salivary gland tissue *JAAD 31:120–122, 1994*

Hypotrichosis, eyelid cysts and hypodontia

Laryngocele/pharyngocele with external component *Am Fam Physician 42:665–668, 1990*

Median raphe cysts of the penis *Ped Derm 15:191–193, 1998*

Meningocoele, rudimentary – scalp cyst *AD 137:45–50, 2001*

Meningoencephalocele – midline of bridge of nose, differentiate from dermoid cyst *Plast Reconstr Surg 57:692–699, 1976*

Midline cervical cleft *Int J Derm 19:489–486, 1980*

Milia *Eichenfeld p.89, 2001*

Mucocele of lacrimal sac – blue cystic swelling below medial canthus *Textbook of Neonatal Dermatology, p.485, 2001*

Mucous cyst of retrorectal space

Omphalomesenteric duct cyst – umbilical or periumbilical *Bolognia p.1721, 2003*

Pearls (milia) of areolae, scrotum and labia majora of newborn *Rook p.452, 1998, Sixth Edition*

Pre-auricular pits, sinuses and cysts
- Treacher Collins syndrome
- Goldenhar syndrome
- Chromosome 4 deletion syndrome *Am J Dis Child 122:421–425, 1971*
- Melnick–Fraser syndrome (brachio–oto–renal syndrome) *Ped Derm 13:507–508, 1998*
- Cat eye syndrome *Hum Genet 57:148–158, 1981*

Presternal ciliated cyst (lower neck) *AD 120:240–242, 1984*

Sacral meningeal cyst *Neurosurgery 29:223–231, 1991*

Seroma (lymphocele) *Rook p.2294, 1998, Sixth Edition*

Spinal dysraphism with overlying dermoid cyst, protrusion, dimple, sinus, lipoma, faun tail nevus, hemangioma, port wine stain *AD 114:573–577, 1978; AD 112:1724–1728, 1976*

Teratoma *JAAD 31:120–122, 1994*

Thyroglossal duct cyst and/or sinus – midline cervical cleft with sinus tract *Am J Neuroradiol 20:579–582, 1999; JAAD 26:885–902, 1992; J Pediatr Surg 19:437–439, 1984*

Urachal cyst (partial patency of the urachus) – tender midline swellings between the umbilicus and symphysis pubis *Br J Urol 28:253–256, 1956*

Urethral retention cyst – white papule at urethral opening of males *Textbook of Neonatal Dermatology, p.483, 2001*

## DEGENERATIVE DISEASES

Digital mucous pseudocyst *Arthr Rheum 20:997–1002, 1977*; digital myxoid cyst *J Derm Surg Oncol 13:723–727, 1987*

## DRUG-INDUCED

Cyclosporine therapy – multiple epidermoid cysts *Cutis 50:36–38, 1992; Dermatologica 172:24–30, 1986*

Enfuvirtide – injection site reaction *JAAD 49:826–831, 2003*

## EXOGENOUS

Chloracne

Foreign body, including blackthorn inflammation

## INFECTIONS AND INFESTATIONS

AIDS – lymphoepithelial cysts of the parotid gland

Actinomycosis *JAAD 29:308–311, 1993*

Alternariosis – subcutaneous cyst *Clin Inf Dis 32:1178–1187, 2001*

Brucellosis – presenting as a Baker's cyst *Clin Inf Dis 22:872–873, 1996*

Chromomycosis *Pathology 11:389–392, 1979*

Cysticercosis

Dental sinus and cyst – dental sinus mimicking acne cyst *Rook p.1953, 1998, Sixth Edition*

Dracunculosis

Echinococcosis – dog tapeworm; hydatid cyst *Rook p.1401, 1998, Sixth Edition*

Focal myositis *Cutis 54:189–190, 1994*

Leprosy – primary neuritic leprosy with nerve abscess *AD 130:243–248, 1994*

Lobomycosis

*Mycobacterium haemophilum Clin Inf Dis 33–330–337, 2001*

Mycobacterium tuberculosis – scrofuloderma

Myiasis, furuncular – *Dermatobia hominis* – scalp cyst in a child *Ped Derm 15:116–118, 1998;* mimicking ruptured epidermoid cyst *Can J Surg 33:145–146, 1990;* house fly *BJD 76:218–222, 1964;* New World screw worm (*Cochliomyia*), Old World screw worm (*Chrysomya*), Tumbu fly (*Cordylobia*) *BJD 85:226–231, 1971;* black blowflies (*Phormia*) *J Med Entomol 23:578–579, 1986;* greenbottle (*Lucilia*), bluebottle (*Calliphora*), flesh flies (*Sarcophaga*, *Wohlfartia*) *Neurosurgery 18:361–362, 1986;* rodent botflies (*Cuterebra*) *JAAD 21:763–772, 1989;* human botflies (*Dermatobia hominis*) *AD 121:1195–1196, 1985; AD 126:199–202, 1990*

Nocardiosis *AD 130:243–248, 1994*

Phaeohyphomycosis *JAAD 40:364–366, 1999; JAAD 28:34–44, 1993; AD 127:721–726, 1991; JAAD 19:478–481, 1988; AD 123:1346–1350, 1987*

Verruca vulgaris – plantar epidermoid cysts contain human papillomavirus (HPV 60) *J Cutan Pathol 16:375–381, 1989*

## INFLAMMATORY DISEASES

Dissecting cellulitis of the scalp (perifolliculitis capitis abscedens et suffodiens) *J Derm Surg Oncol 18:877–880, 1992*

Hidradenitis suppurativa

Myospherulosis *JAAD 38:274–275, 1998; AD 127:88–90, 1991; JAAD 21:400–403, 1989*

Pilonidal cyst and sinus *Surg Clin North Am 74:1309–1315, 1994*

Subcutaneous fat necrosis of the newborn *Cutis 70:169–173, 2002*

## NEOPLASTIC

Bartholin's cyst

Basal cell carcinoma – cystic basal cell carcinoma; basal cell carcinoma arising in the wall of an epidermal inclusion cyst *Derm Surg 27:585–586, 2001*

Basal cell nevus (linear basal cell nevus) – resemble comedones; usually linear translucent telangiectatic papules, may ulcerate; macular hypopigmentation, alopecia, cysts, striae *Cutis 46:493–494, 1990; BJD 74:20–23, 1962*

Bowen's disease – arising in the wall of an epidermal inclusion cyst *Derm Surg 27:585–586, 2001*

Ciliated cyst – of the lower leg *Pathol Int 49:354–357, 1999;* legs of young women *Bolognia p.1721, 2003;* perianal *Am J Dermatopathol 19:93–96, 1997;* sole *BJD 132:488–490, 1995*

Ciliated cyst of vulva *JAAD 32:514–515, 1995*

Clear cell hidradenoma (eccrine acrospiroma) *Cutis 58:349–351, 1996; AD 128:1533–1538, 1992*

Clustered cysts
- Milia en plaque *JAAD 21:311–313, 1989*
- Pilotropic CTCL *AD 132:683–687, 1996*

CTCL *JAAD 29:331–334, 1993*
Eruptive epidermal cysts after CTCL therapy *JAAD 25:940–943,1991*
Familial subconjunctival cysts in nevoid basal cell carcinoma syndrome *AD 123:23–24, 1987*

Epidermoid cyst *Rook p.1667, 1998, Sixth Edition;* plantar epidermoid cysts, HPV-60-related *BJD 152:961–967, 2005*

Eruptive vellus hair cysts *AD 113:500–503, 1977;* with pachyonychia congenita *J Dermatol 26:402–404, 1999*

Fibrous hamartoma of infancy *Ped Derm 7:157, 1990*

Follicular cysts – multiple pigmented follicular cysts *BJD 134:758–762, 1996*

Folliculosebaceous cystic hamartoma *JAAD 34:77–81, 1996*

Ganglion cyst *J Hand Surg (Br) 15:342–346, 1990*

Generalized follicular hamartoma – with trichilemmal cysts and palmar pits *AD 107:435–438, 1973*

Hidradenoma papilliferum *JAAD 41:115–118, 1999*

Hidrocystoma – apocrine or eccrine – clear or blue *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins pp.153–155, 1999;* eyelid or facial cyst *AD 137:657–662, 2001; AD 134:1627–1632, 1998; JAAD 26:780–782, 1992; AD 115:194–200, 1979*

Hybrid cysts – with features of eruptive vellus hair cysts, steatocystoma, and epidermoid cyst *Am J Dermatopathol 18:645–649, 1996*

Lymphoma – subcutaneous T-cell lymphoma with cytophagic histiocytic panniculitis and membranocystic lesions *Am J Dermatopathol 20:276–280, 1998;* pilotropic (folliculotropic) CTCL – cystic lesions, follicular papules, acneform *BJD 152:193–194, 2005; JAAD 48:448–452, 2003; Ann DV 126:243–246, 1999; AD 132:683–687, 1996;* epidermoid cysts *AD 138:191–198, 2002*; eruptive epidermoid cysts *Dermatology 187:273–277, 1993*

Mammary-like glands of the vulva – cysts *Int J Gynecol Pathol 14:184–188, 1995*

Marginal cysts of eyelids – occluded glands of Moll; painless white or yellow cyst of lower eyelid close to lacrimal punctum *Rook p.2987, 1998, Sixth Edition*

Metaplastic synovial cysts *Bolognia p.1721, 2003; JAAD 41:330–332, 1999*

Metastases – gastric carcinoma (epidermoid cyst-like); adenocarcinoma of the lung *JAAD 36:644–646, 1997;* bladder – cystic metastases *J R Soc Med 80:314–315, 1987*

Milia

Mucocele *AD 101:673–678, 1970*

Muellerian cyst of vulva *Ghatan p.65, 2002, Second Edition*

Myxoid cyst, digital *J Derm Surg Oncol 13:723–727, 1987*

Nevus comedonicus, inflammatory *JAAD 38:834–836, 1998*

Paget's disease – arising in the wall of an epidermal inclusion cyst *Derm Surg 27:585–586, 2001*

Pilar cyst *Rook p.1668, 1998, Sixth Edition*

Pilomatrixoma *Pediatr Rev 11 (9):262–267, 1990; Cancer 45:2368–2373, 1980*

Pilomatrix carcinoma (cyst-like) *JAAD 23:104–108, 1990*

Pilonidal cyst *Bolognia p.1721, 2003*

Post-auricular cysts *AD 107:237–239, 1993*
Branchial cleft cyst
Dermoid cyst
Epidermoid cyst
Pilar cyst
Pseudocyst of the auricle
Steatocystoma multiplex

Proliferating epithelial cysts *J Cutan Pathol 22:394–406, 1995*

Proliferating pilar cyst *Bolognia p.1721, 2003*

Retention cyst from glands of Zeis *Rook p.2987, 1998, Sixth Edition*

Retroauricular, follicular, and keratotic plaques with multiple follicular cysts *Med Cutano Ibero Lat Am 13:331–334, 1985*

Squamous cell carcinoma – arising in the wall of an epidermal inclusion cyst *Am J Dermatopathol 21:174–177, 1999; Derm Surg 27:585–586, 2001*

Steatocystoma

Syringocystadenoma papilliferum *Rook p.1704, 1998, Sixth Edition*

Syringomas, including eruptive syringomas *AD 121:756, 1985;* vulvar – discrete white cystic papules *JAAD 48:735–739, 2003*

Trichoepithelioma, cystic

Verruciform xanthoma, cystic *JAAD 25:330–331, 1991*

Verrucous cyst *J Cutan Pathol 20:411–417, 1993; AD 127:1810–1812, 1991*

## PHOTODERMATOSIS

Favre–Racouchot syndrome *Ann DV 121:721–723, 1994*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea

Acne vulgaris *Rook p.1949–1951, 1998, Sixth Edition*

Atopic dermatitis – pretibial bursitis *JAAD 30:737–742, 1994*

Endosalpingosis – ectopic Fallopian tube epithelium; umbilical cystic nodule *BJD 151:924–925, 2004*

Pyoderma faciale *AD 128:1611–1617, 1992*

Psoriasis – bursal sac of elbow

## SYNDROMES

Atrichia with keratin cysts – face, neck, scalp; then trunk and extremities *Ann DV 121:802–804, 1994*

Atrichia with papular lesions – autosomal recessive; follicular cysts *AD 139:1591–1596, 2003; JAAD 47:519–523, 2002*

Branchio-oto-renal syndrome – pre-auricular sinus or cyst *Clin Genet 9:23–34, 1976*

Carney complex – multiple myxomatous cysts

Cowden's syndrome – epidermoid cysts *Rook p.2711, 1998, Sixth Edition*

Ehlers–Danlos syndrome – firm cyst-like nodules (spheroids) of shins and forearms *JAAD 46:161–183, 2002*

Eyelid cysts, hypodontia and hypotrichosis *JAAD 10:922–925, 1984*

Gardner's syndrome – epidermoid cysts – of face, scalp, extremities, and trunk *Curr Prob Derm 14:41–70, 2002; Dermatol Clin 13:113–125, 1995;* familial pilomatrixomas *Ped Derm 12:331–335, 1995*

Hereditary perioral pigmented follicular atrophoderma with milia-like epidermoid cysts *BJD 139:713–718, 1998*

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973*

Multicentric reticulohistiocytosis – cystic swellings around tendon sheaths *Rook p.2325–2326, 1998, Sixth Edition*

Nevoid basal cell carcinoma syndrome (Gorlin syndrome) – epidermoid cysts in 50% *JAAD 42:939–969, 2000; Ped Derm 17:484–486, 2000;* epidermoid cyst of finger *BJD 145:508–509, 2001;* cutaneous keratocysts of nevoid basal cell carcinoma syndrome (blue cysts) *JAAD 14:572–576, 1986;* acral cutaneous keratocysts *BJD 135:810–812, 1996;* with palmar epidermoid cyst, milia, and maxillary cysts *BJD 145:508–509, 2001*

Ocular ectodermal syndrome – epibulbar dermoid and cutaneous myxovascular hamartoma *Br J Ophtalmol 84:669–670, 2000*

Pachyonychia congenita – epidermal inclusion cysts; Jackson–Lawler pachyonychia congenita type 2 (MIM 167210) – white milia-like cysts at birth *JAAD 38:1007–1009, 1998;* associated with steatocystoma multiplex *BJD 114:367–370, 1986;* large facial cysts *BJD 148:452–455, 2003*

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, hypotrichosis, trichoepitheliomas, peripheral vasodilatation with cyanosis *JAAD 39:853–857, 1998*

Rubenstein–Taybi syndrome – pilomatrixomas *JAAD 46:161–183, 2002; JAAD 46:159, 2002*

Schopf–Schulz–Passarge syndrome – eyelid cysts (hidrocystomas), palmoplantar keratoderma, hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Steatocystoma multiplex *JAAD 43:396–399, 2000; AD Syphilol 36:31–36, 1937*

### TOXINS

Chloracne – dioxin; chloracne with cysts *BJD 143:1067–1071, 2000;* pale yellow keratin cysts and large prominent comedones on malar cheeks, post-auricular areas, ears, neck and scrotum *JAAD 13:539–558, 1985*

### TRAUMA

Amputation stump frictional epidermoid cysts *Rook p.905, 1998, Sixth Edition; Acta DV 43:56–67, 1963*

Pseudocyst of the auricle *BJD 122:699–704, 1990; AD 125:528–530, 1989*

### VASCULAR

Cystic angiomatosis *Can J Surg 30:277–279, 1987*

Lymphangioma circumscriptum, diffuse *Rook p.2292, 1998, Sixth Edition; BJD 83:519–527, 1970*

Lymphangiomatous malformation

Lymphatic malformation *Rook p.2294, 1998, Sixth Edition*

## DERMATITIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Agammaglobulinemia *Curr Prob Derm 10:41–92, 1998; J Allergy 33:406–411, 1962;* X-linked hypogammaglobulinemia (agammaglobulinemia) *J Allergy 33:406–411, 1962*

Allergic contact dermatitis – numerous allergens *Rook pp.733–819, 1998, Sixth Edition;* plants *Rook p.788, 1998, Sixth Edition;* woods *Rook p.794, 1998, Sixth Edition;* implanted alloys *Rook p.771, 1998, Sixth Edition;* ingested antibiotics after topical sensitization (systemic eczematous contact dermatitis) *Contact Dermatitis 1:187, 1975; Acta DV 49:422–426, 1969;* lichens (woodcutters dermatitis) *Rook p.794–795, 1998, Sixth Edition; p*-phenylenediamine in color developers – lichenoid or eczematous dermatitis *BJD 115:23–31, 1986; Contact Dermatitis 10:280–285, 1984;* complicating venous stasis *Rook p.2261, 1998, Sixth Edition;* nail polish – generalized dermatitis *Contact Dermatitis 34:140–141, 1996;* acrylic nails – dorsal fingers *Rook p.2867, 1998, Sixth Edition;* fingertip dermatitis – garlic, tulips, *Alstroemeria*; airborne contact dermatitis to sesquiterpene lactones *Bolognia p.260, 2004;* nickel allergic contact dermatitis to school chairs with dermatitis of the upper posterior thighs in girls *Cutis 74:27–28, 2004*; hand and/or foot dermatitis due to nickel in dental appliances *Contact Dermatitis 27:259–260, 1992*

Anti-synthetase syndrome – mechanics' hands, Raynaud's phenomenon, interstitial lung disease, anti-Jo-1 antibody *AD 141:779–784, 2005*

Autoimmune estrogen dermatitis *JAAD 32:25–31, 1995*

Autoimmune progesterone dermatitis *Acta DV 69:308–310, 1989*

Bare lymphocyte syndrome *Rook p.2745, 1998, Sixth Edition*

Bruton's hypogammaglobulinemia – atopic-like dermatitis; dermatomyositis-like syndrome *Rook p.2749, 1998, Sixth Edition*

Bullous pemphigoid – eczematous lesions *JAAD 29:293–299, 1993;* subacute prurigo variant *JAAD 47:133–136, 2002*

C3 deficiency – recurrent infections, vasculitis, LE; C3 inactivator deficiency – dermatitis early in infancy *Rook p.2744, 1998, Sixth Edition*

Cell-associated glycoprotein deficiency

Chronic granulomatous disease – seborrheic dermatitis-like changes, X-linked or autosomal recessive, Xp21 (distal end of Xp), localized pyodermas, abscesses, granulomas, perioral and intraoral ulcers, lungs/liver/spleen, defect in NADPH oxidase system; including NADPH, phagocyte cytochrome b, and cytosolic proteins; membrane-associate NADPH oxidase system fails to produce superoxide and other toxic oxygen metabolites; *Staphylococcus aureus*, *Klebsiella*, *Pseudomonas*, *Escherichia coli*, *Serratia*, *Aspergillus*, *Candida*, *Cryptococcus*, *Nocardia*

Cicatricial pemphigoid

Dermatitis herpetiformis *Caputo p.24, 2000;* dermatitis with or without lichenification *Rook p.1890, Sixth Edition*

Dermatomyositis *Bolognia p.210, 2004*

DiGeorge's syndrome (congenital thymic aplasia) – autosomal dominant or sporadic; seborrheic dermatitis, atopic dermatitis; developmental defects of 3rd and 4th pharyngeal pouches, congenital thymic aplasia, neonatal tetany due to absence of parathyroids, cardiac anomalies (truncus arteriosus), short philtrum, low-set malformed ears, hypertelorism, increased susceptibility to *Candida*, viral and *Pneumocystis carinii* infections, loss of portion of proximal long arm of chromosome 22, may be the same as velocardiofacial syndrome *Rook p.498, 1998, Sixth Edition*

Fogo selvagem

Graft vs. host disease, chronic – lichenoid dermatitis *AD 119:683–689, 1983*

Immunodeficiency diseases (Wiskott–Aldrich syndrome, immunoglobulin deficiency diseases, severe combined immunodeficiency) – alopecia and dermatitis *Ped Derm 16:95–102, 1999*

X-linked immunodeficiency with hyper-IgM – atopic dermatitis-like rash *Rook p.2749, 1998, Sixth Edition*

Immunologic amnesia syndrome *NEJM 281:285–290, 1969*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extremities, penile rash, alopecia universalis, bullae *BJD 152:409–417, 2005; AD 140:466–472, 2004*

Jung's syndrome (antihistamine-responsive immunodeficiency) – atopic dermatitis, pyoderma, folliculitis, blepharitis with defective leukocyte and lymphocyte function *Am J Med Genet 66:378–398, 1996; Rook p.700, 1998, Sixth Edition; Lancet ii:185–187, 1983*

Leiner's disease

Linear IgA dermatosis *Caputo p.26, 2000*

Lupus erythematosus – with or without vasculitis *Bolognia p.210, 2004*

Pemphigus foliaceus – starts in seborrheic distribution (scalp, face, chest, upper back) *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961*

Pemphigus vulgaris

Selective IgA deficiency *Curr Prob Derm 10:41–92, 1998*

Selective IgM deficiency *Rook p.497,2743, 1998, Sixth Edition*

Severe combined immunodeficiency *Ped Derm 9:49, 1992; Ped Derm 8:314–320, 1991*

Tuftsin deficiency *J Pediatr 87:1121, 1975*

Wiskott–Aldrich syndrome – dermatitis of scalp, face, flexures, napkin area with purpura *Rook p.495, 1998, Sixth Edition*

## CONGENITAL DISORDERS

Irritant contact dermatitis of newborn – alcohol burn, perianal *Am J Dis Child 82:429–432, 1951;* napkin dermatitis *Rook p.468, 1998, Sixth Edition*

## DRUG-INDUCED

Acral dysesthesia syndrome – hand dermatitis

Allopurinol *Rook p.3387, 1998, Sixth Edition*

Aminophylline *Ghatan p.229, 2002, Second Edition*

Ampicillin – baboon syndrome – diffuse erythema of buttocks, inner thighs, axillae *Contact Dermatitis 10:97–100, 1984*

Beta blockers *Rook p.662, 1998, Sixth Edition*

Bismuth *JAAD 37:489–490, 1997*

Bleomycin *Rook p.662, 1998, Sixth Edition; Hautarzt 31:616–618, 1980*

Butylated hydroxyanisole *Rook p.3387, 1998, Sixth Edition*

Chloramphenicol *Rook p.662,3387, 1998, Sixth Edition*

Cimetidine – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

Clonidine *Rook p.662,3387 1998, Sixth Edition*

Demeclocycline – photo-induced lichen planus *AD 109:97–98, 1974*

Dimethylsulfoxide *Rook p.3387, 1998, Sixth Edition*

Disulfiram *Ghatan p.229, 2002, Second Edition*

Fixed drug eruption

Gold *AD 109:372–376, 1974*

Heparin *JAAD 21:1130, 1989;* baboon syndrome – diffuse erythema of buttocks, inner thighs, axillae mimicking contact dermatitis *Contact Dermatitis 10:97–100, 1984*

Hydantoin

Hydromorphone, subcutaneous *Rook p.3387, 1998, Sixth Edition*

Hydroxyquinone *Rook p.3387, 1998, Sixth Edition*

Hydroxyurea – lichenoid dermatitis *JAAD 36:178–182, 1997;* dermatomyositis-like scaling eruption of face, hands and feet *AD 135:818–820, 1999;* hydroxyurea-associated squamous dysplasia – photodistributed red scaly patches *JAAD 51:293–300, 2004*

Hypoglycemic agents *Ghatan p.229, 2002, Second Edition*

Indomethacin *Rook p.3387, 1998, Sixth Edition*

Infliximab – nummular dermatitic drug eruption *BJD 151:1272–1273, 2004*

Interferon-α *Semin Oncol 14:1–12, 1987;* interferon-α and ribavirin – nummular dermatitis *AD 140:215–217, 2004;* peginterferon-α 2b and ribavirin associated with generalized nummular dermatitis *AD 141:102–103, 2005*

Lichenoid drug eruption – dermatitic appearance *JAAD 45:616–619, 2001; Rook p.1916–1918, 1998, Sixth Edition* – amiphenazole, captopril, gold *AD 109:372–376, 1974;* isoniazid, levamisole *J R Soc Med 73:208–211, 1980;* levopromazine, methyldopa, metropromazine, propranalol, exprenolol, labetalol (beta-blockers), chlorpropamide, enalopril, pyrimethamine *Clin Exp Dermatol 5:253–256, 1980;* antimalarials, penicillamine, thiazide diuretics, streptomycin, hydroxyurea, tiopronin, naproxen, carbamazepine, ethambutol, simvastatin, PAS, pravastatin *JAAD 29:249–255, 1993; Cutis 61:98–100, 1998* includes photo-LP (demeclocycline *AD 109:97–98, 1974*) oral LP, and contact LP; quinacrine – lichenoid dermatitis *JAAD 4:239–248, 1981;* quinine – lichenoid photodermatitis *Clin Exp Dermatol 19:246–248, 1994*

Lovastatin – nummular dermatitis *Cutis 62:197–198, 1998*

Lupron – eczematous dermatitis

Mercurials *Ghatan p.229, 2002, Second Edition*

Methyldopa – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

Mevastatin – nummular dermatitis *Cutis 62:197–198, 1998*

Mitomycin (intravesical administration) – exfoliative dermatitis of palms and soles *Contact Dermatitis 42:74–76, 2000;* dermatitis of face, palms, soles *Contact Dermatitis 24:201–209, 1991; BJD 122:217–224, 1990*

Nystatin *Rook p.3387, 1998, Sixth Edition*

Pellagrous dermatitis – phenytoin, INH, 5-fluorouracil, chloramphenicol, pyrazinamide, azathioprine, ethionamide, phenobarbital, 6-mercaptopurine *Semin Dermatol 10:282–292, 1991*

Penicillamine – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

Penicillin *Rook p.662, 1998, Sixth Edition; Contact Dermatitis 4:309, 1978*

Phenothiazines *Ghatan p.229, 2002, Second Edition*

Pravastatin – nummular dermatitis *Contact Derm 30* (*4*):*238, 1994; Cutis 62:197–198, 1998*

Pyrazolone *Rook p.662, 1998, Sixth Edition*

Quinacrine – lichenoid dermatitis *JAAD 4:239–248, 1981*

Quinine – lichenoid photodermatitis *Clin Exp Dermatol 19:246–248, 1994*

Phenothiazines *Rook p.3387, 1998, Sixth Edition*

Ranitidine

Reactivation of allergic contact dermatitis with systemic agents *Rook p.3386, 1998, Sixth Edition*

- Acetohexamide – benzocaine/glyceryl *p*-aminobenzoic acid sunscreens
- Acetylsalicylic acid *Semin Dermatol 8:144–148, 1989*
- Aminophylline suppositories – aminophylline and ethylenediamine

Amlexanox *Contact Dermatitis 27:279–280, 1992*
Chloral hydrate – chlorobutanol
Chlorthiazide – benzocaine/ glyceryl *p*-aminobenzoic acid sunscreens
Chlorpropamide – benzocaine/ glyceryl *p*-aminobenzoic acid sunscreens
Codeine *Contact Dermatitis 32:120, 1995*
Disulfiram (Antabuse) – thiuram; baboon syndrome – diffuse erythema of buttocks, inner thighs, axillae *Contact Dermatitis 10:97–100, 1984*
Enoxalone *Contact Dermatitis 30:124, 1994*
Ephedrine *Contact Dermatitis 29:215–216, 1993*
Erythromycin *Contact Dermatitis 30:311, 1994*
Ethylenediamine – aminophylline and ethylenediamine
Iodochlorhydroxyquinolone – halogenated hydroxyquinolone cream
Iodides, iodinated organic compounds, radiographic contrast media – iodine
Isoniazid *Contact Dermatitis 28:110–111, 1993*
Nitroglycerin tablets – nitroglycerin ointment
*p*-amino salicylic acid – benzocaine/glyceryl *p*-aminobenzoic acid sunscreens
Paraben-containing systemic medications *AD 110:640, 1974*
Phenobarbital *Rook p.3387, 1998, Sixth Edition*
Piperazine – aminophylline and ethylenediamine
Pseudoephedrine hydrochloride and norephedrine hydrochloride *Contact Dermatitis 24:86–88, 1991*
Organic and inorganic mercury compounds – ammoniated mercury
Tincture of benzoin inhalation – Balsam of Peru
Procaine – benzocaine/glyceryl *p*-aminobenzoic acid sunscreens
Streptomycin, kanamycin, paromomycin, gentamicin – neomycin sulfate
Tolbutamide – benzocaine/glyceryl *p*-aminobenzoic acid sunscreens
Vitamin $B_1$ *Rook p.3387, 1998, Sixth Edition*
Vitamin C *Rook p.3387, 1998, Sixth Edition*

Retinoid dermatitis *Rook p.1969, 1998, Sixth Edition*

Simvastatin – nummular dermatitis *Cutis 62:197–198, 1998*

Sulfonamides *Rook p.3387, 1998, Sixth Edition*

Vitamin K injection

## EXOGENOUS AGENTS

Coffee – hand dermatitis of coffee drinkers *Cutis 40:421–422, 1987*

Contact
Irritant contact dermatitis *The Clinical Management of Itching; Parthenon; p.79, 2000*
Photocontact
Seaweed dermatitis
Windborne pollen dermatitis

Hydroxytoluene *Rook p.3387, 1998, Sixth Edition*

Lymphomatoid contact dermatitis *JAAD 38:877–905, 1998*

Marlex graft, with secondary infection

Mercury – baboon syndrome – diffuse erythema of buttocks, inner thighs, axillae *Contact Dermatitis 10:97–100, 1984*

Nickel – baboon syndrome – diffuse erythema of buttocks, inner thighs, axillae *Contact Dermatitis 10:97–100, 1984*

Plant irritant contact dermatitis – buttercup, spurge, manzanillo tree, milfoil, mayweed *Rook p.791, 1998, Sixth Edition;* barley – interdigital dermatitis *Rook p.792, 1998, Sixth Edition*

Sponge dermatitis

Tea tree oil *Contact Dermatitis 27:279–280, 1992*

## INFECTIONS AND INFESTATIONS

Alternariosis – dermatitic rash *BJD 145:484–486, 2001; BJD 143:910–912, 2000*

Ancylostomiasis – papular or papulovesicular rash; feet; generalized urticaria; late changes resemble kwashiorkor *Dermatol Clin 7:275–290, 1989*

AIDS – pruritic papular eruption of AIDS; firm discrete red, hyperpigmented urticarial papules *JAMA 292:2614–2621, 2004;* atopic dermatitis-like eruption *Rook p.2749, 1998, Sixth Edition*

Brucellosis – contact brucellosis with brucella dermatitis *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

Candidiasis, including chronic mucocutaneous candidiasis; neonatal mucocutaneous candidiasis *Bolognia p.210, 2004;* invasive systemic candidiasis in premature neonate (*C. albicans*) – crusted and erosive dermatitis, red plaques *Ped Derm 21:260–261, 2004*

Clam digger's itch (ghost anemone dermatitis) (*Haloclava producta*) – vesiculopapular eruption of hands, wrists, knees, inner thighs, ankles *JAAD 47:722–726, 2002*

Cryptococcosis *AD 132:545–548, 1996*

Cutaneous larva migrans – *Ancylostoma brasiliensis*, *A. caninum*, *Bunostomum phlebotomum*, *Uncinaria stenocephala*, *Gnathostoma spinigerum*, *Dirofilaria* species, *Strongyloides procyonis*, *S. stercoralis Ped Derm 15:367–369, 1998; South Med J 89:609–611, 1996*

Demodicidosis – papular eruption in HIV patients of head and neck, trunk and arms *JAAD 20:306–307, 1989; JAAD 20:197–201, 1989*

*Dermatophilus congolensis* – due to contact with infected animals; exudative scaly dermatitis *BJD 145:170–171, 2001*

Dermatophytid *Acta DV 74:403–404, 1994; Semin Dermatol 2:60, 1983*

Erythrasma – disciform erythrasma; intertriginous and perigenital; *Corynebacterium minutissimum*; red to brown irregularly shaped and sharply marginated scaly and slightly creased patches of groin, axillae, intergluteal, submammary flexures, toe clefts are most frequent location; coral-red fluorescence with Wood's light examination due to coproporphyrin; acanthosis nigricans and normal follicular openings of face and trunk may show coral pink fluorescence *Rev Infect Dis 4:1220–1235, 1982*

Histoplasmosis *JAAD 25:418, 1991; Cutis 43:535–538, 1989*

HIV – dermatitis of HIV disease including HIV disease in children *JAAD 20:1130, 1989;* nummular dermatitis of AIDS *Rook p.1065, 1998, Sixth Edition;* HIV-1 dermatitis – lichenoid photodermatitis *JAAD 28:167–173, 1993*

HTLV-1 infection – infective dermatitis of scalp, upper lip, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin *BJD 150:958–965, 2004; Tyring p.19, 2002;* generalized papular dermatitis *BJD 150:958–965, 2004; JAAD 49:979–1000, 2003; AD 134:439–444, 1998; Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Impetigo *Bolognia p.210, 2004*

Infectious eczematoid dermatitis *Rook p.635, 1998, Sixth Edition*

Insect bites *Rook p.1425–1426, 1998, Sixth Edition*

Leishmaniasis *JAAD 51:S125–128, 2004; Clinics in Derm 14:425–431, 1996*

Leprosy – non-pruritic dermatitis as presenting manifestation *Indian J Lepr 62:202–207, 1990*

Majocchi's granuloma

Molluscum contagiosum – dermatitis surrounding the mollusca (molluscum dermatitis) *Textbook of Neonatal Dermatology,*

*p.219, 2001; Rook p.636,1006 1998, Sixth Edition; AD 74:344–348, 1956*

*Necator americanus* – ground itch

Onchocerciasis – *Onchecerca volvulus*; transmitted by Simuliidae (humpbacked black fly) localized acute dermatitis or chronic generalized dermatitis; papules, crusted papules, lichenified plaques; often with hyperpigmented nodules *AD 140:1161–1166, 2004; JAAD 45:435–437, 2001; Cutis 65:293–297, 2000; BJD 121:187–198, 1989*

Phaeohyphomycosis *AD 137:815–820, 2001*

Protothecosis

Scabies – widespread dermatitis; localized nummular plaques *Rook p.1069,1460–1461, 1998, Sixth Edition;* crusted (Norwegian scabies) – may mimic hyperkeratotic dermatitis, psoriasis, contact dermatitis *Dermatology 197:306–308, 1998; AD 124:121–126, 1988*

Scarlet fever – desquamation

Sponge dermatitis *Rook p.1478, 1998, Sixth Edition*

Staphylococcal scalded skin syndrome *Ghatan p.112, 2002, Second Edition*

Streptocerciasis – *Mansonella streptocerca* – similar rash to onchocerciasis; acute or lichenified papules with widespread lichenification and hypopigmented macules *Rook p.1384, 1998, Sixth Edition*

Syphilis – congenital, secondary *Bolognia p.210, 2004*

Tinea corporis – *Trichophyton rubrum*, *T. megninii*, *E.floccosum Rook p.1302, 1998, Sixth Edition;* dermatitic dermatophytosis *Ghatan, p.39, 2002, Second Edition; Trichophyton verrucosum* – extensive annular lesions of trunk and neck *AD 94:35–37, 1966;* tinea corporis, pedis – bullous or scaly *Rook p.1300–1301, 1998, Sixth Edition;* capitis, corporis (also with overlying lichen simplex chronicus), manuum, pedis, cruris

Tinea imbricata – *Trichophyton concentricum* – extensive involvement with pruritus and lichenification *Clin Exp Dermatol 13:232–233, 1988; Trans R Soc Trop Med Hyg 78:246–251, 1984*

Tinea versicolor

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis – cutaneous findings include crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985;* purpuric papules in the neonate; masquerading as lichen aureus *Ped Derm 8:213–216, 1991*; Letterer-Siwe disease *JAAD 18:646–654, 1988;* purpuric vesicles *JAAD 37:314–317, 1997*

## INFLAMMATORY DISORDERS

Hidradenitis suppurativa

Sarcoid – dermatitis-like lesions in children *Clin Exp Dermatol 15:60–62, 1990; JAAD 5:566–570, 1981*

## METABOLIC

Acrodermatitis enteropathica – hands, feet, anogenital region, periorificial, palmar flexures *Curr Prob Derm 10:41–92, 1998;* chronic zinc deficiency – thickened brown dermatitis over elbows, knees, knuckles, malleoli; lichenification with scaling *Rook p.2670, 1998, Sixth Edition;* scrotal dermatitis *Rook p.3199, 1998, Sixth Edition*

Ahistidinemia *Curr Prob Derm 10:41–92, 1998*

Asymmetric periflexural exanthem of childhood – unilateral laterothoracic exanthem; dermatitic *Ped Derm 19:461–462, 2002; Ped Derm 12:112–115, 1995*

Biotinidase deficiency – combination of eczematous dermatitis and neurologic symptoms *Textbook of Neonatal Dermatology, p.254, 2001*

Carcinoid syndrome – pellagrous dermatitis (skin fragility, erythema, and hyperpigmentation over knuckles), flushing, patchy cyanosis, hyperpigmentation, telangiectasia, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *BJD 152:71–75, 2005; AD 77:86–90, 1958; Am Heart J 47:795–817, 1954*

Celiac disease – atopic dermatitis-like eruption *Rook p.700, 1998, Sixth Edition; Lancet i:115–117, 1976*

Cystic fibrosis, heterozygote *Lancet i:990–991, 1976*

Glucagonoma syndrome (necrolytic migratory erythema) – scaling papules and plaques *Skin and Allergy News Vol 32, July 2001, pp.1,59; The Clinical Management of Itching; Parthenon; p.76, 2000;* necrolytic migratory erythema also seen in gluten-sensitive enteropathy, celiac disease, cirrhosis, hepatocellular carcinoma, bronchial carcinoma, pancreatitis, hepatitis, and inflammatory bowel disease

Hartnup's disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999;* presenting in adulthood *Clin Exp Dermatol 19:407–408, 1994*

Hereditary spherocytosis – dermatitis of the legs *Ped Derm 20:427–428, 2003*

Homocystinuria

Kwashiorkor – 'enamel paint' change; may resemble atopic dermatitis on the face; red brown scaly plaques *JAAD 52:S69–72, 2005; JAAD 21:1–30, 1989;* in elderly, cracked skin on lower abdomen and pretibial areas (geriatric nutritional eczema) *Rook p.2662, 1998, Sixth Edition*

Leiner's disease *Ghatan p.107, 2002, Second Edition*; *Pediatrics 49:225–232, 1972*

Liver disease, chronic (cirrhosis) – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Malabsorption *Br Med J ii:937–943, 1962; Q J Med 22:59–79, 1953*; scrotal dermatitis *Rook p.3199, 1998, Sixth Edition*

Multiple carboxylase deficiency

Nephrotic syndrome – atopic dermatitis-like eruption *Lancet i:388–390, 1977*

Pellagra – associated with celiac disease *Yale J Biol Med 72:1518, 1999*; scrotal dermatitis *Rook p.3199, 1998, Sixth Edition*

Phenylketonuria – resembles atopic dermatitis *JAAD 49:S190–192, 2003; Textbook of Neonatal Dermatology, p.255, 2001; Curr Prob Derm 10:41–92, 1998*

Porphyria – erythropoietic protoporphyria – may be confused with atopic dermatitis *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Prolidase deficiency – leg ulcers, dermatitis, xerosis *BJD 144:635–636, 2001; JAAD 29:819, 1993*

Prurigo of pregnancy – red papules *Semin Derm 8:23–25, 1989*

Pseudoglucagonoma syndrome due to malnutrition *AD 141:914–916, 2005*

Riboflavin deficiency – scrotal dermatitis *Rook p.3199, 1998, Sixth Edition*

Vitamin $B_6$ (pyridoxine) deficiency *Rook p.2658, 1998, Sixth Edition*

## NEOPLASTIC

Basal cell carcinoma

Bowen's disease *Rook p.1674–1675, 1998, Sixth Edition*

Cervicothoracic syrinx and thoracic spinal cord tumor – dermatomal lichen simplex chronicus *Neurosurgery 30 (3):418–421, 1992*

Dermatofibroma – halo dermatitis

Disseminated superficial actinic porokeratosis

Epidermal nevus (dermatitic epidermal nevus)

Leukemia – HTLV-1 leukemia/lymphoma (acute T-cell leukemia)

Leukemia cutis – mimicking stasis dermatitis *Cutis 35:47–48, 1985*

Lymphoma – cutaneous B-cell lymphoma *AD 123:136–137, 1987;* cutaneous T-cell lymphoma *Rook p.2376, 1998, Sixth Edition*; small to medium-sized pleomorphic T-cell lymphoma *JAAD 46:531–535, 2002;* Woringer-Kolopp disease; syringolymphoid hyperplasia with alopecia (CTCL) – nummular dermatitis-like lesions *BJD 110:95–101, 1984*

Malignant histiocytosis mimicking kwashiorkor *Ped Derm 19:5–11, 2002*

Meyerson's nevus – dermatitic halos surrounding melanocytic nevi, atypical nevi, seborrheic keratoses, stucco keratoses, keloids, benign lentigo, insect bite, basal cell carcinoma, squamous cell carcinoma, dermatofibroma, pityriasis rosea *AD 139:1209–1214, 2003; Int J Dermatol 24:226–229, 1985; AD 103:510–512, 1971;* due to interferon-$\alpha$ and ribavirin *BJD 152:193–194, 2005; JAAD 40:105–106, 1999;* atypical nevus *JAAD 34:357–361, 1996*

Parapsoriasis en plaque

## PARANEOPLASTIC

Adult-onset recalcitrant eczema – marker of non-cutaneous lymphoma or leukemia *JAAD 43:207–210, 2000*

Bazex syndrome – dermatitis of hands, feet, nose, ears *JAAD 40:822–825, 1999*

Generalized erythema craquele as a paraneoplastic phenomenon; lymphoma *BJD 97:323–326, 1977;* angioimmunoblastic lymphadenopathy *AD 115:370, 1979;* gastric carcinoma *BJD 109:277–278, 1983;* breast cancer *BJD 110:246, 1984*

## PHOTODERMATOSES

Actinic prurigo (polymorphic light eruption of Native Americans) – dermatitis with lichenification *JAAD 44:952–956, 2001; Australas J Dermatol 42:192–195, 2001; Photodermatol Photoimmunol Photomed 15:183–187, 1999; Int J Dermatol 34:380–384, 1995; JAAD 26:683–692, 1992; JAAD 5:183–190, 1981; Clin Exp Dermatol 2:365–372, 1977;* familial, in North American Native Americans *Int J Dermatol 10:107–114, 1971;* occurrence in non-Indians *JAAD 34:612–617, 1996;* in Caucasians *BJD 144:194–196, 2001; Southeast Asians Photodermatol Photoimmunol Photomed 9:225–228, 1992*

Actinic reticuloid *Sem Derm 161, Sept 1982; JAAD 38:877–905, 1998; AD 115:1078–1083, 1979*

Chronic actinic dermatitis – acute, subacute, or chronic dermatitis with lichenification, papules, plaques, erythroderma, stubby scalp and eyebrow hair *BJD 152:784–786, 2005; AD 136:1215–1220, 2000; AD 130:1284–1289, 1994; JAAD 28:240–249, 1993; AD 126:317–323, 1990;* sensitization by sesquiterpene lactone mix *BJD 132:543–547, 1995;* associated with musk ambrette *Cutis 54:167–170, 1994; JAAD 3:384–393, 1980*

Photoallergic contact dermatitis *Bolognia p.210, 2004*

Photosensitive eczema

Polymorphic light eruption – papulovesicular

## PRIMARY CUTANEOUS DISEASES

Alopecia mucinosa *Clin Exp Derm 14:382–384, 1989*

Asteatotic dermatitis, including erythema craquele *Rook p.644–645, 1998, Sixth Edition*

Atopic dermatitis *Textbook of Neonatal Dermatology, p.242, 2001*

Blaschkitis

Brachioradial pruritus – lichen simplex chronicus of the arm *JAAD 29:783–784, 1983*

Darier's disease – mimicking dermatitis *J Laryngol Otol 106:725–726, 1992*

Diaper dermatitis – with rapid dissemination – expanding nummular dermatitis of trunk, and red scaly plaques of neck and axillae ('psoriasiform id') *BJD 78:289–296, 1966*

Digitate dermatosis (small plaque parapsoriasis) (persistent superficial dermatitis) *Rook p.663–664, 1998, Sixth Edition*

Dyshidrotic eczema *The Clinical Management of Itching; Parthenon; p.xv, 2000*

Eosinophilic pustular folliculitis of AIDS

Epidermolysis bullosa pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions (prurigo nodularis-like) in linear array on shins, forearms, trunk; dermatitis with lichenified hypertrophic and verrucous plaques in adults, albopapuloid lesions of the trunk, milia *BJD 152:1332–1334, 2005; AD 140:794–796, 2004; BJD 130:617–625, 1994*

Erythema craquele

Erythrokeratoderma variabilis *Curr Prob Derm 10:41–92, 1998*

Exfoliation of the newborn

Exfoliative dermatitis

Exudative discoid and lichenoid dermatosis of Sulzberger and Garbe (oid-oid disease) *BJD 100:13–20, 1979; AD 36:247–272, 1937*

Frictional dermatitis of children – pinhead-sized white papules or warty lesions of backs of hands, elbows, and knees *Rook p.895–896, 1998, Sixth Edition*

Granular parakeratosis *Ped Derm 20:215–220, 2003*

Grover's disease (transient acantholytic dermatosis) *AD 101:426–434, 1970*

Hailey–Hailey disease *Australas J Dermatol 37:196–198, 1996; BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Halo dermatitis *Ped Derm 9:275, 1992*

Hand dermatitis – numerous etiologies including allergic contact dermatitis (tulip fingers, etc.), irritant contact dermatitis, dyshidrosis, ingested allergens (nickel, chromium), dermatophytid, atopic, water exposure ('housewives' dermatitis') *Rook p.648, 1998, Sixth Edition*

Hyperkeratotic dermatitis of the palms and soles *BJD 109:205–208, 1983; BJD 107:195–202, 1982*

Ichthyosis

Interstitial granulomatous dermatitis

Juvenile plantar dermatosis *Clin Exp Dermatol 11:529–534, 1986; Semin Dermatol 1:67–75, 1982; Clin Exp Dermatol 1:253–260, 1976*

Keratolysis exfoliativa

Lichen nitidus – palmar lesions resemble chronic fissured dermatitis, palmar hyperkeratosis *Clin Exp Dermatol 18:381–383, 1993;* minute papules *AD 104:538–540, 1971;* dyshidrosis-like *BJD 82:423–424, 1976*

Lichen planus – mimicking hyperkeratotic hand dermatitis *Rook p.656, 1998, Sixth Edition;* generalized dermatitis *Rook p.1904–1912, 1998, Sixth Edition*

Lichen simplex chronicus (neurodermatitis) *Bolognia p.210, 2004*

Lichen striatus *Int J Dermatol 25:584–585, 1986*

Lip lickers dermatitis – perioral *The Clinical Management of Itching; Parthenon; p.76, 2000*

Necrolytic acral erythema *Int J Derm 35:252–256, 1996*

Nipple dermatitis *The Clinical Management of Itching; Parthenon; p.76, 2000*

Nummular dermatitis *The Clinical Management of Itching; Parthenon; p.76, 2000*

Pachydermatous eosinophilic dermatitis (hypereosinophilic dermatitis) – resembles severe atopic dermatitis with hypertrophic genital lesions *BJD 134:469–474, 1996; Dermatologica 162:444–450, 1981*

Palmar dermatitis *AD 131:325–329, 1995*

Papular prurigo (chronic prurigo of adults) *Rook p.672–673, 1998, Sixth Edition*

Parapsoriasis

Perioral dermatitis

Pityriasis alba *Rook p.664–665, 1998, Sixth Edition*

Pityriasis rosea

Pityriasis rubra pilaris – dermatitic patches in atypical adult PRP *Rook p.1542, 1998, Sixth Edition*

Prurigo pigmentosa *Cutis 63:99–102, 1999; BJD 120:705–708, 1989; AD 125:1551–1554, 1989*

Psoriasis *Rook p.1602–1603, 1998, Sixth Edition*; napkin psoriasis

Psoriasiform spongiotic dermatitis

Ring dermatitis – due to soap and/or water trapped under a ring; due to radioactive gold *JAMA 205:595–596, 1968*

Seborrheic dermatitis – scalp, nasolabial folds, umbilicus, groin, axillae; yellow-brown adherent scale of scalp; scales smaller, whiter, and drier of face, axillae *Textbook of Neonatal Dermatology, p.247, 2001; Rook p.476, 1998, Sixth Edition*

Subcorneal pustular dermatitis

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

Transient acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996*

Unilateral laterothoracic exanthem of childhood – scarlatiniform or dermatitic *JAAD 27:693–696, 1992*

Vorner's palmoplantar keratoderma – neonatal BCIE-like dermatitis

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis *Ped Derm 21:205–211, 2004*

Hand dermatitis – obsessive–compulsive disorder with repeated hand washing *JAAD 13:965–967, 1985*

## SYNDROMES

Andogsky syndrome – atopic dermatitis and unilateral cataracts *Ped Derm 20:419–420, 2003; Klin Monatsbl Augenheilkd 52:824–831, 1914*

Anhidrotic ectodermal dysplasia *Rook p.702, 1998, Sixth Edition*

Ankyloblepharon–ectrodactyly–cleft lip/palate (AEC syndrome) – severe dermatitis; congenital scalp erosions *AD 134:1121–1124, 1998; Ped Derm 10:334–340,1993;* generalized fissured erosions of trunk *BJD 149:395–399, 2003; Textbook of Neonatal Dermatology, p.468, 2001*

Ataxia telangiectasia – dermatitis; telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *Rook p.2095,1998, Sixth Edition; JAAD 10:431–438, 1984; Ann Intern Med 99:367–379, 1983*

Bazex syndrome

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) (NS) – autosomal dominant; xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Down's syndrome – lichenified dermatitis of neck and extremities *Rook p.373, 1998, Sixth Edition*

Dubowitz's syndrome – severe eczema, sparse hair, sparse arched eyebrows, dysplastic ear pinnae *Clin Exp Dermatol 19:425–427, 1994; Am J Med Genet 47:959–964, 1993*

Ectrodactyly–ectodermal dysplasia–clefting syndrome (EEC syndrome) – scalp dermatitis *BJD 132:621–625, 1995*

Ectodermal dysplasias *Bolognia p.210, 2004*

Hearing loss with atopic dermatitis (familial) – atopic dermatitis-like eruption *The Clinical Management of Itching; Parthenon; p.76, 2000; Acta Otolaryngol 82:242, 1976*

Hereditary acrokeratotic poikiloderma – vesicopustules of hands and feet at 1–3 months of age; widespread atopic dermatitis-like dermatitis; keratotic papules of hands, feet, elbows, and knees *AD 103:409–422, 1971*

Hurler's syndrome *The Clinical Management of Itching; Parthenon; p.76, 2000; Rook p.700, 1998, Sixth Edition*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – atopic dermatitis; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Idiopathic hypereosinophilic syndrome *BJD 144:639, 2001; Blood 83:2759–2779, 1994;* atopic dermatitis-like eruption *Rook p.703, 1998, Sixth Edition*

Incontinentia pigmenti

Job's syndrome (hyperimmunoglobulin E syndrome) Buckley's syndrome) – dermatitis of face, behind ears, scalp, axillae, and groin; retention of primary teeth with double rows of teeth; deep-set eyes, broad nasal bridge, wide fleshy nasal tip, prognathism, ocular hypertelorism recurrent bacterial infections of skin with cold abscesses, contact urticaria, infections of nasal sinuses and respiratory tract *AD 140:1119–1125, 2004; Clin Inf Dis 34:1213–1214,1267–1268, 2002; JAAD S268–269, 2002; J Pediatr 141:572–575, 2002; NEJM 340:692–702, 1999; Curr Prob Derm 10:41–92, 1998; Medicine 62:195–208, 1983; Pediatrics 49:59–70, 1972; Lancet 1:1013–1015, 1966*

Kawasaki's disease

Kindler's syndrome

Klinefelter's syndrome – stasis dermatitis

Long arm of chromosome 18 deletions syndrome

Netherton's syndrome – flexural lichenification; trichorrhexis invaginata *Ped Derm 19:285–292, 2002*; *AD 135:823–832, 1999; BJD 141:1097–1100, 1999; Curr Prob Derm 10:41–92, 1998; Ped Derm 14:473–476, 1997; Ped Derm 13:183–199, 1996; BJD 131:615–619, 1994*

Omenn's syndrome *Acta Derm 782:71, 1988;* presents in neonatal period with atopic-like dermatitis *Textbook of Neonatal Dermatology, p.255, 2001*

Powell syndrome – X-linked, intractable diarrhea, autoimmune polyendocrinopathy, dermatitis, hemolytic anemia *Am J Med Genet 66:378–398, 1996*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Reiter's syndrome – dermatitis of penis and scrotum *Rook p.2767, 1998; Arthr Rheum 24:844–849, 1981; Semin Arthritis Rheum 3:253–286, 1974*

Richner–Hanhart syndrome (tyrosinemia type II) *Curr Prob Derm 10:41–92, 1998*

Say–Barber syndrome – short stature, microcephaly, large ears, flexion contractures, decreased subcutaneous fat; dermatitis in infancy with transient hypogammaglobulinemia *Am J Med Genet 86:165–167, 1999*

Schopf–Schulz–Passarge syndrome – eyelid cysts (apocrine hidrocystomas), palmoplantar keratoderma (plantar dermatitis), hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Spondyloepimetaphyseal dysplasia, eczema, and hypogammaglobulinemia *Clin Dysmorphol 8:79–85, 1999*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – dermatitis, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Wiskott–Aldrich syndrome – atopic dermatitis, thrombocytopenia, malignant lymphoma, leukemia *Dermatol Therapy 18:176–183, 2005; Curr Prob Derm 14:41–70, 2002; Textbook of Neonatal Dermatology, p.255, 2001; Rook p.700,2746, 1998, Sixth Edition; Int J Dermatol 24:77–81, 1985*

### TRAUMA

Airbag dermatitis – bizarre shapes of erythema and dermatitis resembling factitial dermatitis *JAAD 33:824–825, 1995*

Radiation dermatitis

Radiation recall

Spinal cord injury – nummular dermatitis below the level of injury *AD 83:379–385, 1961*

### VASCULAR DISEASES

Eczematoid pigmented purpuric eruption

Port wine stain with overlying dermatitis *BJD 144:1269–1270, 2001*

Post-phlebitic syndrome – pain, edema, night cramps, hemosiderin deposition, dermatitis *Phlebology 11:2–5, 1996*

Saphenous vein graft donor site dermatitis *Arch Surg 129:609, 1993*

Vasculitis simulating eczematous dermatitis – with $C_2$ deficiency *Acta DV 67:265–7, 1987*

Venous stasis dermatitis *Rook p.659, 1998, Sixth Edition*

## DERMATITIS, FACIAL, PEDIATRIC

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bare lymphocyte syndrome *Rook p.2745, 1998, Sixth Edition*

Bruton's hypogammaglobulinemia – atopic-like dermatitis; dermatomyositis-like syndrome *Rook p.2749, 1998, Sixth Edition*

C3 deficiency – recurrent infections, vasculitis, LE; C3 inactivator deficiency – dermatitis early in infancy *Rook p.2744, 1998, Sixth Edition*

Chronic granulomatous disease – X-linked or autosomal recessive, seborrheic dermatitis-like changes, Xp21 (distal end of Xp), localized pyodermas, abscesses, granulomas, perioral and intraoral ulcers, lungs/liver/spleen, defect in NADPH oxidase system; including NADPH, phagocyte cytochrome b, and cytosolic proteins; membrane-associate NADPH oxidase system fails to produce superoxide and other toxic oxygen metabolites; *Staphylococcus aureus*, *Klebsiella*, *Pseudomonas*, *Escherichia coli*, *Serratia*, *Aspergillus*, *Candida*, *Cryptococcus*, *Nocardia*

DiGeorge's syndrome (may be same as velocardiofacial syndrome) – autosomal dominant or sporadic; seborrheic dermatitis, atopic dermatitis; developmental defects of 3rd and 4th pharyngeal pouches, congenital thymic aplasia, neonatal tetany due to absence of parathyroids, cardiac anomalies (truncus arteriosus), short philtrum, low-set malformed ears, hypertelorism, increased susceptibility to *Candida*, viral, and *Pneumocystis carinii* infections, loss of portion of proximal long arm of chromosome 22 *Rook p.498, 1998, Sixth Edition*

Hypogammaglobulinemia *Ghatan p.107, 2002, Second Edition*

Jung's syndrome (antihistamine responsive immunodeficiency) – atopic dermatitis, pyoderma, folliculitis, blepharitis with defective leukocyte and lymphocyte function *Lancet ii:185–187, 1983*

Juvenile rheumatoid arthritis – Still's disease

Linear IgA disease (chronic bullous disease of childhood)

Lupus erythematosus – neonatal LE *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* discoid lupus erythematosus *Ped Derm 15:439–442, 1998*

Pemphigus foliaceus – blisters, crusts, and erosions *JAAD:S187–189, 2003*

Severe combined immunodeficiency syndrome

X-linked hypogammaglobulinemia (agammaglobulinemia) *Curr Prob Derm 10:41–92, 1998; J Allergy 33:406–411, 1962*

X-linked immunodeficiency with hyper-IgM – atopic dermatitis-like rash *Rook p.2749, 1998, Sixth Edition*

## CONGENITAL LESIONS

Collodion baby

Exfoliation of the newborn

Toxic erythema of newborn

## DRUG-INDUCED

Multiple drug allergies

Retinoid dermatitis *Rook p.1969, 1998, Sixth Edition*

## EXOGENOUS AGENTS

Irritant contact dermatitis

Lime phototoxicity

## INFECTIONS AND INFESTATIONS

AIDS – atopic dermatitis-like eruption *Rook p.2749, 1998, Sixth Edition;* dermatitis of HIV disease in children *JAAD 20:1130, 1989*

Candidiasis, including chronic mucocutaneous candidiasis

Herpes simplex infection – eczema herpeticum

Molluscum contagiosum – dermatitis surrounding the mollusca (molluscum dermatitis) *Textbook of Neonatal Dermatology, p.219, 2001; Rook p.636,1006 1998, Sixth Edition; AD 74:344–348, 1956*

Staphylococcal scalded skin syndrome *Ghatan p.112, 2002, Second Edition*

Syphilis – congenital, secondary

Tinea faciei, including tinea incognito

Tinea versicolor

## INFILTRATIVE DISORDERS

Langerhans cell histiocytosis – cutaneous findings include crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985;* purpuric papules in the neonate; Letterer-Siwe disease *JAAD 18:646–654, 1988*

## INFLAMMATORY DISEASES

Stevens–Johnson syndrome

Toxic epidermal necrolysis

## METABOLIC

Acrodermatitis enteropathica

Biotinidase deficiency – combination of eczematous dermatitis and neurologic symptoms

Celiac disease – atopic dermatitis-like eruption *Rook p.700, 1998, Sixth Edition; Lancet i:115–117, 1976*

Cystic fibrosis, heterozygote *Lancet i:990–991, 1976*

Hartnup's disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999*

Kwashiorkor – 'enamel paint' change; may resemble atopic dermatitis on the face; red brown scaly plaques *JAAD 21:1–30, 1989*

Lysinuric protein intolerance – autosomal recessive; defect in membrane transport of cationic amino acids (lysine, arginine, ornithine); hyperammonemia; dermatitis resembling neonatal lupus *Lancet 363:1038, 2004; Eur J Pediatr 160:5223, 2001*

Methylmalonic acidemia cobalamin C type *AD 133:1563–1566, 1997*

Multiple carboxylase deficiency (biotin-responsive) – pyruvate carboxylase, propionyl-coenzyme A carboxylase, and 3-methylcrotohyl-CoA carboxylase; accumulation of urinary organic acids; neonatal – holocarboxylase synthetase deficiency; juvenile or late-onset from – biotinidase deficiency *Ped Derm 21:231–235, 2004; Ped Derm 16:95–102, 1999*

Pellagra

Phenylketonuria *Curr Prob Derm 10:41–92, 1998*

## NEOPLASTIC DISEASES

Leukemia cutis – aleukemic juvenile myelomonocytic leukemia

## PHOTODERMATITIS

Actinic prurigo *BJD 144:194–196, 2001; JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Ped Derm 3:384–389, 1986; JAAD 5:183–190, 1981*

## PRIMARY CUTANEOUS DISEASE

Atopic dermatitis *Rook p.695, 1998, Sixth Edition*

Bullous congenital ichthyosiform erythroderma

Epidermolytic hyperkeratosis

Exfoliative dermatitis

Leiner's disease

Non-bullous congenital ichthyosiform erythroderma

Periorbital dermatitis (periorbital variant of perioral dermatitis) (granulomatous perioral dermatitis) – idiopathic or topical corticosterioid-associated *Rook p.2110–2111, 1998, Sixth Edition;* including facial Afro-Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Pityriasis lichenoides chronica

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis *BJD 135:501, 1996*

Seborrheic dermatitis

Vorner's palmoplantar keratoderma

### PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis *Ped Derm 21:205–211, 2004*

### SYNDROMES

Ataxia telangiectasia

Bloom's syndrome

Goltz's syndrome

Hereditary acrokeratotic poikiloderma of Weary – vesiculopustules of hands and feet at age 1–3 months which resolve; widespread atopic dermatitis-like dermatitis; diffuse poikiloderma with striate and reticulate atrophy; keratotic papules of hands and feet, elbows and knees; autosomal dominant *AD 103:409–422, 1971*

Hyper-IgE syndrome (Job's syndrome) (Buckley's syndrome) – dermatitis of face, scalp, axillae, and groin; recurrent bacterial infections of skin with cold abscesses, contact urticaria, infections of nasal sinuses and respiratory tract *AD 140:1119–1125, 2004; J Pediatr 141:572–575, 2002; Curr Prob Derm 10:41–92, 1998; Medicine 62:195–208, 1983; Pediatrics 49:59–70, 1972; Lancet 1:1013–1015, 1966*

Kawasaki's disease

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Netherton's syndrome

Wiskott–Aldrich syndrome – dermatitis of scalp, face, flexures, napkin area with purpura *Rook p.495, 1998, Sixth Edition*

Xeroderma pigmentosum

### TRAUMA

Lip lickers' dermatitis *The Clinical Management of Itching; Parthenon; p.76, 2000*

Radiation reaction

### VASCULAR LESIONS

Vasculitis

## DERMATITIS, PERIORBITAL

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *JAAD 47:755–765, 2002;* protein contact dermatitis; eyeglass frames; nail cosmetics, eyedrops, fragrance, preservatives

Dermatomyositis *JAAD 47:755–765, 2002*

Graft vs. host reaction *AD 126:1324–1329, 1990;* sclerodermatous graft vs. host reaction – periorbital papules *JAAD 26:49–55, 1992;* periorbital lichenoid chronic graft vs. host reaction *AD 134:602–612, 1998*

Juvenile rheumatoid arthritis (Still's disease)

Lupus erythematosus – SLE *JAAD 26:334, 1992;* discoid LE (eyelid plaques) *AD 129:495, 1993;* bullous LE; lupus profundus *JAAD 24:288, 1991;* neonatal LE (raccoon eyes) *Textbook of Neonatal Dermatology, p.297, 2001; JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988*

Pemphigus vulgaris, foliaceus – erythema and erosions *JAAD 33:312–315,1995*

Progressive systemic sclerosis and linear scleroderma *JAAD 7:541–544, 1982*

Urticaria (systemic, contact, physical) – eyelid dermatitis *JAAD 47:755–765, 2002*

### DRUG-INDUCED

Atacurium

Augmentin drug eruption

Calcium channel blockers *JAAD 21:132–133, 1989*

Contrast medium *Clin Radiol 40:108, 1989*

Corticosteroids – topical corticosteroid periorbital dermatitis

Dilantin *AD 114:1350, 1978*

Erythropoietin

Fixed drug eruption

Interleukin-4

Mannitol

Methylprednisolone *AJ Ophth 113:588–590, 1992*

Nifedipine *Am J Cardiol 55:1445, 1985*

Phenylephrine *Contact Dermatitis 53:298–299, 2005*

Post-influenza vaccination *Can Med Assoc J 116:724, 1977*

Rifampin

Steroid rosacea

Toxic epidermal necrolysis

### EXOGENOUS AGENTS

Irritant contact dermatitis *JAAD 47:755–765, 2002*

Food – rice *Allerg Immunopathol 20:171–172, 1992*

Recurrent facial eczema due to 'strike anywhere' matches phorphorus sesquisulphide *BJD 106:477, 1982*

### INFECTIONS AND INFESTATIONS

Anthrax

Cat scratch disease

*Chlamydia*

Coccidioides immitis *Ann Ophthalmol 20:391–393, 1998*

Cutaneous larva migrans

Dermatophytosis

Ecthyma gangrenosum *BJD 148:121, 2003*

Epidemic keratoconjunctivitis

Herpes simplex virus – primary infection; chronic

Herpes zoster – including post-zoster dysesthesias

HTLV-1 infection – infective dermatitis of scalp, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin; generalized papular dermatitis *Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Impetigo

Insect bites

Intraocular infections

Jellyfish envenomaton

Leishmaniasis

Lepidopterism

Leprosy

Lyme disease – including dermatomyositis associated with Lyme disease *Clin Inf Dis 18:166–171, 1994*

Lymphogranuloma venereum

Malaria

Measles

Molluscum contagiosum *Ann Ophthalmol 20:391–393, 1998*

Mucormycosis *AD 122:329–334, 1986*

*Mycobacterium tuberculosis* – scrofuloderma *Rook p.1193, 1998, Sixth Edition*

Myiasis

Papular urticaria

Russell's viper bite

Scabies – crusted (Norwegian) scabies *Ped Derm 17:410–414, 2000*

Scarlet fever

Sparganosis

Syphilis – primary (chancre), secondary

Staphylococcal scalded skin syndrome

Verrucae planae (flat warts)

Zygomycosis

## INFILTRATIVE DISEASES

Amyloidosis, including macular amyloidosis with periorbital hyperpigmentation *Clin Exp Dermatol 8:195–197, 1983*

Colloid milium

Eosinophilic or basophilic granulomas (pseudotumor of orbit)

Langerhans cell histiocytosis

Mucinosis, cutaneous

Orbital pseudotumor *Ann Allergy 69:101–105, 1992*

Scleromyxedema *JAAD 928–930, 1996*

Xanthoma disseminatum – periorbital papules *JAAD 15:433–436, 1991*

## INFLAMMATORY DISEASES

Erythema multiforme

Neutrophilic eccrine hidradenitis *JAAD 38:1–17,1998; JAAD 131:1141–1145, 1995; JAAD 28:775, 1993*

Orbital myositis and giant cell myocarditis *JAAD 35:310–312, 1996*

Sarcoid *AD 118:356–357, 1982;* Parinaud's oculoglandular syndrome

## METABOLIC DISEASES

Acrodermatitis enteropathica

Fabry's disease *Arch Ophthal 74:760, 1965*

Hartnup's disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999;* presenting in adulthood *Clin Exp Dermatol 19:407–408, 1994*

Type B Niemann-Pick disease *Metab Ped Syst Ophthal 15:16–20, 1992*

Xanthelasma

Vitamin $B_2$ (riboflavin) deficiency – dermatitis around nose, eyes, ears, and genitals (oro-oculogenital syndrome) *Rook p.2657, 1998, Sixth Edition; Clinics in Derm 17:457–461, 1999; AD 112:70–72, 1976*

## NEOPLASTIC DISEASES

Angiosarcoma of face and scalp (Wilson Jones angiosarcoma) *JAAD 38:143–175, 1998*

Atypical lymphoid hyperplasia *JAAD 37:839–842, 1997*

Basal cell carcinoma

Benign and malignant ectodermal and mesodermal tumors (orbital tumors)

Bowen's disease

Carcinoid syndrome

Embryonal rhabdomyosarcoma

Epidermal inclusion cyst

Eruptive hidradenoma – papules *Cutis 46:69–72, 1990*

Juvenile xanthogranuloma *JAAD 14:405–411, 1986*

Kaposi's sarcoma

Leukemia, including HTLV-1 – papules

Lymphoma, including cutaneous T-cell lymphoma (CTCL) *JAAD 47:755–765, 2002*

Melanoma

Merkel cell tumor

Metastatic breast cancer – eyelid enlargement *JAAD 37:362–364, 1997*

Myeloma – cutaneous crystalline deposits *AD 130:484–488,1994*

Periorbital cutaneous myxomas *JAAD 34:928–930, 1995*

Sebaceous gland carcinoma

Primary sweat gland carcinoma

Syringomas

Trichoepithelioma

## PHOTODERMATITIS

Chronic actinic dermatitis

Piroxicam (Feldene) photodermatitis

Polymorphic light eruption

Quinidine photo-lichen planus

## PRIMARY CUTANEOUS DISEASES

Acne rosacea – eyelid dermatitis *JAAD 47:755–765, 2002; JAAD 37:346–348, 1997; AD 121:87, 1985*

Acne vulgaris

Alopecia mucinosa

Angiolymphoid hyperplasia with eosinophilia *Ped Derm 15:91–96, 1998; Ann Allergy 69:101–5, 1992*

Atopic dermatitis *JAAD 47:755–765, 2002*

Blepharitis granulomatosa *AD 120:1141, 1984*

Epidermolysis bullosa – Herlitz junctional EB and junctional EB mitis – periorbital erosions

Granuloma annulare

Lichen planus of eyelids – heliotrope *JAAD 27:638, 1992*

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition*

Lichen simplex chronicus – eyelid dermatitis *JAAD 47:755–765, 2002*

Periorbital dermatitis (periorbital variant of perioral dermatitis) – idiopathic or topical corticosterioid-associated *Rook p.2110–2111, 1998, Sixth Edition;* including facial Afro-Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Psoriasis *JAAD 47:755–765, 2002*

Seborrheic dermatitis *JAAD 47:755–765, 2002*

Vitiligo and sunburn

### PSYCHOCUTANEOUS

Delusions of parasitosis

Factitial dermatitis

### SYNDROMES

Anhidrotic ectodermal dysplasia

Carcinoid syndrome

Fabry's disease

Familial sea blue histiocytosis

Hypereosinophilic syndrome

Kawasaki's disease

Lipoid proteinosis

Melkersson–Rosenthal syndrome

NAME/LAMB syndromes

Netherton's syndrome

Neurofibromatosis

Sjögren's syndrome – eyelid dermatitis *JAAD 47:755–765, 2002*

SLY syndrome

Sturge–Weber syndrome

Sweet's syndrome *JAAD 24:140–141, 1991*

### TOXINS

Alkali burn

Eosinophilia myalgia syndrome

### TRAUMA

Physical trauma

Valsalva maneuver – periorbital purpuric eruption

### VASCULAR DISEASES

Disseminated intravascular coagulation *BJ Ophth 72:347–379, 1988*

Hemangiomas

Neonatal hemangiomatosis

Pyogenic granuloma

Recurrent cutaneous necrotizing eosinophilic vasculitis *Sem Derm 14:106–110, 1995; AD 130:1159–1166, 1994*

Thrombotic thrombocytopenic purpura

Wegener's granulomatosis

## DERMATITIS, PERIORIFICIAL

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – perioral dermatitis from toothpaste, dental fillings; epoxy diacrylates *JAAD 38:116–120, 1998; Rook p.762, 1998, Sixth Edition;* apple – perioral urticarial dermatitis *JAAD 53:736–737, 2005;* perianal dermatitis from local anesthetics, fragrances, antifungals, topical corticosteroids *Rook p.759, 1998, Sixth Edition*

Amicrobial pustulosis associated with autoimmune disease treated with zinc *BJD 143:1306–1310, 2000*

Chronic granulomatous disease – impetiginized perioral dermatitis *JAAD 36:899–907, 1997*

Dermatomyositis

Dermatitis herpetiformis

Hyper-IgE syndrome *Am J Dis Child 143:1038–1041, 1989*

Linear IgA disease (chronic bullous disease of childhood) – perioral, perivulvar annular polycyclic bullae *Rook p.1882, 1998, Sixth Edition; Ped Derm 15:108–111, 1998; Ped Derm 11:139–144, 1994*

Pemphigus foliaceus *Ann DV 126:41–43, 1999*

Pemphigus vulgaris

### DRUGS

Corticosteroid, topical – perioral dermatitis, *Int J Derm 26:649, 1987;* rosacea

Fixed drug eruption

### EXOGENOUS AGENTS

Ecstasy *Dermatology 197:171–173, 1998*

Tartar control dentifrice dermatitis – perioral *JAAD 22:1029–1032*

### INFECTIONS

AIDS, childhood – atopic dermatitis-like eruption *Rook p.2749, 1998, Sixth Edition*

*Calymmatobacterium granulomatis* (granuloma inguinale) *Rook p.1072, 1998, Sixth Edition*

Candidiasis, including chronic mucocutaneous candidiasis

Green shield bug (*Palomena prasina*) – perioral bullae *BJD 119:121–125, 1988*

Herpes simplex virus – herpes stomatitis *Ped Derm 20:289–294, 2003; Drugs Aging 19:503–514, 2002; Tyring p.86, 2002;* eczema herpeticum *Cutis 73:301–317, 2004*

Impetigo

Mycobacterium tuberculosis – tuberculosis orificialis

Paracoccidioidomycosis – oral and perioral lesions *Rook p.1370, 1998, Sixth Edition*

Parvovirus B19 infection – generalized petechial eruption with perioral accentuation *JAAD 52:S109–113, 2005; Clin Inf Dis 35:1558–1561, 2002*

Perianal streptococcal cellulitis

*Pseudomonas* – ecthyma gangrenosum in the neonate *Textbook of Neonatal Dermatology, p.194, 2001*

Pyoderma

Staphylococcal scalded skin syndrome

Syphilis – secondary

Yaws – secondary (daughter yaws, pianomas, framboesiomas)) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws); hyperkeratotic plantar plaques (crab yaws); periungual *Rook p.1268–1271, 1998, Sixth Edition; JAAD 29:519–535, 1993*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis

## INFLAMMATORY DISEASE

Crohn's disease

Hidradenitis suppurativa

Hirschsprung disease – perianal papulonodular dermatitis *Ann DV 123:549–551, 1996*

Post-inflammatory – secondary to lip licking, contact or photocontact dermatitis

Pyoderma vegetans *Hautarzt 35:132–137, 1984*

Sarcoid

## METABOLIC

Acrodermatitis enteropathica or acquired zinc deficiency – autosomal recessive; zinc is metal moiety of enzymes such as alkaline phosphatase (results in low serum alkaline phosphatase), alcohol dehydrogenase, digestive enzymes *Ped Derm 19: 426–431, 2002; Ped Derm 19:180–182, 2002; J Inorg Biochem 12:71–78, 1980; Int J Derm 17:380–387, 1978*

Biotin deficiency, dietary – dermatitis around nose and mouth *J Dermatol 32:256–261, 2005; Textbook of Neonatal Dermatology, p.254, 2001; Acta Pediatr 85:872–874, 1996*

Biotinidase deficiency – autosomal recessive; pyruvate carboxylase, propionyl-coenzyme A carboxylase, and 3-methylcrotohyl-CoA carboxylase; accumulation of urinary organic acids; neonatal and infantile; neonatal – holocarboxylase synthetase deficient; seen in first 6 weeks of life; fiery red intertriginous dermatitis; infantile, juvenile, or late onset – biotinidase deficient (biotin-responsive multiple carboxylase deficiency); after 3 months of life, intertriginous rash with keratoconjunctivitis, xerosis, generalized pallor, periorificial dermatitis, alopecia, branny desquamation, and atrophic glossitis *Ped Derm 21:231–235, 2004; Ped Derm 16:95–102, 1999; Semin Dermatol 10:296–302, 1991; JAAD 9:97–103, 1983*

Carbamoyl phosphate synthetase (urea cycle) deficiency (arginine deficiency) *Am J Dis Child 135:437–442, 1981*

Neonatal citrullinemia – autosomal recessive; deficiency of argininosucccinic acid synthetase or ornithine transcarbamylase or carbamoyl phosphate synthetase*;* cutaneous lesions due to arginine deficiency *JAAD 46:965–967, 2002; JAAD 14:321–326, 1986; Am J Dis Child 135:437–442, 1981*

Essential amino acid deficiencies – isoleucine, valine, methionine, threonine; same clinical picture as acrodermatitis enteropathica *Ped Derm 19:180–182, 2002*

Essential fatty acid (EFA) deficiency – unsaturated 18, 20 or 22 carbon chain lengths; n-6 series produces arachidonic acid from linoleic acid; EFAs are precursors of eicosanoids, influence membrane fluidity and are necessary for lamellar granule formation in epidermis; alopecia, generalized xerotic scaling and intertriginous erosions *AD 113:939–941, 1977; Pediatrics 31:171–192, 1963*

Histidine deficiency *Am J Clin Nutr 21:367–375, 1968; Pediatrics 31:786–801, 1963*

Isoleucine deficiency – diet treatment of propionic acidemia and arginino-succinic acidemia *JAAD 28:289, 1993; Ped Derm 9:191, 1992*

Kwashiorkor – protein/amino acid deficiency – perioral dermatitis; patient has peripheral edema yet only weighs 60–80% of expected weight; patches of hypopigmentation with fine circumoral branny desquamation; extensor surfaces dry, glossy and cracked; edema starts on dorsal aspects of feet and can generalize; enamel paint spots on elbows, knees, ankles, and intertriginous areas; flaky paint describes extensive peeling with erosion and flexural fissuring; red tinge to hair; flag sign *AD 137:630–636, 2001; JAAD 21:1–30, 1989; AD 123:1674–1676, 1987*

Liver disease, chronic (cirrhosis) – pseudoglucagonoma syndrome *BJD 101:581–587, 1979*

Malnutrition-associated rash of cystic fibrosis *Ped Derm 17:337–347, 2000*

Maple syrup urine disease – isoleucine, leucine, and/or valine deficiency; impaired degradation of branched chain amino acids; elevated leucine, isoleucine, and valine in blood, urine and tissues; erythematous scaling diaper dermatitis; widespread erythematous dermatitis during treatment with dietary restriction *Am J Dis Child 147:954–956, 1993; JAAD 28:289–292, 1993*

Methylmalonic acidemia – deficiency of methylmalonyl coenzyme A mutase or its cofactors adenosylcobalamin and methylcobalamin *Dermatol Pediatr Lat 1:46–48, 2003; Ped Derm 16:95–102, 1999; AD 133:1563–1566, 1997; J Pediatr 124:416–420, 1994; BJD 131:93–98, 1994*

Nutritional deficiency associated with anorexia nervosa *AD 140:521–524, 2004*

Propionic academia (aciduria) *Ped Derm 16:95–102, 1999; J Pediatr 124:416–420, 1994*

Pyridoxine deficiency – pyridoxal phosphate is coenzyme in tryptophan metabolism, alanine aminotransferase, apartate aminotransferase, amino acid cocarboxylases, deaminase, transulfurases, and desulfhydrase enzymes, amino butyric acid synthesis and fatty acid metabolism *JAAD 15:1263–1264, 1986*

Tyrosinemia type II *Ped Derm 17:337–347, 2000*

Vitamin $B_1$ deficiency *Clinics in Derm 17:457–461, 1999*

Vitamin $B_2$ (riboflavin) deficiency – dermatitis around nose, eyes, ears, and genitals (oro-oculogenital syndrome) *Clinics in Derm 17:457–461, 1999; Rook p.2657, 1998, Sixth Edition; AD 112:70–72, 1976*

Zinc deficiency, acquired – due to inadequate dietary intake – low breast milk zinc, weaning to cow's milk, starvation, anorexia nervosa, prolonged hyperalimentation without supplemental zinc *Ped Derm 19:426–431, 2002; Ped Derm 17:337–347, 2000;* due to decreased gastrointestinal absorption – gastrointestinal disorders, phytate-rich foods *Ped Derm 17:337–347, 2000;* late acquired acrodermatitis enteropathica *NEJM 352:1121, 2005*

## NEOPLASTIC DISORDERS

Leukemia – HTLV-1 (acute T-cell leukemia) – perioral, perinasal, retroauricular rashes *JAAD 49:979–1000, 2003*

Lymphoma – cutaneous T-cell lymphoma; perioral dermatitis *Clin Exp Dermatol 17:132–134, 1992*

## PARANEOPLASTIC DISORDERS

Glucagonoma syndrome – alpha cell tumor in the tail of the pancreas; 50% of cases have metastasized by the time of diagnosis; skin rash, angular stomatitis, cheilosis, beefy red glossitis, blepharitis, conjunctivitis, alopecia, crumbling nails; rarely, associated with MEN I or IIA syndromes *Int J Derm 43:12–18, 2004; AD 133:909, 912, 1997; JAAD 12:1032–1039, 1985; Ann Intern Med 91:213–215, 1979*

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Atopic dermatitis

Childhood granulomatous perioral dermatitis *J Eur Acad DV 19:470–473, 2005; Cutis 73:399–402, 2004; AD 138:1354–1358, 2002; Ped Derm 13:131–134, 1996; AD 128:1703–1708, 1989*

Epidermolysis bullosa, junctional – letalis (atrophicans generalisata gravis, Herlitz type) – extensive blistering and erosions at birth; perioral and nasal exuberant granulation tissue and erosions *Rook p.1828–1829, 1998, Sixth Edition; Epidermolysis Bullosa: Basic and Clinical Aspects. New York: Springer, 1992:118–134; JAAD 12:836–844, 1985;* also junctional EB mitis; cicatricial junctional epidermolysis bullosa

Erythrose peribuccale pigmentaire of Brocq – diffuse brown pigmentation around mouth with narrow perioral sparing; central face, forehead, angles of jaw, temples *Rook p.1791, 1998, Sixth Edition*

Facial Afro-Caribbean childhood eruption (FACE) – resembles perioral dermatitis *Clin Exp Dermatol 15:163–166, 1990; BJD 91:435–438, 1976*

Fine scaling, keratosis pilaris, periorificial crusting, palmoplantar hyperkeratosis, blistering *JAAD 34:379–385, 1996*

Granulomatous periorificial dermatitis – extrafacial and generalized periorificial dermatitis *AD 138:1354–1358, 2002*

Intertrigo

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Lip licker's dermatitis *Can Fam Physician 48:1051, 1059, 2002; Rook p.698, 1998, Sixth Edition*

Perioral dermatitis *Int J Derm 42:514–517, 2003*

Periorbital dermatitis (periorbital variant of perioral dermatitis) – idiopathic or topical corticosterioid-associated *Rook p.2110–2111,3551, 1998, Sixth Edition*

Psoriasis *Cutis 43:157–158, 1989*

Seborrheic dermatitis

Vitiligo

## SYNDROMES

Cystic fibrosis – autosomal recessive; dermatitis due to dietary deficiencies associated with the patient's pancreatic dysfunction acrodermatitis enteropathica-like changes *Textbook of Neonatal Dermatology, p.267, 2001; AD 128:1358–1364, 1992; JAAD 25:896–897, 1991; AD 119:l51–155, 1983;* at initial presentation of cystic fibrosis *AD 128:1358, 1992*

Goltz's syndrome – perioral papules *Clin Exp Dermatol 30:35–37, 2005; Cutis 53:309–312, 1994*

Hereditary mucoepithelial dysplasia (dyskeratosis) (Gap junction disease, Witkop disease) – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral(palate, gingiva) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Hereditary perioral pigmented follicular atrophoderma associated with milia and epidermoid cysts *BJD 139:713–718, 1998*

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Mal de Meleda – autosomal dominant, autosomal recessive; transgrediens with acral erythema in glove-like distribution; perioral erythema and hyperkeratosis *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Netherton's syndrome *Bull Soc Fr Dermatol Syphiligr 78:641–644, 1971*

Olmsted syndrome – periorificial keratotic plaques; congenital diffuse sharply marginated transgradient keratoderma of palms and soles, onychodystrophy, constriction of digits, diffuse alopecia, thin nails, chronic paronychia, leukokeratosis of oral mucosa, linear keratotic streaks, follicular keratosis, constriction of digits (ainhum), anhidrosis, small stature; differential diagnostic considerations include Clouston hidrotic ectodermal dysplasia, pachyonychia congenita, acrodermatitis enteropathica, Vohwinkel's keratoderma, mal de Meleda, and other palmoplantar keratodermas *JAAD 53:S266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; JAAD 10:600–610, 1984; Am J Dis Child 33:757–764, 1927*

Shwachman syndrome – autosomal recessive; exocrine pancreatic insufficiency and bone marrow hypoplasia with neutropenia; cutaneous signs include generalized erythematous scaling eruptions, recurrent skin infections, generalized xerosis, red hands, and follicular keratoses of the trunk *Ped Derm 9:57–61, 1992*

Wiskott–Aldrich syndrome

## TRAUMA

Lip licking dermatitis

Perleche

## VASCULAR LESIONS

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive; initially, telangiectatic macules; perioral telangiectasias *Rook p.2638, 1998, Sixth Edition; NEJM 276:1163–1167, 1967*

# DERMATOGRAPHISM

***JAAD 11:643, 1984***

Allergic contact dermatitis to poison ivy

Allergic reactions to:
- Aspirin
- Sulfonamides
- Codeine
- Horse serum

At site of previous allergic reaction

Barbiturate and glutethimide poisoning

Diabetes mellitus

Drug ingestion without drug eruption (penicillin)

Eosinophilic synovitis *Arthr Rheum 29:1147–1151, 1986*

Exercise

Famotidine (Pepcid) *JAAD 31:671–678, 1994*

Hymenoptera stings – immediately following wasp and bee stings

Hypereosinophilic syndrome *Am J Hematol 78:33–36, 2005*

Hypothyroidism and hyperthyroidism

Idiopathic

Intrahepatic cholestasis of infancy

Mastocytosis – diffuse and systemic; urticaria pigmentosa

Menopause, onset

Phenylketonuria

Pregnancy (especially the last half)

Scabies, *Cheyletiella* infestation

Still's disease, adult onset *J Formos Med Assoc 103:844–852, 2004*

Stress

Tattoos sites

# DIMPLES

***Curr Prob Dermatol 13:249–300, 2002; Ped Derm 10:16–18, 1993***

Acquired cheek dimple – gingivobuccal fibrous band *AD 117:811–812, 1981*

Acromial dimples – autosomal dominant *Hum Genet 76:206, 1987*

Albright's hereditary osteodystrophy – dimpling over the 4th and 5th metacarpophalangeal joints; short stature, round facies, brachydactyly, obesity, ossification of cutaneous and subcutaneous tissues, endocrine abnormalities *Medicine 75 (4):171–184, 1996*

Amniocentesis – dimple-like scars *Textbook of Neonatal Dermatology,p.103–104, 2001; AD 135:697–703, 1999; JAAD 18:239–259, 1988*

Apert's syndrome – knuckle, shoulder, and elbow dimples *Cutis 52:205–208, 1993*

Arthrogyrosis – associated with aberrant positioning during fetal life *Curr Prob Dermatol 13:249–300, 2002; Textbook of Neonatal Dermatology, p.131, 2001*

Bloom's syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

Camptomelic dysplasia – associated with aberrant positioning during fetal life *Textbook of Neonatal Dermatology, p.131, 2001*

Carcinoma of the breast (primary) *Rook p.3160, 1998, Sixth Edition*

Carpenter's syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

Caudal dysplasia syndrome *Textbook of Neonatal Dermatology, p.131, 2001*

Cheek dimples *Textbook of Neonatal Dermatology, p.131, 2001; Am J Med Genet 36:376, 1990*

Chin dimple *Textbook of Neonatal Dermatology, p.131, 2001*

Chromosome 18q deletion syndrome – acromial dimple

Coccygeal pits *Pediatrics 105:E69, 2000*

Dermatofibroma, facial – extending to buccinator muscle

Diastometamyelia

Dubowitz's syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

18q deletion syndrome – shoulder dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Familial facial dimples *Curr Prob Dermatol 13:249–300, 2002*

FG syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

4p deletion syndrome

Hypophosphatasia – associated with aberrant positioning during fetal life *Textbook of Neonatal Dermatology, p.131, 2001; Dermatologica 178:179–180, 1989*

Infantile myofibromatosis *Australas J Dermatol 41:156–161, 2000*

Joubert syndrome *Textbook of Neonatal Dermatology, p.131, 2001*

Kyphomelic dysplasia – associated with aberrant positioning during fetal life *Textbook of Neonatal Dermatology, p.131, 2001*

Lip pits *Ann Plast Surg 45:658–661, 2000*

Maternal rubella syndrome *Curr Prob Dermatol 13:249–300, 2002*

Mesomelic shortening of the upper extremities with spur formation with cutaneous dimpling *Pediatr Radiol 28:794–797, 1998*

Metaphyseal chondrodysplasia – associated with aberrant positioning during fetal life *Textbook of Neonatal Dermatology, p.131, 2001*

Nail–patella syndrome – dimples over area of absent patella

Nevoid basal cell carcinoma syndrome – dimpling over 4th knuckle

Popliteal pterygium syndrome – shoulder dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Pretibial dimples – with multiple osseous defects *Lancet 10;2 (7715):98, 1971*

Spina bifida occulta (occult spinal dysraphism) *Textbook of Neonatal Dermatology, p.131, 2001; Ind J Pediatr 66:697–705, 1999; Am J Roentenol 171:1687–1692, 1998; Clin Pediatr 34:650–654, 1995;* dermoids and dermal sinus tracts of the spine *Neurosurg Clin N Am 6:359–366, 1995*

Prune belly syndrome – elbows and knees

Robinow syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

Rubella, congenital (maternal rubella syndrome) *Textbook of Neonatal Dermatology, p.131, 2001*

Russell–Silver dwarfism – shoulder dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Scapular (shoulder) dimple – autosomal dominant *Textbook of Neonatal Dermatology, p.131, 2001; Ped Derm 10:16–18, 1993*

Simosa craniofacial syndrome – facial dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Smith–Lenci–Opitz syndrome – sacral dimple *Curr Prob Dermatol 13:249–300, 2002*

Spina bifida – sacral dimples *Curr Prob Dermatol 13:249–300, 2002*

Tibial dimple – camptomelic dwarf

Trisomy 9p – shoulder dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Weaver syndrome – facial dimples *Textbook of Neonatal Dermatology, p.131, 2001*

Whistling face syndrome – H-shaped chin *Textbook of Neonatal Dermatology, p.131, 2001*

X-linked dysmorphic syndrome with mental retardation – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

Zellweger syndrome – sacral dimple *Textbook of Neonatal Dermatology, p.131, 2001*

# DYSCHROMATOSIS (HYPO- AND HYPERPIGMENTATION)

***JAAD 33:835–836, 1995***

## AUTOIMMUNE DISEASES AND DISORDERS OF IMMUNE REGULATION

Dermatomyositis

Graft vs. host disease, chronic *JAAD 38:369–392, 1998; AD 134:602– 612, 1998; AD 132:1161–1163, 1996; AD 126:1324–1329, 1990*

Lupus erythematosus, neonatal *JAAD 40:675–681, 1999*

Mixed connective tissue disease – with photo-dyschromia

Scleroderma *Rook p.2529, 1998, Sixth Edition*

## DRUGS

Afloqualone – photoleukomelanodermatitis *Ped Derm 19:523–526, 2002*

Tetracycline *Ped Derm 19:523–526, 2002*

Thiazide diuretics *Ped Derm 19:523–526, 2002*

## EXOGENOUS AGENTS

Betel leaves – mottled hyperpigmentation evolving into confetti-like hypopigmentation *JAAD 40:583–589, 1999*

Facial dressings of betel pepper (piper beetle) *JAAD 40:583–589, 1999*

Diphencyclopropenone, topical (dyschromia in confetti) – hypopigmented patches with confetti hypopigmentation at sites of treatment for alopecia areata *Ped Derm 19:523–526, 2002; AD 128:518–520, 1992*

Monobenzyl ether of hydroquinone, topical – dyschromia with hyper- and hypo- or depigmented macules *Ped Derm 19:523–526, 2002*

## INFECTIONS AND INFESTATIONS

Bejel

Leishmaniasis – post kala-azar dermal leishmaniasis

Onchocerciasis – hyper- and hypopigmentation (leopard skin) *Cutis 72:298–302, 2003; AD 120:505–507, 1984*

Pinta – generalized cutaneous phase – merging of second and third stages *Rook p.1274, 1998, Sixth Edition;* tertiary *Cutis 51:425–430, 1993*

Syphilis – secondary; as macular syphilid fades get depigmented macules with hyperpigmented background (leukoderma syphiliticum) on back and sides of neck (necklace of Venus) *Rook p.1248–1249, 1998, Sixth Edition*

Yaws

## INFILTRATIVE DISEASES

Amyloidosis cutis dyschromica *AD 128:966–970, 1992*

Urticaria pigmentosa

## INFLAMMATORY DISORDERS

Post-inflammatory dyspigmentation

## METABOLIC DISEASES

Congenital erythropoietic porphyria – mottled pigmentation *Ped Derm 20:498–501, 2003*

Iron deficiency anemia – heterochromic scalp hair *JAAD 49:1148–1150, 2003*

Kwashiorkor – protein and caloric deprivation *JAAD 21:1–30, 1989*

Malnutrition – dyschromatosis *Ped Derm 19:523–526, 2002*

Pernicious anemia – diffuse or mottled of face, hands, and feet *J Dermatol 28:282–285, 2001*

Porphyria – porphyria cutanea tarda – dyschromatosis *Rook p.2589–2590, 1998, Sixth Edition;* congenital erythropoietic porphyria *Semin Liver Dis 2:154–63, 1982*

## NEOPLASTIC DISEASES

Generalized nevoid hyperpigmentation

Melanocytic nevus- congenital nevi

Nevus depigmentosus – repigmenting

Nevus spilus

## PHOTODERMATOSES

Acquired brachioradial cutaneous dyschromatosis (dermatoheliosis) *JAAD 42:680–684, 2000*

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis – in the adult

Epidermolysis bullosa simplex with stippled and mottled pigmentation – autosomal dominant; bullae heal without scarring, atrophy, or milia; improves with age; mottled macular pigmentation of the trunk, proximal extremities; diffuse or punctate keratoderma with nail dystrophy *BJD 128:679–685, 1993; Clin Genet 15:228–238, 1979*

Idiopathic eruptive macular hyperpigmentation *Ped Derm 13:274, 1996*

Mottled hyperpigmentation, epidermolysis bullosa, and punctate keratoses *JAAD 15:1289–1291, 1986*

Mottled pigmentation of neck and elbows *Z Haut-u Geschl Krankh 32:33–44, 1962*

Piebaldism *BJD 132:929–935, 1995*

Universal acquired melanosis (carbon baby)

Vitiligo

## SYNDROMES

Acrogeria (Gottron's syndrome) – micrognathia, atrophy of tip of nose, atrophic skin of distal extremities with telangiectasia, easy bruising, mottled pigmentation or poikiloderma of extremities, dystrophic nails *BJD 151:497–501, 2004; BJD 103:213–223, 1980; Arch Dermatol Syphiligr 181:571–583, 1941*

Acromelanosis albo-punctata (Siemens')

Acropigmentation symmetrica of Dohi – autosomal dominant, sporadic; Asians with onset under 20 years of age; acral hyperpigmentation (reticulate pattern becoming patches with hypopigmented macules of face, trunk, distal extremities) *JAAD 43:113, 2000*

Anonychia with bizarre flexural pigmentation – autosomal dominant, absent nails, dry peeling palmoplantar skin, coarse and sparse frontal hair; mottled hyper- and hypopigmentation of the axillae, groin, and natal cleft *BJD 92:469–474, 1975*

Ataxia telangiectasia – telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands

and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *Rook p.2095,1998, Sixth Edition; JAAD 10:431–438, 1984; Ann Intern Med 99:367–379, 1983*

Berlin syndrome – no vellus hairs; mottled pigmentation and leukoderma, flat saddle nose, thick lips, fine wrinkling around eyes and mouth (similar to Christ–Siemens ectodermal dysplasia); stunted growth, bird-like legs, mental retardation *Dermatologica 123:227–243, 1961*

Chediak–Higashi syndrome – speckled hyper- and hypopigmentation; lysosomal trafficking regulator gene (Lyst); defective microtubule-mediated lysosomal transfer *JAAD 49:S244–246, 2003*

Congenital dyschromia with erythrocyte, platelet, and tryptophan metabolic abnormalities *JAAD 19:642–655, 1988*

Da Costa's syndrome

Dermatopathia pigmentosa reticularis – generalized reticulate hyperpigmentation; sweating disorders, decreased dermatoglyphics, alopecia, onychodystrophy, palmoplantar keratoses *JAAD 50:S65–69, 2004*

Dowling–Degos disease (reticulated pigmented anomaly of the flexures) – dyschromatosis (reticulated pigmentation of axillae, groin, and other intertrigenous areas), pitted atrophic scars at corners and around mouth, freckles of vulva, comedo-like lesions *BJD 147:568–571, 2002; JAAD 40:462–467, 1999; Clin Exp Dermatol 9:439–350, 1984*

Dyschromatosis symmetrica hereditaria (reticulate acropigmentation of Dohi) – mutation in gene encoding adenosine deaminase *AD 141:193–196, 2005; BJD 150:633–639, 2004; BJD 144:162–168, 2001; JAAD 43:113–117, 2000; Jpn J Dermatol 27:95–96, 1929;* sun-exposed areas only J*AAD 10:1–16, 1984*

Dyschromatosis universalis with small stature and high-tone deafness *Clin Exp Derm 2:45–48, 1977*

Dyschromatosis universalis hereditaria – autosomal dominant, hyperpigmented macules in seborrheic regions, achromic macules or diffuse hypopigmentation, leukotrichia *Ped Derm 19:523–526, 2002; Ped Derm 17:70–72, 2000; BJD 85:66–70, 1971*

Dyskeratosis congenita (Zinsser–Cole–Engmann syndrome) – X-linked recessive – cutaneous atrophy and pigmentation *J Med Genet 12:339–354, 1975*

Fanconi's syndrome (pancytopenia with congenital defects) – generalized olive-brown hyperpigmentation, especially of lower trunk, flexures, and neck with depigmented macules (rain-drop like); hypoplastic anemia, slender build, short broad thumbs, tapered fingers, microcephaly, hypogonadism *Semin Hematol 4:233–240, 1967*

Generalized mottled pigmentation with postnatal blistering *JAAD 50:S65–69, 2004*

Haber's syndrome – persistent facial erythema, telangiectasias with mild induration, similar to rosacea; darkly pigmented black keratotic papules of axilla, neck, torso; pitted scars

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Hutchinson–Gilford syndrome (progeria) – mottled hyperpigmentation *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Incontinentia pigmenti *JAAD 50:S65–69, 2004*

Mendes de Costa syndrome – generalized reticulate hyperpigmentation on face and limbs, intraepidermal blisters, microcephaly, mental retardation, atrichia, short conical fingers *JAAD 50:S65–69, 2004*

Mitochondrial disorders – erythematous photodistributed eruptions followed by mottled or reticulated hyperpigmentation; alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Naegeli–Franceschetti–Jadassohn syndrome – autosomal dominant, punctate hyperpigmentation, waist, axillae, neck; hypohidrosis, palmoplantar hyperkeratosis; tooth enamel hypoplasia and nail anomalies *JAAD 28:942–950, 1993; Clin Exp Dermatol Jun;1(2):127–140, 1976*

Photoleukomelanodermatitis of Kobori – dyschromic drug eruption after treatment with afloqualone, thiazides, tetracycline and ultraviolet exposure *Bolognia, p.1003, 2003*

Reticulate acropigmentation of Kitamura – palmar pits *J Dermatol 27:745–747, 2000; JAAD 40:462–467, 1999*

Unilateral dermatomal pigmentary dermatosis – segmental dyschromatosis *JAAD 27:763–764, 1992*

Wende–Bauckus/Pegum – zones of normal, yellow-bronze, and black patches of hyperpigmentation; white macules of trunk *Bolognia, p.1003, 2003*

Werner's syndrome (pangeria) – mottled hyperpigmentation *Medicine 45:177–221, 1966*

Westerhof syndrome *Curr Prob Derm VII:143–198, 1995*

X-linked reticulate pigmentary disorder with systemic manifestations (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation (dyschromatosis) with hypopigmented corneal dystrophy (dyskeratosis), coarse unruly hair, unswept eyebrows, silvery hair, hypohidrosis, recurrent pneumonia with chronic obstructive disease, clubbing; failure to thrive, female carriers with linear macular nevoid Blascko-esque hyperpigmentation *Ped Derm 22:122–126, 2005; Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65:1981*

Xeroderma pigmentosum *Ped Derm 19:523–526, 2002;* resembling dyschromatosis symmetrica hereditaria *Ped Derm 3:410–413, 1986*

Ziprkowski–Margolis syndrome – X-linked recessive; pigmentary dilution of hair and skin, sparing buttocks and genital areas; later multiple hyperpigmented macules with leopard-like appearance; deaf-mutism, heterochromic irides *Bolognia, p.1003, 2003*

### TOXINS

Arsenic – diffuse pigmentation, especially of trunk; with depigmentation yielding rain-drop appearance *Rook p.1785, 1998, Sixth Edition*

Mustard gas *AD 128:775–780, 1992*

### TRAUMA

Burns *Burns 26:581–586, 2000*

Radiation dermatitis, chronic *Acta DV 49:64–71, 1969*

## DYSHIDROSIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – to nickel, poison ivy, preservatives, flowers *Ned Tijdschrift Geneeskunde 135:1048–1049, 1991; Contact Dermatitis 23:203–204, 1990;* systemic contact dermatitis – ethylenediamine

Autoimmune progesterone dermatitis *Rook p.3267–3268, 1998, Sixth Edition; Cutis 33:490–491, 1984*

Bullous pemphigoid (dyshidrosiform pemphigoid) *BJD 149:1079–1081, 2003; Hautarzt 45:97–99, 1994; JAAD 26:651–652, 1992; Clin Exp Dermatol 13:85–86, 1988; AD 115:320–321, 1979;* hemorrhagic dyshidrosis *Clin Exp Derm 13:342–343, 1988*; anti-p200 and anti- alpha3 chain of laminin 5 *JAAD 52:S90–92, 2005*

Dermatitis herpetiformis

Graft vs. host reaction, chronic *AD 134:602–612, 1998*

Immune reconstitution inflammatory syndrome *Dermatol Online J 11:31, 2005*

Linear IgA disease *Clin Exp Dermatol 13:85–86, 1988*

Pemphigoid gestationes *Clin Exp Dermatol 13:85–86, 1988*

Pemphigus vulgaris *Cutis 35:445–446, 1985*

## DEGENERATIVE DISEASES

Syringomyelia – segmental dyshidrosis *J Neurol Neurosurg Psychiatry 67:106–108, 1999*

## DRUG-INDUCED

Aspirin

Drug eruption

Intravenous gamma globulin infusion (IVIG) *J Drugs Dermatol 3:337–340, 2003; Cutis 69:35–38, 2002; Neurology 54:1879, 2000*

Mycophenylate mofetil *Ann Intern Med 132:417, 2000*

Oral contraceptives

Piroxicam *Cutis 485–486, 1985*

## EXOGENOUS AGENTS

Coffee – dyshidrotic dermatosis of coffee drinkers *Cutis 40:421–422, 1987*

Foreign body granulomas

Hand dermatitis of nickel sensitive patients

Ingestions of chromium, cobalt, neomycin

Irritant contact dermatitis

Metal workers exposed to oils *Contact Derm 19:184–188, 1988*

Phototherapy blisters

Post-cast – ipsilateral dyshidrosis *Arch Phys Med Rehabil 76:97–100, 1995*

## INFECTIONS AND INFESTATIONS

Dermatophytid – associated with inflammatory tinea pedis

Gypsy moth caterpillar spines

Coxsackie virus – hand, foot, and mouth disease

Hand, foot and mouth disease

Herpes simplex virus *JAAD 18:169–172, 1988; NEJM 314:686–691, 1986; NEJM 314:749–757, 1986*

Herpes zoster

Mosaic warts

*Mycobacterium marinum*

Petechial glove and sock syndrome (parvovirus B19) *JAAD 27:835–838, 1992*

Scabies

Smallpox

Tinea manuum *Acta DV (Stockh) 36:272–278, 1956*

Tinea pedis *JAAD 42:132–133, 2000*

*Trichosporon cutaneum AD 129:1020–1023, 1993*

Varicella – reactivation varicella (atypical varicella) *BJD 151:254–256, 2004*

## INFILTRATIVE

Langerhans cell histiocytosis

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

## INFLAMMATORY DERMATOSES

Eosinophilic pustular folliculitis

Erythema multiforme

Sarcoidosis

## METABOLIC

Bile pigment deposition (dark brown and green) at sweat pores in patients with liver disease *JAAD 26:655–656, 1992*

Polymorphic dermatitis of pregnancy *Ann DV 128:531–533, 2001*

Pruritic urticarial papules and plaques of pregnancy (PUPPP) *Ann DV 128:531–533, 2001*

## NEOPLASTIC

Eccrine syringofibroadenomatosis *AD 130:933–934, 1994*

Lymphoma, including dyshidrosis-like eruption of adult T-cell lymphoma/leukemia *JAAD 46:S137–141, 2002; JAAD 13:213–219, 1985;* CTCL *JAAD 34:295–297, 1996; JAAD 47:914–918, 2002;* palmoplantar pustular dermatitis of CTCL *Cutis 54:202–204, 1994;* leukemic CTCL *AD 140:479–484, 2004*

Myxoid cysts – multiple myxoid cysts of the fingers *JAAD 53:914–916, 2005*

Syringolymphoid hyperplasia (possible cutaneous T-cell lymphoma) *AD 134:753–754, 1998*

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis continua *Ghatan p.72, 2002, Second Edition*

Acropustulosis of infancy *AD 115:831–833, 1979*

Atopic dermatitis *Clin Exp Derm 12:189–190, 1987*

Chronic recalcitrant pustular eruptions of the palms and soles
- Acrodermatitis continua of Hallopeau *Caputo p.13, 2000*
- Pustular bacterid of Andrews
- Pustular psoriasis *Caputo p.12, 2000*
- Reiter's syndrome

Dyshidrosis (pompholyx) *Caputo p.5–6, 2000;* giant dyshidrosis

Id reaction

Lichen nitidus *BJD 82:423–424, 1976*

Lichen ruber planus *Cutis 30:401–404, 1982*

Pustular psoriasis

## SYNDROMES

Reiter's syndrome

# EAR, HARD (PETRIFIED AURICLES)

Conditions with * denotes calcification

Acrobatic ears *B J Plast Surg 42:719–721, 1989*

Acromegaly*

Actinic damage* *JAAD 51:799–800, 2004*

Addison's disease – calcification/ossification of the auricular cartilage* *Int J Derm 17:799–801, 1978; JAAD 19:1, 1988*

Alopecia mucinosa

Atopic dermatitis – lichenification with fibrosis

Auricular prosthesis

Bazex syndrome

Cauliflower ear – nodular deformity with fibrosis *Rook p.3018, 1998, Sixth Edition*

Chondromalacia – systemic chondromalacia (Meyenburg's disease)*

Cutaneous calcinosis* *Laryngoscope 95:566–576, 1985;* actinic damage, acromegaly, adrenal insufficiency, mechanical trauma, radiation therapy, diabetes mellitus, following frostbite, hypopituitarism, hypothyroidism, insect bites, chondritis, ochronosis, perichondritis, sarcoid, syphilitic perichondritis, hypertension, alkaptonuria, chondromalacia, familial cold hypersensitivity *JAAD 51:799–800, 2004; JAAD 49:142–144, 2003*

Diabetes mellitus*

Diastrophic dysplasia – cystic ear during hemorrhagic phase; calcifies* *J Bone Jt Surg 50A:113–118, 1968*

Epidermolysis bullosa acquisita – ossification

Exostoses *Laryngoscope 95:566–576, 1985*

Familial cold hypersensitivity*

Fibrosis due to physical trauma with resolution of hematoma *Rook p.3018, 1998, Sixth Edition*

Frostbite – vesicles, bullae, ischemic necrosis; calcification* *Rook p.3021, 1998, Sixth Edition*

Gout*

Hypopituitarism* *J Clin Endocrinol Metab 55:354–357, 1982*

Hypothyroidism* *JAAD 51:799–800, 2004*

Hyperthyroidism*

Idiopathic

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – nodular perianal lesions, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, osteolytic defects, stunted growth *Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994*

Keutel syndrome – unusual facies, brachytelephalangy, pulmonary stenosis* *Am J Med Genet 24:289–294, 1986*

Leprosy

Lichen myxedematosus; scleromyxedema

Lobomycosis

Lyme disease

Lymphoma, leukemia

Nance–Sweeney chondrodysplasia* *Birth Defects 6:25–27, 1970*

Ochronosis*

Ossification – auricular ossificans (ectopic ossification of the auricle) *JAAD 49:142–144, 2003; Australas J Dermatol 39:268–270, 1998; Laryngoscope 95:566–576, 1985;* secondary to frostbite; Addison's disease *South Med J 59:1268–1270, 1966*

Perichondral fibrosis

Polyarteritis nodosa

Pretibial myxedema *AD 122:85, 1986*

Pseudohypoparathyroidism

Pseudopseudohypoparathyroidism

Radiation therapy*

Relapsing polychondritis

Sarcoid*

Scleroderma

Scleromyxedema *JAAD 44:273–281, 2001; Rook p.2626–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995*

Trauma – cauliflower ear; wrestler's ear*

# EAR LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – nickel, gold, palladium, hearing aids, ear drops, occupational contact dermatitis to headphones *Contact Dermatitis 42:164, 2000;* benign lymphoplasia (lymphocytoma cutis) (red–brown papules and nodules) of the earlobes induced by gold earrings *JAAD 27:457–458, 1992; JAAD 16:83–88, 1987;* contact urticaria

Angioedema

Bullous pemphigoid *Rook p.3028, 1998, Sixth Edition*

Dermatitis herpetiformis *Rook p.3028, 1998, Sixth Edition*

Hyper-IgE syndrome – retroauricular fissures *AD 140:1119–1125, 2004*

Linear IgA disease (chronic bullous disease of childhood) – perioral, eyelids, ears, scalp, perineum, vulva; annular polycyclic bullae *Ped Derm 15:108–111, 1998*

Lupus erythematosus – systemic lupus, subacute cutaneous LE, discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* chilblain lupus *BJD 98:497–506, 1978;* verrucous plaque

Pemphigus foliaceus

Pemphigus vegetans – verrucous plaque

Rheumatoid nodule – intact or ulcerated *Rook p.2566, 1998, Sixth Edition; JAAD 8:439–457, 1983; NEJM 277:7–9, 1967*

Scleroderma – pallor and telangiectasia of external auditory canal *Rook p.3029, 1998, Sixth Edition*

Urticaria

## CONGENITAL LESIONS

Accessory tragus – ear papule – isolated, Treacher Collins syndrome (mandibulofacial dysostosis; autosomal dominant); Goldenhaar syndrome ((oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies); Nagers syndrome; Wolf–Hirschhorn syndrome (chromosome 4 deletion syndrome), oculocerebrocutaneous syndrome *Ped Derm 17:391–394, 2000;* Townes-Brocks syndrome *Am J Med Genet 18:147–152, 1984;* VACTERL syndrome *J Pediatr 93:270–273, 1978*

Accessory lobule

Congenital calcinosis cutis of the ear *Cutis 75:90–91, 2005; JAAD 49:117–119, 2003*

Congenital hypertrichosis lanuginosa – deformities of the external ear *Rook p.2890—2891, 1998, Sixth Edition; J Genet Humaine 17:10–13, 1969*

Congenital postauricular swelling – cyst of first branchial cleft *Ped Derm 19:246–249, 2002*

Giant antitragi

Hypertrichosis of pinnae – infants of diabetic mothers *Pediatrics 68:745–746, 1981*

## DEGENERATIVE DISORDERS

Diastrophic dysplasia – cystic masses of ears

Elastotic nodules of the ears *JAAD 50:100, 2004; Cutis 44:452–454, 1989*

Primary open-angle glaucoma – diagonal earlobe creases *J R Coll Physicians Lond 26:459–460, 1992*

Weathering nodules – white papules along the helix *BJD 135:550–554, 1996*

## DRUG-INDUCED

Bromoderma – verrucous plaque

Corticosteroids, topical – milia on pinna *Clin Exp Derm Sep2 (3):285–286, 1977*

Cyclosporine-induced folliculodystrophy – cobblestoned follicular papules *JAAD 50:310–315, 2004*

Dilantin – hypertrophy of retro-auricular folds *Cutis 30:207–209, 1982*

Diltiazem – photolichenoid drug eruption

Iododerma – verrucous plaque

Olanzapine – eruptive xanthomas *AD 139:1045–1048, 2003*

Retinoids – retinoid embryopathy – low-set ears *JAAD 46:161–183, 2002;* systemic retinoids – increased skin fragility of ears

Thalidomide embryopathy – small malformed ears *Rook p.3015–3016, 1998, Sixth Edition*; *Syndromes of the Head and Neck, 1990; p.29*

## EXOGENOUS AGENTS

Acupuncture beads

Argyria – silver earrings; blue macules of posterior earlobe *Dermatologica 177:189–191, 1988*

Chloracne – comedones and cysts of posterior aspect of ear and post-auricular crease *Bolognia p.260, 2004*

Contact urticaria

Earring – embedded stud; nodule resembling keloid; embedded foreign bodies – presenting as earlobe keloids *J Derm Surg Oncol 10:902–904, 1984*

Ethyl chloride – frostbite *Br Med J 1:125, 1979*

Fetal alcohol syndrome – railroad track abnormality with prominence of crus of helix *Rook p.3016, 1998, Sixth Edition*

Foreign body *Rook p.3023, 1998, Sixth Edition*

Hydroquinone, topical – exogenous ochronosis

Mudi-chood – hyperpigmented papules with surrounding rim of scale (India) *BJD 95:197–198, 1976*

## INFECTIONS AND INFESTATIONS

Abscess

Actinomycosis *Ghatan p.56, Second Edition*

Aspergillosis – ulcer of ear *Ped Derm 19:439–444, 2002*

Bacillary angiomatosis – red papules and nodules *Rook p.3039, 1998, Sixth Edition*

Blastomycosis-like pyoderma – verrucous plaque

Candidal granuloma – verrucous plaque; ear dermatitis in chronic mucocutaneous candidiasis *Ped Derm 19:415–418, 2002*

Carbuncle *Rook p.3030, 1998, Sixth Edition*

Cellulitis

Chromoblastomycosis – verrucous plaque *AD 119:87–89, 1983*

Cryptococcosis – verrucous plaque

Coccidioidomycosis – verrucous plaque

Diphtheria – superficial round ulcer with overhanging edge; gray adherent membrane; later edge thickens and becomes raised and rolled; umbilicus, post-auricular, groin, finger or toe web; heals with scarring; crusts around nose and mouth with faucial diphtheria *Schweiz Rundsch Med Prax 87:1188–1190, 1998; Postgrad Med J 72:619–620, 1996; Am J Epidemiol 102:179–184, 1975*

Furuncle *Rook p.3030, 1998, Sixth Edition*

Herpes simplex *Rook p.3032, 1998, Sixth Edition;* chronic herpes simplex – verrucous plaque

Herpes zoster – Ramsey–Hunt syndrome *Rook p.3032, 1998, Sixth Edition*

Histoplasmosis – verrucous plaque *Int J Derm 30 (2):104–108, 1991*

HTLV-1 infective dermatitis *BJD 150:958–965, 2004*

Impetigo contagiosum – staphylococcal, streptococcal *Rook p.3030, 1998, Sixth Edition*

Infectious eczematoid dermatitis

Insect bite

Leishmaniasis, American – *Leishmania mexicana* – may invade cartilage and destroy pinna *Rook p.1418, 1998, Sixth Edition*

Leprosy – lepromatous; thickened wrinkled earlobes *Rook p.1225, 1998, Sixth Edition; AD 100:407–412, 1969*

Lobo's disease (keloidal blastomycosis) *Cutis 46:227–234, 1990; Int J Derm 17:572–574, 1978*

Lyme borreliosis (*Borrelia burgdorferi*) – lymphocytoma cutis of the ear lobe; bluish–red plaque *JAAD 49:363–392, 2003; Rook p.3027, 1998, Sixth Edition*; *JAAD 38:877–905, 1998; Infection 19:284–286, 1991*

Molluscum contagiosum *Rook p.3039, 1998, Sixth Edition*

*Mycobacterium marinum Rook p.3028–3029, 1998, Sixth Edition*

*Mycobacterium tuberculosis* – lupus vulgaris – extensive destruction *Cutis 15:499–509, 1975;* starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; myxomatous form with large tumors of the earlobes *Cutis 67:311–314, 2001; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* giant infiltrated ear lobe (lupus vulgaris) *AD 138:1607–1612, 2002;* papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops on elbows, hands, feet, knees, legs; also ears, face, buttock, and penis *Ped Derm 15:450–455, 1998; Int J Dermatol 30:487–490, 1991; Ped Derm 7:191–195, 1990* multilobulated tumor of the earlobe *BJD 150:370–371, 2004;* tuberculosis verrucosa cutis

North American blastomycosis – verrucous plaque

Otitis externa *Clin Otolaryngol 17:150–154, 1992; Arch Environ Health 37:300–305, 1982*

Pediculosis – head lice with elephantiasis of the ear *Acta DV* (*Stockh*) *63:363–365, 1983*

*Pneumocystis carinii* – red nodular infiltrated ear *Tyring p.334, 2002;* polyps within external auditory canal *Am J Med 85:250–252, 1988*

Protothecosis – verrucous plaque

Scabies – localized crusted scabies – verrucous plaque *Clin Exp Dermatol 17 (5):339–341, 1992*

South American blastomycosis (paracoccidioidomycosis) – verrucous plaque

Sporotrichosis – verrucous plaque *AD 115:1229–1230, 1979*

Syphilis – primary chancre *Rook p.1244, 1998, Sixth Edition;* secondary *Br J Venereol Dis 57:30–32, 1981*

Tinea corporis *Dermatologica 141:138–142, 1970*

Tinea versicolor *Rook p.3032, 1998, Sixth Edition*

Trichodysplasia spinulosa – papovaviral infection of immunocomprised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

Warts – verrucous plaque

## INFILTRATIVE DISEASES

Amyloid – grouped papules of the auricular concha *JAAD 18:19–25, 1988;* nodular amyloidoisis *AD 139:1157–1159, 2003*

Benign cephalic histiocytosis – cheeks, forehead, earlobes, neck *JAAD 47:908–913, 2002; Ped Derm 11:265–267, 1994; Ped Derm 6:198–201, 1989; AD 122:1038–43, 1986; JAAD 13:383–404, 1985*

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991*

IgM storage papule – pink or skin-colored *BJD 106:217–222, 1982*

Jessner's lymphocytic infiltrate *Rook p.3027, 1998, Sixth Edition*

Juvenile xanthogranuloma *JAAD 36:355–367, 1997*

Langerhans cell histiocytosis – cutaneous findings include crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985; Head Neck 17:226–231, 1995*

Scleromyxedema (lichen myxedematosus) *JAAD 44:273–281, 2001; Rook p.2616–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995; JAAD 14:1–18, 1986*

## INFLAMMATORY DISEASES

Kikuchi's histiocytic necrotizing lymphadenitis – ear papule *BJD 144:885–889, 2001; JAAD 36:342–346, 1997*

Lymphocytoma cutis – earlobe nodules *Cancer 69:717–724, 1992; Acta Dv (Stockh)62:119–124, 1982; Cancer 24:487–502, 1969;* idiopathic – ear lobe nodule *JAAD 38:877–905, 1998*

Pyoderma gangrenosum *J Clin Gastroenterol 11:561–564, 1989*

Sarcoid – lupus pernio *JAAD 16:534–540, 1987; BJD 112:315–322, 1985;* massive enlargement of ear lobes (turkey ears) *Rook p.2688, 1998, Sixth Edition;* after ear piercing *Clin Exp Dermatol 8:199–200, 1983*

## METABOLIC DISEASES

Acrodermatitis enteropathica – dermatitis of ears

Addison's disease – hyperpigmentation of ear *Rook p.3030, 1998, Sixth Edition*

Calcinosis cutis – solitary congenital calcified nodule of the ear *Am J Dermatopathol 4:377–380, 1982;* nodular calcification of Winer *Textbook of Neonatal Dermatology, p.405, 2001*

Crohn's disease – metastatic Crohn's disease *BJD 95:551–554, 1976*

Cryoglobulinemia – necrotic ears *BJD 143:1330–1331, 2000*

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Liver disease, chronic – telangiectasias of ears

Myxedema *AD 122:85–88, 1986*

Ochronosis – blue discoloration of cartilage, black cerumen *Rook p.3029, 1998, Sixth Edition*

Paroxysmal nocturnal hemoglobinuria – hemorrhagic bullae of ears*;* petechiae, ecchymoses, red plaques which become hemorrhagic bullae with necrosis; lesions occur on legs, abdomen, chest, nose, and ears; deficiency of enzymes – decay-accelerating factor (DAF) and membrane inhibitor of reactive lysis (MIRL) *AD 138:831–836, 2002*; *AD 114:560–563, 1978*

Porphyria – porphyria cutanea tarda – sclerodermoid changes, blisters, erosions, scarring, hyperpigmentation, hypertrichosis *Rook p.3029, 1998, Sixth Edition;* congenital erythropoietic porphyria (Gunther's disease) – mutilation of the ears *Semin Liver Dis 2:154–63, 1982;* erythropoietic porphyria – mutilation of ears

Pretibial myxedema (thyroid acropachy) – verrucous plaque *JAAD 46:723–726, 2002; Rook p.2707, 1998, Sixth Edition*

Verruciform xanthoma, disseminated *BJD 151:717–719, 2004*

Xanthomas – Alagille syndrome *Ped Derm 15:199–202, 1998;* normolipemic xanthomatosis – skin-colored ear nodules *JAAD 51:663–664, 2004*

## NEOPLASTIC DISEASES

Actinic keratosis *Rook p.1671,3041, 1998, Sixth Edition*

Adenocarcinoma *Laryngoscope 87:1601–1612, 1977*

Adenoid cystic carcinoma (from ceruminous glands) *Cancer 29:1169–1178, 1972*

Angiosarcoma *Am J Otol 12:54–56, 1991*

Apocrine cystadenoma *Arch Otolaryngol 106:13–19, 1980*

Atypical fibroxanthoma *Sem Cut Med Surg 21:159–165, 2002; Cutis 51:47–48, 1993; Cancer 31:1541–1552, 1973*

Basal cell carcinoma *J Laryngol Otol 115:85–86, 2001*

Bowen's disease *Rook p.3041, 1998, Sixth Edition*

Ceruminoma (adenoma of the ceruminous glands) – tumor within ear canal of ceruminous glands *Cancer 29:1169–1178, 1972*

Chondroma *Rook p.3040, 1998, Sixth Edition*

Collagenomas, eruptive *JAAD 39:363–364, 1998*

Combined adnexal tumor – papule of helix *AD 120:231–233, 1984*

Cutaneous horns

Cylindromas – nodules around ears *Arch Otolaryngol 106:13–19, 1980; Laryngoscope 87:1601–1612, 1977*

Dermoid cyst of the auricle *AD 130:913–918, 1994*

Eccrine porocarcinoma – multilobulated nodule *AD 136:1409–1414, 2000; J Derm Surg 25:733–735, 1999*

Epidermal nevus – verrucous plaque; megalopinna *Acta DV (Stockh) 61:365–367, 1981*

Epidermoid cysts – of antihelix; of earlobe *Rook p.3016,3019, 1998, Sixth Edition*

Extramammary Paget's disease – external auditory canal *JAAD 47:S229–235, 2002*

Fibroma – of earlobe *Pamminerva Med 22:37–39, 1980*

Granular cell schwannoma *Rook p.3040, 1998, Sixth Edition*

Hidradenoma papilliferum – external auditory canal *J Laryngol Otol 95:843–848, 1981*

Hidrocystoma

Kaposi's sarcoma *Ann Med 100:107–114, 1984*

Keloid *JAAD 36:490–491, 1997; Lancet 335:335–336, 1990*

Keratoacanthomas – single; multiple self-healing keratoacanthomas of Ferguson-Smith – cluster around ears, nose, scalp; red nodule becomes ulcerated, resolve with crenellated scar; develop singly or in crops *Cancer 5:539–550, 1952;* one reported unilateral case *AD 97:615–623, 1968*

Leukemia cutis – chronic lymphocytic leukemia *BJD 144:1092–1094, 2001*

Lipofibroma, pedunculated *JAAD 31:235–240, 1994*

Lymphoma – cutaneous T-cell lymphoma presenting on auricular helix *Ear Nose Throat J 79:391–394, 2000;* hydroa vacciniforme-like papulovesicular eruptions of angiocentric lymphoma associated with Epstein-Barr virus *AD 133:1081–1086, 1997;* angiocentric lymphoma – earlobe ulcers *BJD 142:1013–1016, 2000;* B-cell lymphoma – ear lobe papule *Cutis 62:69–72, 1998;* lymphoplasmacytoid lymphoma (B-cell lymphoma, immunocytoma) *JAAD 49:1159–1162, 2003*

Lymphomatoid papulosis *Arch Pediatr* (*Fr*) *2:984–987, 1995*

Malignant sweat gland tumors (malignant eccrine poroma, malignant eccrine spiradenoma, malignant hidradenoma, malignant cylindroma, eccrine carcinoma, apocrine carcinoma) *Sem Cut Med Surg 21:159–165, 2002*

Malignant teratoma *Curr Prob Derm 14:41–70, 2002*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* congenital nevus

Melanoma *Br J Cancer 73:940–944, 1996; Arch Otolaryngol 92:106–113, 1970;* lentigo maligna melanoma

Merkel cell carcinoma *Cutis 74:350–356, 2004; J Laryngol Otol 102:607–611, 1988;* red nodule of earlobe *BJD 146:671–673, 2002*

Metastases *J Laryngol Otol 103:653–656, 1989*

Milia, including multiple eruptive milia – face, earlobe *Rook p.1669, 1998, Sixth Edition; JAAD 37:353–356, 1997; Cutis 60:183–184, 1997; Clin Exp Dermatol 21:58–60, 1996*

Milia en plaque – ears and ear lobe lesions *Ped Derm 15:282–284, 1998*

Mucoepidermoid carcinoma *Laryngoscope 87:1601–1612, 1977*

Myoma *Rook p.3040, 1998, Sixth Edition*

Neurilemmoma *Laryngoscope 87:1760–1764, 1977*

Neurofibroma *Plast Reconstr Surg 70:217–219, 1982*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *Rook p.1731, 1998, Sixth Edition; BJD 67:317–319, 1955*

Nevus sebaceus – verrucous plaque

Osteoma *Rook p.3040, 1998, Sixth Edition*

Parotid gland carcinoma – local extension *Rook p.3044, 1998, Sixth Edition*

Pilomatrixoma *Derm Surg 21:245–246, 1995*

Pleomorphic adenoma *Laryngoscope 87:1601–1612, 1977*

Rhabdomyosarcoma *Laryngoscope 92:424–440, 1982*

Sebaceous adenoma – on pinna or in canal *Rook p.3040, 1998, Sixth Edition*

Sebaceous carcinoma *JAAD 48:401–408, 2003*

Seborrheic keratosis *Rook p.1659–1660,3039, 1998, Sixth Edition*

Squamous cell carcinoma *J Laryngol Otol 115:85–86, 2001; Clin Exp Derm 24:337, 1999;* ulcer *AD 123:253, 255–256, 1987;* squamous cell carcinoma of the external auditory canal – ulcerated nodule with extensive destruction and purulent discharge *Cancer 59:156–160, 1987*

Syringocystadenoma papilliferum *Arch Otolaryngol 106:13–19, 1980*

Trichodiscomas – multiple agminated trichodiscomas of earlobe *JAAD 49:729–730, 2003*

Trichoepithelioma – external auditory meatus *J Laryngol Otol 95:835–841, 1981*

Trichofolliculoma – external auditory meatus *J Laryngol Otol 95:623–625, 1981*

Verrucous carcinoma

Waldenström's macroglobulinemia – multilobulated infiltration of helix *NEJM 344:816, 2001;* with lymphoplasmacytoid B-cells – chest, earlobes, facial papules *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DERMATOSES

Bazex syndrome (acrokeratosis paraneoplastica) – psoriasiform dermatitis along helices *Cutis 74:289–292, 2004; Paris Med 43:234–237, 1922;* earlobe dermatitis *Cutis 55:233–236, 1995*

## PHOTODERMATOSES

Annular elastolytic granuloma

Dermatoheliosis *Rook p.3016, 1998, Sixth Edition*

Elastotic nodules – bilateral nodules of anterior crus of antihelix or helix *Cutis 44:452–454, 1989; J Cutaa Pathol 8:429–433, 1980*

Hydroa vacciniforme – mutilation of the ear *Clin Exp Dermatol 23:70–72, 1998;* crusted vesicles and scars *BJD 144:874–877, 2001*

Juvenile spring eruption (variant of polymorphic light eruption) – often vesicular *JAAD 50:S57–60, 2004; Int J Derm 29:284–286, 1990*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea – otophyma *Facial Plast Surg 14:241–253, 1998*

Acne vulgaris – comedones, cysts *Rook p.3027, 1998, Sixth Edition*

Alopecia mucinosa

Angiolymphoid hyperplasia with eosinophilia – red-brown papules and/or nodules *AD 136:837–839, 2000; JAAD 12:781–796, 1985*

Atopic dermatitis – infra-auricular dermatitis and fissures *Rook p.695,3025, 1998, Sixth Edition*

Cutis laxa – pendulous earlobes *JAAD 24:504–505, 1991*

Darier's disease – mimicking dermatitis *J Laryngol Otol 106:725–726, 1992;* verrucous plaque

Darwinian tubercle *Rook p.3016, 1998, Sixth Edition*

Dilated pore of Winer – within external ear canal *Auris Nasus Larynx 28:349–352, 2001*

Epidermolysis bullosa *Rook p.3028, 1998, Sixth Edition*

Epidermolytic hyperkeratosis

Flegel's disease (hyperkeratosis lenticularis perstans) – keratinous papules of calves; spread to concha of ears *BJD 116:681–691, 1987*

Granuloma annulare *Am J Dermatopathol 14:431–433, 1992; JAAD 3:217–230, 1980;* perforating granuloma annulare *BJD 147:1026–1028, 2002*

Granuloma faciale, extrafacial *BJD 145:360–362, 2001; Dermatology 198:79–82, 1999; AD 79:42–52, 1959*

Hamilton's sign – hypertrichosis

Harlequin fetus (ichthyosis congenital fetalis) – severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis – rudimentary ears *JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Juvenile spring eruption

Keratosis lichenoides chronica – ear papules in childhood *Clin Exp Dermatol 27:283–285, 2002*

Lamellar ichthyosis – hypoplasia of ear cartilage *Rook p.1500, 1998, Sixth Edition*

Lichen planus, hypertrophic – verrucous plaque

Low-set ears – isolated phenomenon *Rook p.3016, 1998, Sixth Edition*

Milia en plaque – earlobes, post-auricular area *Derm Surg 28:291–295, 2002*

Pityriasis rosea

Pityriasis rubra pilaris

Perifollicular macular atrophy (perifollicular elastolysis) – gray–white finely wrinkled round areas of atrophy with central hair follicle; earlobes *BJD 83:143–150, 1970*

## PREAURICULAR SINUSES (EAR PITS)

***Ped Derm 21:191–196, 2004***

Sporadic

Familial – autosomal dominant

Branchio-oto-renal syndrome (BOR) – autosomal dominant; mutation in EYA1 gene; conductive, sensorineural, mixed hearing loss; pre-auricular pits, structural defectso fo outer, middle or inner ear; renal anomalies, renal failure, lateral cervical fistulae, cysts, or sinuses; nasolacrimal duct stenosis or fistulae *Am J Kidney Dis 37:505–509, 2001*

Branchio-otic syndrome – branchial anomalies, preauricular pits, hearing loss, no renal dysplasia *J Med Genet 39:71–73, 2002*

Branchio-oto-ureteral syndrome – bilateral sensorineural hearing loss, preauricular pit or tag, duplication of ureters or bifid renal pelvises *J Dermatol 29:157–159, 2002*

Branchio-oto-costal syndrome – branchial arch anomalies, hearing loss, ear and commissural lip pits, and rib anomalies *J Craniofac Genet Dev Biol 1 (suppl):287–295, 1985*

Branchio-oculo-facial syndrome – abnormal upper lip, malformed nose with broad nasal bridge and flattened tip, lacrimal duct obstruction, malformed ears, branchial cleft sinuses and/or linear skin lesions behind ears *Ann Otol Rhinol Laryngol 100:928–932, 1991*

Chromosome 4 short arm deletion syndrome

Deafness and ear pits

Goldenhaar syndrome

Hemifacial microsomia syndrome – bilateral preauricular sinuses, facial steatocystgoma multiplex associated with pilar cysts, sensorineural hearing loss, facial palsy, microtia or anotia, cervical appendages containing cartilage *Am J Med Genet 22:135–141, 1985*

Lip pits – preauricular sinuses, conductive deafness, commissural lip pits, external ear abnormalities *J Med Genet 24:609–612, 1987*

Bilateral defects, male transmission – bilateral cervical branchial sinuses, bilateral preauricular sinuses, bilateral malformed auricles, bilateral hearing impairment *Hum Genet 56:269–273, 1981*

Tetralogy of Fallot and clinodactyly – characteristic facies, preauricular pits, fifth finger clinodactyly, tetralogy of Fallot *Clin Pediatr* (*Phila*) *27:451–454, 1988*

Ectodermal dysplasia – preauricular pits, tetra-amelia, ectodermal dysplasia, hypoplastic lacrimal ducts and sacs opening toward exterior, peculiar facies, developmental retardation *Ann Genet 30:101–104, 1987*

Waardenburg syndrome – bilateral preauricular sinuses *Acta Paediatr 86:17–172, 1997*

Incomplete trisomy 22 – complex congenital heart defect, membranous anal atresia without fistula, distal limb hypoplasia, partial cutaneous syndactyly of second and third toes, left preauricular pit *Urology 40:259–261, 1992*

Complete trisomy 22 – primitive low-set ears, bilateral preauricular pit, broad nasal bridge, antimongoloid palpebral fissures, macroglossia, enlarged sublingual glands, cleft palate, micrognathia, clinodactyly of fifth fingers, hypoplastic fingernails, hypoplastic genitalia, short lower limbs, bilateral sandal gap, deep plantar furrows *Pediatrics 108:E32, 2001*

Pre-auricular tags and fistulae
- Cat eye syndrome *Hum Genet 57:148–158, 1981*
- Chromosome 4 short arm deletion syndrome
- Chromosome 5 short arm deletion syndrome
- Trisomy 9

Pre-auricular pits, sinuses and cysts
- Cat eye syndrome *Hum Genet 57:148–158, 1981*
- Treacher Collins syndrome
- Goldenhaar syndrome
- Chromosome 4 deletion syndrome *Am J Dis Child 122:421–425, 1971*
- Melnick–Fraser syndrome (brachio–oto–renal syndrome) *Ped Derm 13:507–508, 1998*

Psoriasis

Retroauricular, follicular, and keratotic plaques with multiple follicular cysts *Med Cutano Ibero Lat Am 13:331–334, 1985*

Seborrrheic dermatitis *Rook p.3025, 1998, Sixth Edition*

Ulerythema ophryogenes – ear papules

## SYNDROMES

Aarskog syndrome – malformed ears *Birth Defects 11:25–29, 1975; J Pediatr 77:856–861, 1970*

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

Ablepharon with follicular ichthyosis and hairy pinnae *Clin Genet 2:111–114, 1971*

Acrocephalosyndactyly – malformed ears

Ambras syndrome – hypertrichosis of external ears *Clin Genet 57:157–158, 2000*

Apert's syndrome – small ears *Rook p.3015–3016, 1998, Sixth Edition*

Ataxia telangiectasia – telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *JAAD 10:431–438, 1984*

Barber–Say syndrome – hypertrichosis of back, neck, eyebrows, eyelashes, large mouth, wrinkled, lax, atrophic skin, abnormal external ears

Basaloid follicular hamartoma syndrome

Beals–Hecht syndrome (contractural arachnodactyly) – autosomal dominant; crumpled ears, arachnodactyly with congenital joint contractures; confused with Marfan's syndrome *J Bone Joint Surg 53:987–993, 1971*

Beare–Stevenson cutis gyrata syndrome – malformed ears *Ped Derm 20:358–360, 2003*

Beckwith–Wiedemann syndrome – diagonal linear grooves of the ear lobes, preauricular tags or pits, nevus flammeus of central forehead and upper eyelids, macroglossia, macrosomia, omphalocele or other umbilical anomalies *Syndromes of the Head and Neck 1990:323–328*

Borjeson–Forssman–Lehmann syndrome – large ears *Am J Med Genet 19:653–664, 1984*

Branchio-oto-renal syndrome – autosomal dominant, chromosome 8q – abnormal pinna (small malformed ears), prehelical pits, renal anomalies, branchial cleft fistulae and/or cysts

C syndrome – malformed ears *Birth Defects 5:161–166, 1969*

Carbohydrate–deficient glycoprotein syndrome – large ears; emaciated appearance; lipoatrophy over buttocks; lipoatrophic streaks extend down legs; high nasal bridge, prominent jaw, inverted nipples, fat over suprapubic area and labia majora, fat pads over buttocks; hypotonia *Textbook of Neonatal Dermatology, p.432, 2001*

Cardio-acro-facial syndrome (Rabenhorst syndrome) – attached earlobes, cardiac lesions, narrow face with high narrow nose *Z Kinderheilk 117:109–114, 1974*

Cardio-facio-cutaneous syndrome – low-set ears

Carney complex – cutaneous myxomas of the ears (papules) *Cutis 62:275–280, 1998; JAAD 43:377–379, 2000;* lentigines of ears *JAAD 46:161–183, 2002*

Cat eye syndrome – preauricular tags or pits *Acta Pediatr Scand 63:623–626, 1974*

Char syndrome – short philtrum, patulous lips, ptosis, low-set pinnae *Birth Defects 14* (*6B*):*303–305, 1978*

CHARGE syndrome – coloboma, heart disease, choanal atresia, somatic and mental retardation, genital hypoplasia, low-set malformed small ears *JAAD 46:161–183, 2002; Perspect Pediatr Pathol 2:173–206, 1975*

Cleft lip and palate, abnormal ears, congenital heart defect, skeletal abnormalities *Acta Paediatr Scand 70:767–769, 1981*

Cleft lip and palate, pili torti, malformed ears, partial syndactyly of fingers and toes, mental retardation *J Med Genet 24:291–293, 1987*

Cockayne's syndrome – autosomal recessive; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *J Med Genet 18:288–293, 1981*

Coffin–Lowry syndrome – prominent ears *Hum Genet 36:271–276, 1977*

Cohen syndrome – large ears *J Med Genet 17:430–432, 1980*

Costello syndrome – low set protuberant ears, warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Aust Paediat J 13:114–118, 1977*

Cowden's syndrome

Cri du chat syndrome (chromosome 5, short arm deletion syndrome) – premature graying of the hair, pre-auricular skin tag with low-set malformed ears *J Pediatr 102:528–533, 1983*

Crouzon's syndrome – low-set ears *Rook p.3016, 1998, Sixth Edition*

Cryptophthalmos syndrome (Fraser syndrome) – malformed ears *Am J Med Genet 31:159–168, 1988*

Del (18p) syndrome – large ears *Eur J Pediatr 123:59–66, 1976*

Diastrophic dysplasia – cystic ear during hemorrhagic phase; calcifies *J Bone Jt Surg 50A:113–118, 1968*

DiGeorge sequence – small and pointed posteriorly angulated ears *JAAD 46:161–183, 2002; J Pediatr 94:883–890, 1979*

Deafness and ear pits – autosomal dominant; ear normal or deformed *Laryngoscope 76:1277–1288, 1966; Br Med J ii:1354–1356, 1955*

Deletion of short arm of chromosome 4 (4p– syndrome) – ACC of scalp with hypertelorism, beaked or broad nose, microcephaly, low-set ears, pre-auricular tags or pits, mental retardation *Am J Dis Child 122:421–425, 1971*

Down's syndrome – low-set, small ears *JAAD 46:161–183, 2002; Rook p.3015–3016, 1998, Sixth Edition*

Duane retraction syndrome – small ears *Rook p.3015–3016, 1998, Sixth Edition*

Dubowitz's syndrome – severe eczema, sparse hair, sparse arched eyebrows, dysplastic ear pinnae *Clin Exp Dermatol 19:425–427, 1994; Am J Med Genet 47:959–964, 1993*

Dup (11q) syndrome – preauricular pits or tags *Clin Genet 25:295–299, 1984*

Ehlers–Danlos syndrome – unusual appearance of ears

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fetal alcohol syndrome – malformed ears *Drug Alcohol Depend 14:1–10, 1984*

Fetal hydantoin syndrome – malformed ears *Am J Dis Child 127:758, 1974*

FG syndrome – unusual facies, mental retardation, congenital hypotonia, imperforate anus; small ears *Am J Med Genet 12:147–154, 1982*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 139:657–662, 2003; AD 131:710–712, 1995; Clin Exp Dermatol 19:268–270, 1994; Rev Rheum Ed Fr 47:345–351, 1980*

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp, abnormal ears and teeth, nail dystrophy, syndactyly, reduced apocrine secretion *Bolognia p.924, 2003*

First and second branchial arch cleft syndromes – small ears *Rook p.3015–3016, 1998, Sixth Edition*

Fragile X syndrome – large ears *J Ment Defic Res 27:211–226, 1983*

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose, and ears *Ann DV 104:475–478, 1977; AD 124:424–428, 1988*

Goldenhaar syndrome (oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, small abnormal pinnae, low-set ears, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies *JAAD 50:S11–13, 2004; Am J Med Genet 26:361–375, 1987*

Greig cephalopolysyndactyly – malformed ears *Clin Genet 24:257–265, 1983*

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa (floppy ears), corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu syndrome)

Hypertelorism–microtia–clefting syndrome (Bixler syndrome) *J Med Genet 19:387–388, 1982*

Incontinentia pigmenti – ear anomalies *JAAD 47:169–187, 2002*

Johnson–McMillin syndrome – autosomal dominant, facial nerve palsy, hearing loss, hyposmia, hypogonadism, microtia, alopecia *Bolognia p.859, 2003*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – nodular perianal lesions, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, osteolytic defects, stunted growth *Ped Derm 18:400–402, 2001; Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994;* ear nodules *Int J Paediatr Dent 6:39–43, 1996*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent (large ears, earlobes) malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Laband syndrome (hereditary gingival fibromatosis) – soft, large floppy ears; bulbous soft nose, gingival fibromatosis; absent nails; atrophic distal phalanges, hyperextensible joints, hepatosplenomegaly, hypertrichosis, mental retardation *Ped Derm 10:263–266, 1993; J Otol Pathol Med 19:385–387, 1990; Oral Surg Oral Med Oral Pathol 17:339–351, 1964*

Lacrimo-auriculo-dento-digital (LADD) syndrome – cup-shaped ears, hearing loss, nasolacrimal duct obstruction, hypodontia, enamel dysplasia, digital malformations *Eur J Pediatr 146:536–537, 1987; J Med Genet 24:94–95, 1987; J Pediatr 83:438–444, 1973*

Langer–Gideon syndrome (trichorhinophalangeal syndrome, type II) – large ears *Am J Med Genet 19:113–119, 1984*

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973*

Leprechaunism (Donohue syndrome) – large ears *Ann Genet 30:221–227, 1987*

Lumpy scalp syndrome – autosomal dominant; irregular scalp nodules, deformed pinnae, rudimentary nipples *Clin Exp Dermatol 15:240, 1989; BJD 99:423–430, 1978*

Mandibulofacial dysostosis, microtia, talipes, agenesis of the patellae *Birth Defects 11:39–50, 1975*

MAUIE syndrome – micropinnae, alopecia, ichthyosis, and ectropion *JAAD 37:1000–1002, 1997*

Maxillofacial dysostosis – minor ear abnormalities *J Med Genet 14:355–358, 1977;* X-linked *Am J Med Genet 21:137–142, 1985*

MC/MR syndrome with multiple circumferential skin creases – multiple congenital anomalies including high forehead, elongated face, bitemporal sparseness of hair, broad eyebrows, blepharophimosis, bilateral microphthalmia and microcornea, epicanthic folds, telecanthus, broad nasal bridge, puffy cheeks, microstomia, cleft palate, enamel hypoplasia, micrognathia, microtia with stenotic ear canals, posteriorly angulated ears, short stature, pectus excavatum, inguinal and umbilical hernias, scoliosis, hypoplastic scrotum, long fingers, overlapping toes, severe psychomotor retardation with hypotonia; resembles Michelin tire baby syndrome *Am J Med Genet 62:23–25, 1996*

Melnick–Needles syndrome – large ears *J Pediatr Orthoped 3:387–391, 1983*

Mohr's orofaciodigital syndrome – small ears *Rook p.3015–3016, 1998, Sixth Edition*

Multicentric reticulohistiocytosis – ear nodules *AD 140:919–921, 2004; Clin Rheumatol 15:62–66, 1996*

Nager syndrome (preaxial acrofacial dysostosis) – low-set ears *Birth Defects 10:109–115, 1974*

Neu–Laxova syndrome – large low-set ears; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990*

Neurofibromatosis type II – angiofibromas (pink–red papules) grouped on the ear *AD 134:760–761, 1998*

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; J Med Genet 24:9–13, 1987*

Opitz BBB/G compound syndrome (oculo–genito–laryngeal syndrome) – malformed ears *Am J Med Genet 28:303–309, 1987*

Oto-onycho-peroneal syndrome (Pfeiffer's syndrome) – crumpled pinnae, aplasia of the nails and fibulae *Eur J Paediatr 138:137–320, 1982*

Pallister–Killian syndrome – large ears *J Clin Dysmorphol 1:2–3, 1983*

Palmoplantar keratoderma, large ears, sparse hypopigmented scalp hair, frontal bossing *Ped Derm 19:224–228, 2002*

Patau's syndrome (trisomy 13) – abnormal helices, low-set ears; parieto-occipital scalp defects, loose skin of posterior neck, simian crease of hand, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

PHACES syndrome

Post-axial acrofacial dysostosis – small malformed ears *J Pediatr 95:970–975, 1979*

Potter sequence (oligohydramnios syndrome) – malformed ears *Syndromes of the Head and Neck; 1990, p.4–11.*

Relapsing polychondritis – red, edematous painful ear; collapsed ear *Medicine 55:193–216, 1976*

Restrictive dermopathy – autosomal recessive, dysplastic low-set ears; erythroderma at birth, with extensive erosions and contractures; taut shiny skin; fetal akinesia, multiple joint contractures, dysmorphic facies with fixed open mouth, hypertelorism, pulmonary hypoplasia, bone deformities; uniformly fatal *AD 138:831–836, 2002; Ped Derm 19:67–72, 2002; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 128:228–231, 1992*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia,

sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; low-set ears; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Robert's syndrome – hypomelia-hypotrichosis-facial hemangioma (pseudothalidomide) syndrome – hypoplastic ear lobules, mid forehead and midfacial port wine stain, cleft lip and/or palate, sparse silvery blonde hair, limb reduction defects, and marked growth retardation *Clin Genet 5:1–16, 1974*

Robinow syndrome – overfolded helix *Eur J Pediatr 151:586–589, 1992*

Rosai–Dorfman disease *Semin Diagn Pathol 7:19–73, 1990*

Rubinstein–Taybi syndrome – mental deficiency, small head, broad thumbs and great toes, beaked nose, malformed low-set ears, capillary nevus of forehead, hypertrichosis of back and eyebrows, keloids, cardiac defects *Cutis 57:346–348, 1996; Am J Dis Child 105:588–608, 1963*

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Say syndrome – large ears, short stature, cleft palate, microcephaly *Am J Med Genet 45:358–360, 1993*

Scalp–ear–nipple syndrome – autosomal dominant; aplasia cutis congenita of the scalp, irregularly shaped pinna, hypoplastic nipple, widely spaced teeth, partial syndactyly *Am J Med Genet 50:247–250, 1994*

Seckel syndrome – malformed ears *Eur J Pediatr 137:237–242, 1981*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Steatocystoma multiplex

Townes–Brocks syndrome – lop ears, preauricular tags *Dysmorphol Clin Genet 2:104–108, 1988*

Treacher Collins syndrome (mandibulofacial dysostosis) – partial or total alopecia of lower eyelashes, scarring alopecia, characteristic facies, small malformed pinnae, extension of scalp hair onto cheeks; blind fistulae between ear and angle of mouth *Am J Dis Child 113:405–410, 1967*

Tricho-rhino-phalangeal syndrome, type I – large ears *BJD 95 (Suppl 14):39–41, 1976*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – protruding ears, hypoplastic ears, pre-auricular pits, cleft ear lobes, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

Trisomy 18 – posteriorly rotated low-set ears, flat occiput, high-arched palate, flexed hands and elbows, psychomotor retardation *Clin Genet 22:327–330, 1982*

Trisomy 22 syndrome – preauricular tags or pits *Birth Defects 11:241–245, 1975*

Tuberous sclerosis

Turner's syndrome – macrotia (enlarged ears); unusual shape and rotation of ears, low-set ears *JAAD 50:767–776, 2004; Rook p.3016, 1998, Sixth Edition*

Velocardiofacial syndrome – malformed ears *J Craniofac Genet Dev Biol 4:39–46, 1984*

Vitamin A (retinoid) congeners embryopathy – small malformed ears *JAMA 251:3267–3269, 1984*

Weaver syndrome – large ears *Am J Dis Child 138:1113–1115, 1984*

Wiedemann–Rautenstrauch (neonatal progeroid syndrome) – generalized lipoatrophy, macrocephaly, premature aging, wide open sutures, hypoplasia of facial bones, low-set ears, beak shaped nose, neonatal teeth, slender limbs, large hands and feet with long fingers, large penis *J Med Genet 34:433–437, 1997*

Wisconsin syndrome – small malformed ears *Syndromes of the Head and Neck, 1990; p.561*

Wolf–Hirschhorn syndrome (del (4p) syndrome) – preauricular tags or pits *Clin Genet 10:104–112, 1976*

XYY syndrome – large ears *Syndromes of the Head and Neck, 1990; p.61–62*

Yunis–Varon syndrome – dysplastic clavicles, sparse hair, digital anomalies; malformed ears *J Med Genet 26:55–58, 1989*

Zimmermann–Laband syndrome – autosomal dominant; dysplastic/absent nails, large ears and nose, hepatosplenomegaly, short terminal phalanges, hyperextensible metacarpophalangeal joints *Ped Derm 18:534–536, 2001*

## TRAUMA

Acanthoma fissuratum *AD 94:621–622, 1965*

Altitude injury – petechiae and hemorrhagic bullae of external auditory canal in pilots descending from high altitudes *Laryngoscope 56:225–236, 1946*

Bruising – athletics, child abuse (tin ear syndrome) *Pediatrics 80:618–622, 1987*

Cauliflower ear (boxer's ear) *Rook p.3018, 1998, Sixth Edition*

Chilblains – with necrosis on fingers, toes, nose, and ears in patients with monocytic leukemia *AD 121:1048, 1052, 1985;* necrobiotic pernio *Australas J Dermatol 30:29–31, 1989*

Chondrodermatitis nodularis chronicus helicis – papule of helix or antihelix; nodule *Dermatologica 163:376–384, 1981; JAAD 2:148–154, 1980*

Frostbite

Habit helices – callosities on rim of auricle with underlying perichondritis in nuns *AD 87:735, 1963*

Prosthetic ear

Pseudocyst of the auricle *BJD 122:699–704, 1990; AD 125:528–530, 1989*

Radiation dermatitis – acute or chronic

Weathering nodules of the ear – white papules along helix *BJD 135:550–554, 1996*

Wrestler's ear

## VASCULAR DISEASES

Acrocyanosis – blue ears *JAAD S207–208, 2001*

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975;* edema of limbs and face *Cutis 68:127–129, 2001*

Atherosclerosis – diagonal earlobe crease (Frank's sign) *NEJM 289:327–328, 1973*

Epithelioid hemangioma *JAAD 49:113–116, 2003*

Erythema elevatum diutinum *Bolognia p.387, 2004*

Hemangiomas *J Pediatr Surg 35:420–423, 2000*

Kaposiform hemangioendothelioma – red to purple plaque *JAAD 52:616–622, 2005*

Lymphangioma *Plast Reconstr Surg 66:509–527, 1980*

Lymphedema – recurrent attacks of cellulitis/erysipelas *Rook p.3031, 1998, Sixth Edition;* elephantiasis nostras *Cutis 29:441–444, 1982*

Lymphostasis verrucosa cutis – verrucous plaque

Peripheral symmetric gangrene (DIC)

Pyogenic granuloma *Rook p.3039, 1998, Sixth Edition*

Spindle cell hemangioendotheliomas – papules *Cutis 62:23–26, 1998*

Vasculitis

Venous lakes

Wegener's granulomatosis – suppurative otitis *Rook p.2188–2189, 1998, Sixth Edition; Laryngoscope 92:713–717, 1982;* destruction of ear *Rook p.2219, 1998, Sixth Edition*

# EARS, RED, WITH OR WITHOUT NODULES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – hair care products, jewelry, ear appliances, hairpins, cosmetics, topical medicines (neomycin), nail polish *Rook p.3026, 1998, Sixth Edition*

Bullous pemphigoid

Dermatomyositis

Graft vs. host reaction, acute *JAAD 38:369–392, 1998; AD 134:602–612, 1998; AD 127:1673, 1991*

Lupus erythematosus – systemic lupus erythematosus *Lupus 9:301–303, 2000; Clin Exp Rheum 5:349–353, 1987;* auricular chondritis with red ear *Clin Exp Rheumatol 5:349–353, 1987;* chilblain lupus *BJD 98:497–506, 1978;* perforation of pinna *Cutis 32:554–557, 1983;* neuropsychiatric lupus *Lupus 9:301–303, 2000;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigus foliaceus/erythematosus

Relapsing polychondritis *Medicine 55:193–216, 1976;* in children *Ped Derm 19:60–63, 2002*

Urticaria

## DRUGS

Acral dysesthesia syndrome – cytarabine *Eur J Cancer 26:649–650, 1990*

Chemotherapy – induced neutrophilic eccrine hidradenitis

Fixed drug eruption

Hydantoin (Dilantin) hypersensitivity reaction

Pegfilgastrim – Sweet's syndrome due to pegfilgastrim (pegylated G-CSF) *JAAD 52:901–905, 2005*

Piroxicam photoallergic drug reaction

## EXOGENOUS AGENTS

Benign lymphoplasia induced by gold earrings – violaceous earlobe *JAAD 16:83–88, 1987*

Irritant contact dermatitis

Photodermatitis – musk ambrette *JAAD 21:880–884, 1989*

## INFECTIONS AND INFESTATIONS

Bullous impetigo

Cellulitis

Dermatomycosis – *Bipolaris* spp.*Cutis 72:313–319, 2003*

Erysipelas – primary or recurrent *Rook p.1114, 1998, Sixth Edition*

Herpes simplex *Rook p.3032, 1998, Sixth Edition;* eczema herpeticum

Herpes zoster (herpes zoster oticus) – Ramsey–Hunt syndrome *Otolaryngol Head Neck Surg 95:292–297, 1986*

Impetigo, bullous

Infectious eczematoid dermatitis *Rook p.3031, 1998, Sixth Edition*

Insect bites

Leishmaniasis *JAAD 28:495–497,1993; JAAD 23:1178, 1990*

Leprosy – lepromatous or tuberculoid leprosy *Ann Intern Med 98:49, 1983;* erythema nodosum leprosum *AD 122:1435–1440, 1986*

Lobomycosis *Cutis 46:227–234, 1990*

Lyme disease (Lyme borreliosis) – erythema migrans; solitary lymphocytoma *JAAD 24:621–625, 1991;* lymphocytoma cutis; earlobe bluish-red plaque *JAAD 49:363–392, 2003; Rook p.3027, 1998, Sixth Edition*

Malignant otitis externa – pseudomonas *Ear Nose Throat J 73:772–774, 777–778, 1994*

Mycobacterium bovis – lupus vulgaris *BJD 153:220–222, 2005*

*Mycobacterium tuberculosis* – lupus vulgaris – extensive destruction *Cutis 15:499–509, 1975;* starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules *JAAD 18:581–583, 1988; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Myiasis – *Cochliomyia hominivorax* (New World screwworm) – deposition of larvae in triangular fossa*JAAD 27:264–265, 1992*

Necrotizing fasciitis (streptococcal gangrene) *Otolaryngol Head Neck Surg 113:467–473, 1995*

Otitis externa *Clin Otolaryngol 17:150–154, 1992; Arch Environ Health 37:300–305, 1982*

Papular acrodermatitis of childhood (hemorrhagic variant) *Ped Derm 8:169–171, 1991*

Parvovirus B19 infection

Pediculosis capitis – elephantiasis of ears *Acta DV 63:363–365, 1983*

*Pneumocystis carinii* – red nodular infiltrated ear *Tyring p.334, 2002;* polyps within external auditory canal *Am J Med 85:250–252, 1988*

*Pseudomonas chondritis* – secondary to ear piercing *Ann Plast Surg 24:279–282, 1990;* pseudomonas perichondritis *Br J Clin Pract 44:512–513, 1990*

Scabies

Staphylococcal cellulitis – due to ear piercing *Rook p.3018, 1998, Sixth Edition*

Syphilis – secondary

Tinea – tinea faciei; tinea incognito *J Dermatol 22:706–707, 1995;* mimicking chondritis *Cutis 23:638–639, 1979*

Tuberculosis, primary – ear piercing *J Pediatr 40:482–485, 1952*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis – seborrheic dermatitis-like papules, crops of red–brown or red–yellow papules,

vesicopustules, erosions, scaling, and petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Head Neck 17:226–231, 1995; Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985*

Mastocytosis, localized cutaneous *JAAD 15:291–293, 1986*

Scleromyxedema (lichen myxedematosus)

## INFLAMMATORY DISEASES

Erythema multiforme

Lymphocytoma cutis

Neutrophilic eccrine hidradenitis – red swollen ears *AD 139:531–536, 2003; JAAD 38:1–17, 1998*; *BJD 128:696–698, 1993*

Perforating folliculitis *Rook p.3026, 1998, Sixth Edition*

Pyoderma gangrenosum *J Clin Gastroenterol 11:561–564, 1989; JAAD 18:1084–1088, 1988*

Sarcoid – lupus pernio *JAAD 16:534–540, 1987; BJD 112:315–322, 1985*

## METABOLIC DISEASES

Cryoglobulinemia

Diabetes – reactive perforating collagenosis *Rook p.3026, 1998, Sixth Edition*

Fabry's disease – telangiectasia of ears *Ped Derm 12:215–219, 1995*

Porphyrias – congenital erythropoietic porphyria (Gunther's disease) – mutilation of the ears *Semin Liver Dis 2:154–63, 1982;* hepatoerythropoietic porphyria *JAAD 11:1103–1111, 1984; AD 116:307–311, 1980*

Pretibial myxedema *AD 122:85–88, 1986*

## NEOPLASTIC

Basal cell carcinoma

Basal cell carcinoma in linear nevus sebaceus syndrome *JAAD 29:109–111, 1993*

Eccrine spiradenomas (multiple) with trichoepitheliomas *Cutis 46:46–50, 1990*

Eruptive keratoacanthomas *JAAD 29:299–304, 1993*

Extramammary Paget's disease *AD 131:951–956, 1995*

Kaposi's sarcoma *Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Dermatol 36:735–740, 1997; Dermatology 190:324–326, 1995*

Leukemia cutis – acute myelogenous leukemia

Lymphoma – cutaneous T-cell lymphoma (CTCL) *Rook p.2376, 1998, Sixth Edition*; Sézary syndrome; lymphomatoid granulomatosis (angiocentric lymphoma) – purple ear *JAAD 20:571–578, 1989;* composite T- and B-cell lymphoma of earlobe *BJD 143:439–444, 2000;* histiocytic lymphoma

Seborrheic keratosis

Squamous cell carcinoma *Rook p.3041, 1998, Sixth Edition; JAAD 26:467–484, 1992*

Waldenström's macroglobulinemia *BJD 106:217, 1982*

Xanthogranuloma – adult onset *JAAD 32:372–374, 1995*

## PARANEOPLASTIC DISORDERS

Bazex syndrome (acrokeratosis paraneoplastica) – psoriasiform dermatitis of helices *Cutis 74:289–292, 2004; JAAD 16:178–183, 1987; AD 120:502–504, 1984; Paris Med 43:234–237, 1922*

## PHOTODERMATITIS

Actinic prurigo – red ear lobule *JAAD 44:952–956, 2001*

Chronic actinic dermatitis *AD 126:317–323, 1990*

Dermatoheliosis – erythema, telangiectasia *Rook p.3021, 1998, Sixth Edition*

HIV photosensitivity

Juvenile spring eruption (atopic)

Polymorphic light eruption *AD 117:186–187, 1981*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea – rhinophyma of the ears *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998;* granulomatous rosacea

Alopecia mucinosa

Angiolymphoid hyperplasia with eosinophilia *AD 130:369–374, 1994; JAAD 19:345–349, 1988; JAAD 12:781–796, 1985*

Atopic dermatitis

Darier's disease – mimicking dermatitis *J Laryngol Otol 106:725–726, 1992*

Elastosis perforans serpiginosa *Rook p.3026, 1998, Sixth Edition*

Elastotic nodules of the ears *Cutis 44:452–454, 1989*

Elephantiasis – red swollen ears; dermatitis, psoriasis, chronic streptococcal infection, head lice *Cutis 29:441–444, 1982; Acta DV* (*Stockh*) *63:363–365, 1983*

Epidermolytic hyperkeratosis

Granuloma annulare

Hydroa vacciniforme *Ped Derm 21:555–557, 2004*

Juvenile spring eruption

Kyrle's disease *Rook p.3026, 1998, Sixth Edition*

Lichen simplex chronicus

Pityriasis rubra pilaris

Psoriasis *Rook p.3026, 1998, Sixth Edition*

Seborrheic dermatitis *Rook p.3039, 1998, Sixth Edition*

Weathering nodules of the ear *BJD 135:550–554, 1996*

## PSYCHOCUTANEOUS DISEASES

Delusions of parasitosis *Rook p.3028, 1998, Sixth Edition*

Factitial dermatitis

## SYNDROMES

Antiphospholipid antibody syndrome (purple ear) *JAAD 22:356–359, 1990*

Ataxia telangiectasia – linear telangiectasias of conchal bowl *Rook p.2095,1998, Sixth Edition; Ann Intern Med 99:367–379, 1983*

Cardio-facio-cutaneous syndrome

Cowden's syndrome

Dermochondrocorneal dystrophy *AD 124:424–428, 1988*

Erythro-otalgia *Pre-AAD Pediatric Dermatology Meeting, March, 2000*

Hereditary hemorrhagic telangiectasia (Osler-Weber-Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Juvenile hyaline fibromatosis *Ped Derm 7:68–75, 1989*

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears,

and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 13:105–113, 1996; Ped Derm 17:115–117, 2000*

MAGIC syndrome (Behçet's disease and relapsing polychondritis) *AD 126:940–944, 1990*

Multicentric reticulohistiocytosis *Clin Rheum 15:62–66, 1996*

PHACES syndrome

Red ear syndrome – irritation of third cervical root; temporomandibular joint dysfunction, thalamic syndrome, headache, antiphospholipid antibody syndrome, neuropsychiatric lupus erythematosus, idiopathic *Lupus 9:301–303, 2000; Neurology 47:617, 620, 1996*

Reticular erythematous mucinosis syndrome (REM syndrome)

Rombo syndrome – acral erythema, cyanotic redness, follicular atrophy (atrophoderma vermiculata), milia-like papules, telangiectasias, red ears with telangiectasia, thin eyebrows, sparse beard hair, basal cell carcinomas, short stature *BJD 144:1215–1218, 2001*

Sweet's syndrome *J Laryngol Otol 118:48–49, 2004*

Xeroderma pigmentosum

### TRAUMA

Acupuncture – chondritis or perichondritis *Laryngoscope 91:422–431, 1981; Laryngoscope 86:664–673, 1976*

Acute chondritis – burns, frostbite, post-surgical, hematoma

Burns – thermal or chemical; chondritis or perichondritis *Laryngoscope 91:422–431, 1981; Laryngoscope 86:664–673, 1976*

Child abuse – erythema and petechia of ear due to head slap *Bolognia p.1422, 2003*

Ear piercing – irritant or allergic contact dermatitis (nickel, gold, olive wood, copper, cobalt, chromium, topical antibiotics, dressings), bleeding, infection, edema and hematoma, earlobe tear *Rook p.3019, 1998, Sixth Edition*

Frictional erythema

Frostbite – chondritis or perichondritis *Laryngoscope 91:422–431, 1981; Laryngoscope 86:664–673, 1976*

Hematoma

Perniosis/frostbite – vesicles, bullae, ischemic necrosis; calcification *Rook p.3021, 1998, Sixth Edition*

Physical trauma – chondritis or perichondritis *Laryngoscope 91:422–431, 1981; Laryngoscope 86:664–673, 1976*

Post-surgical perichondritis

Pressure – chondritis or perichondritis *Laryngoscope 91:422–431, 1981; Laryngoscope 86:664–673, 1976*

Pseudocyst of the auricle

Radiation dermatitis

Sunburn *Rook p.3021, 1998, Sixth Edition*

Wrestler's ear

### VASCULAR DISEASES

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *Cutis 68:127–129, 2001; JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975*

Benign (reactive) angioendotheliomatosis – red–brown or violaceous nodules or plaques *JAAD 38:143–175, 1998*

Erythromelalgia *Am J Otolaryngol 25:251–254, 2004*

Flushing reactions (see differential diagnosis of flushing)

Henoch–Schönlein purpura

Hereditary hemorrhagic telangiectasia

Vasculitis

Venous lake

Wegener's granulomatosis with auricular chondritis – red, swollen ear *JAAD 31:605–612, 1994; NEJM 312:1695, 1985; J Rheumatol 7:915, 1980; Arthritis Rheum 20:1286, 1977*

## EDEMA

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Rook p.2261, 1998, Sixth Edition;* of hand with lymphedema of arm *Contact Dermatitis 9:517–518, 1983;* of vulva *BJD 126:52–56, 1992*

Angioedema – lips, eyelids, genitalia *JAAD 25:155–161, 1991*

Bullous pemphigoid – appearance in lymphedematous extremity *Acta DV* (*Stockh*) *73:461–464, 1993*

Congenital lymphedema with hypogammaglobulinemia or selective IgA deficiency *Scott Med J 41:22–23, 1996; Postgrad Med J 64:63–65, 1988*

Connective tissue panniculitis

Dermatomyositis *Rook p.2558, 1998, Sixth Edition*

Lupus erythematosus

Morphea *Rook p.2504–2508, 1998, Sixth Edition;* generalized morphea – non-pitting edema of trunk and extremities *Rook p.2511, 1998, Sixth Edition*

Rheumatoid arthritis – lymphedema of upper extremities *J Rheumatol 22:214–217, 1995*

Urticaria – urticaria of vulva *Rook p.3205, 1998, Sixth Edition*

### CONGENITAL DISEASES

Congenital hereditary lymphedema – Milroy's disease

Congenital lymphedema, hypoparathyroidism, nephropathy, prolapsing mitral valve and brachytelephalangy

Facial hemihypertrophy

Hennekam lymphangiectasia-lymphedema syndrome

Infantile cortical hyperostosis

Lymphedema and cerebral arteriovenous anomaly

Lymphedema and microcephaly

Lymphedema and ptosis

Lymphedema precox

McCune–Albright syndrome

Neonatal cold injury

Raised limb bands *BJD 147:359–363, 2002*

Sturge–Weber syndrome

### DEGENERATIVE DISORDERS

Muscle disuse

Paralysis

### DRUG-INDUCED

Acyclovir therapy – peripheral edema *JAAD 18:1142–1143, 1988*

Arthus reaction – erythema, edema, hemorrhage, occasional necrosis *Rook p.3364, 1998, Sixth Edition*

Bromocriptine – erythromelalgia *Cutis 75:37–40, 2005*

Felodipine – erythromelalgia *Cutis 75:37–40, 2005*

GCSF – recombinant human GCSF; livedo reticularis, edema, with thrombotic and necrotizing panniculitis *BJD 142:834–836, 2000*

Imatinib (signal transduction inhibitor) – edema of face, forearms, ankles *JAAD 48:201–206, 2003*

Interferon-α-induced anasarca *JAAD 37:118–120, 1997*

Methysergide – retroperitoneal fibrosis *Ghatan p.252, 2002, Second Edition*

Nicardipine – erythromelalgia *Cutis 75:37–40, 2005*

Nifedipine – erythromelalgia *Cutis 75:37–40, 2005*

Pergolide – erythromelalgia *Cutis 75:37–40, 2005*

Toxic epidermal necrolysis – localized to lymphedematous extremity *Clin Exp Dermatol 17:456–457, 1991*

## EXOGENOUS AGENTS

Aquagenic angioedema *Cutis 37:465–466, 1986*

Hair penetration of toe cleft skin – edema of the dorsum of the foot; pinhole sinus in interdigital space *Rook p.924, 1998, Sixth Edition*

Salivary vulvitis *Obstet Gynecol 37:238–240, 1971*

Seminal vulvitis – vulvar edema, erythema, pruritus *Am J Obstet Gynecol 126:442–444, 1976*

Silicone – linear edema, nodularity, scarring, and bound-down skin due to leakage of silicone breast implant *AD 131:54–56, 1995*

Vaccination – extensive limb swelling *Clin Inf Dis 37:351–358, 2003*

## INFECTIONS AND INFESTATIONS

Anthrax (*Bacillus anthracis*) (malignant pustule) – face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Arthropod bite – hypersensitivity to mosquito bites with intense erythema and edema *AD 139:1601–1607*

Bee and wasp stings *NEJM 133:523–527, 1994*

Brucellosis *Cutis 63:25–27, 1999; AD 117:40–42, 1981; Brucella* epididymoorchitis – scrotal swelling, pain, fever, diaphoresis *Clin Inf Dis 33:2017–2027, 2001*

*Calymmatobacterium* granulomatis (donovanosis) *J Clin Inf Dis 25:24–32, 1997*

Cat scratch disease *Ghatan p.252, 2002, Second Edition*

Caterpillar dermatitis – *Megalopyge* caterpillars – burning pain, spreading erythema, edema, lymphangitis *JAMA 175:1155–1158, 1961*

Cellulitis – acute or recurrent with subtle edema of toes and forefoot *Rook p.2294, 1998, Sixth Edition*

Centipede bites – erythema and edema *Cutis 37:241, 1986;* centipede contact dermatitis

*Dirofilaria Cutis 72:269–272, 2003*

Dracunculosis – *Dracunculus medinensis* – initially fever, pruritus, urticaria, painful edema *Int J Zoonoses 12:147–149, 1985*

*Eikenella corrodens* – cellulitis *Clin Infect Dis 33:54–61, 2001*

Erysipelas – primary or recurrent; post-infectious lymphedema *Rook p.1115, 1998, Sixth Edition*; including scalp edema; penile erysipelas – edematous penis and/or scrotum with or without necrosis; may result in chronic lymphedema *Genital Skin Disorders, Fischer and Margesson, Mosby, 1998, p.20–23; Rook p.2290, 1998, Sixth Edition;*

Entophthomucormycosis including basidiobolomycosis and conidiobolomycosis

Filariasis – secondary lymphedema; *Wuchereria bancrofti*, *Brugia malayi*, *Brugia timori*; mosquito vector – first sign is edema, pain, and erythema of arms, legs, or scrotum or vulva; chronically lower leg edema, or edema of breast, arms, genitalia with elephantiasis develop *Dermatol Clin 7:313–321, 1989; Lymphology 18:148–168, 1985*

Fish stings – venomous fish; lesser weever fish, spiny dogfish, stingray, scorpion fish, catfish, rabbit fish, stone fish, stargazers, toadfish – erythema, edema mimicking cellulitis *Rook p.1479, 1998, Sixth Edition*

Gnathostomiasis – migratory subcutaneous swellings; painful and red; upper body and periorbitally *Clin Inf Dis 16:33–50, 1993*

Granuloma inguinale (donovanosis) – vulvar lymphedema *Genitourin Med 63:54–56, 1987*

Herpes simplex

Herpes zoster

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthema of hands, wrists, and elbows *NEJM 353:156–163, 2005*

Lassa fever (Old World Arenavirus) – edema due to capillary leak syndrome

Leprosy

Loiasis – Calabar swellings; temporary of arm and hand, and elsewhere; angioedema *Rook p.1387–1388, 1998, Sixth Edition*

Lymphangitis, infectious (post-cellulitis, erysipelas) *Rook p.2283, 1998, Sixth Edition*

Lymphogranuloma venereum – genital lymphedema leading to vulvar elephantiasis or 'saxaphone penis'; inguinal adenitis with abscess formation and draining chronic sinus tracts; rectal syndrome in women with pelvic adenopathy, periproctitis with rectal stricture and fistulae; esthiomene – scarring and fistulae of the buttocks and thighs with elephantiasic lymphedema of the vulva; lymphatics may develop abscesses which drain and form ulcers *Int J Dermatol 15:26–33, 1976*

Malignant otitis externa – edema of soft tissues around ear *Am J Med 71:603–614, 1981*

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; myxomatous form with large tumors of the earlobes; lymphedema prominent; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* inguinal lymphadenopathy with genitocrural lymphedema *Rook p.3167, 1998, Sixth Edition*

Necrotizing fasciitis *AD 138:893–898, 2002; JAAD 20:774–781, 1989;* appearance in lymphedematous extremity *Int J Derm 29:41–44, 1990*

Onchocerciasis – localized edema – swelling of one arm *West Afr Med J 11:83–84, 1962;* Mazzotti reaction – swelling during therapy *Rook p.1384, 1998, Sixth Edition*

Osteomyelitis of the skull – Pott's puffy tumor – scalp edema *AD 121:548–549, 1985*

Parvovirus B19, congenital – pallor, maceration, and subcutaneous edema *Textbook of Neonatal Dermatology, p.214, 2001*

Pediculosis – head lice with elephantiasis of the ear *Acta DV* (*Stockh*) *63:363–365, 1983*

Pyomyositis – with purpura *JAAD 10:391–394, 1984;* faint erythema overlying edema *JAAD 51:308–314, 2004*

Sandfly bites – edema of limbs *Rook p.1425–1426, 1998, Sixth Edition*

Schistosomiasis of scrotum with pseudo-elephantiasis; fever, edema, urticarial eruption, headache, arthralgias, abdominal pain, hypereosinophilia occurring 4–6 weeks after infection *BJD 135:110–112, 1996*

Scorpion sting – edema *Cutis 57:139–141, 1996*

Sea urchins – initial edema *Clin Exp Dermatol 2:405–407, 1977*

Snake bites – edema, erythema, pain, and necrosis *NEJM 347:347–356, 2002; Med J Aust 159:773–779, 1993*

Sparganosis – edematous painful nodules; chronic elephantiasis *Rook p.1403, 1998, Sixth Edition*

Spider bites – black widow spider (*Latrodectus mactans*) – punctum with erythema and edema *AD 123:41–43, 1987;* brown recluse spider (*Loxosceles reclusa*) – erythema, edema, central bulla; targetoid lesion with central blue/purple, ischemic halo, outer rim of erythema; at 3–4 days central necrosis, eschar, ulcer, scar *South Med J 69:887–891, 1976;* wolf spider (*Lycosa*) – erythema and edema *Cutis 39:113–114, 1987*

Streptococcal infection *J Clin Inf Dis 24:516–517, 1997;* vulvar edema due to repeated infection *J Obstet Gynecol 67:279–280, 1960*

Streptococcal toxic shock syndrome – painful localized edema and erythema; progression to vesicles and bullae *Textbook of Neonatal Dermatology, p.189, 2001*

Syphilis *Ghatan p.252, 2002, Second Edition*

Trichinosis

Trichomoniasis – vulvar edema and erythema *Clin Obstet Gynecol 24:407–438, 1981*

Trypanosomiasis, American – cutaneous inoculation (inoculation chagoma); edema with exanthems *Rook p.1409–1410, 1998, Sixth Edition*

*Vibrio vulnificus* – edema, erythema, and purpura of ankles *BJD 145:280–284, 2001*

Zygomycosis – edema with black discoloration *J Urol 161:1906–1907, 1999*; subcutaneous zygomycosis – *Conidiobolus coronatus* – lower facial edema *AD 124:1392–1396, 1988; Basidiobolus* – involves limb or limb-girdle areas in children *Rook p.1361, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic *Rook p.2634, 1998, Sixth Edition*

Scleromyxedema

## INFLAMMATORY DISEASES

Atypical neutrophilic infiltrate – appearance in lymphedematous extremity *Dermatologica 183:230–233, 1991*

Crohn's disease – facial edema; scrotal edema, erythema, and fistulae *JAAD 36:697–704, 1997;* vulvar edema with lymphangiectasias *Genitourin Med 65:335–337, 1989*

Eosinophilic fasciitis – presenting as pitting edema of the extremities *Am J Med 111:318–320, 2001*

Erythema induratum (Whitfield) – nodules with edematous ankles *Rook p.2207, 1998, Sixth Edition*

Inflammation – secondary lymphedema

Lymphangitis – secondary lymphedema

Neutrophilic eccrine hidradenitis – localized edema *Arch Ophthalmol 112:1460–1463, 1994*

Panniculitis

Sarcoid – lymphedema; unilateral leg edema *JAAD 44:725–743, 2001*

## METABOLIC DISEASES

Anasarca – edema of breast *Rook p.3160, 1998, Sixth Edition*

Beriberi (Vitamin $B_1$, thiamine deficiency) – anorexia, weakness, constipation, polyneuritis, cardiac failure with edema, muscle wasting *JAAD 21:15–18, 1989*

Cardiac disease *Rook p.2287, 1998, Sixth Edition;* edema of breast *Rook p.3160, 1998, Sixth Edition*

Crohn's disease – edema of prepuce and scrotum *JAAD:S182–183, 2003*

Cryofibrinogenemia – of dorsal feet *Am J Med 116:332–337, 2004*

Diabetes – cold, swollen, dry feet *Rook p.2231,2265,2675, 1998, Sixth Edition*

Fabry's disease (angiokeratoma corporis diffusum) – edema of hands, arms, eyelids *AD 140:1526–1527, 2004*

Hartnup's disease – edema due to hypoproteinemia and liver disease *Pediatrics 31:29–38, 1963*

Heavy chain disease (Franklin's disease) – palatal edema *AD 124:1538–1540, 1988*

Hemochromatosis, neonatal *AD 132:1507–1512, 1996*

Hemophagocytic syndrome – facial edema *AD 128:193–200, 1992*

Hypoalbuminemia

Hypoparathyroidism – puffy skin *JAAD 17:921–940, 1989*

Hypothyroidism – edematous and indurated skin *Rook p.2513, 1998, Sixth Edition*

Kwashiorkor *JAAD 52:S69–72, 2005; AD 137:630–636, 2001; Cutis 67:321–327, 2001;* facial edema *AD 134:107–108, 1998*

Liver disease, chronic

Menstruation *Rook p.2247, 1998, Sixth Edition*

Myxedema – also massive localized lymphedema of hypothyroidism *Hum Pathol 31:1162–1168, 2000*

Nephrogenic fibrosing dermopathy – presenting with anasarca *JAAD 48:55–60, 2003*

Nephrotic syndrome or other forms of chronic renal disease *Rook p.2247, 1998, Sixth Edition;* edema of breast *Rook p.3160, 1998, Sixth Edition*

Oast house disease – white hair, recurrent edema; increased serum methionine *Rook p.2965, 1998, Sixth Edition*

Obesity – pendulous abdomen with edema due to lipodermatosclerosis *Clin Exp Dermatol 18:164–166, 1993*

Porphyrias – erythropoietic protoporphyria; acute facial edema *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Pregnancy *Rook p.2247, 1998, Sixth Edition*

Pretibial myxedema – solid non-pitting edema of shins and feet; elephantiasic form with edema and nodule formation *Rook p.2707, 1998, Sixth Edition*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; AD 127:124–125, 1991*

Scurvy – peripheral edema *JAAD 41:895–906, 1999*

Sickle cell disease – hand-foot syndrome; edema of hands and feet due to underlying bone infarction *Clin Pediatr 20:311–317, 1981*

Xanthoma – appearance in lymphedematous extremity *J R Soc Med 81:113–114, 1988*

Vitamin $B_1$ deficiency (thiamine) – beriberi; edema, burning red tongue, vesicles of oral mucosa *Ghatan p.294, 2002, Second Edition*

## NEOPLASTIC DISORDERS

Angiosarcoma – scalp edema *JAAD 38:837–840, 1998; Rook p.2361–2362, 1998, Sixth Edition; Cancer 77:2400–2406, 1996; AD 121:549–550, 1985*

Angiosarcoma of the breast post-irradiation for breast cancer – late thickening, edema, or induration of the breast *JAAD 49:532–538, 2003*

Baker's cyst, ruptured – swelling and pain of calf *Rook p.2240, 1998, Sixth Edition*

Basal cell carcinoma – occurrence in lymphedematous extremity *J Derm Surg Onc 14:781–783, 1988*

Carcinoma of the breast (primary) *Rook p.3160, 1998, Sixth Edition*

Cancer, advanced *Rook p.2295, 1998, Sixth Edition*; recurrent *Rook p.2284, 1998, Sixth Edition*

Hemophagocytic lymphohistiocytosis (hemophagocytic syndrome) – erythroderma and edema *AD 138:1208–1212, 2002; AD 128:193–200, 1992*

Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Leiomyosarcoma – diffuse swellings *NEJM 266:1027–1030, 1962*

Leukemia – chronic lymphocytic leukemia

Lymphangiosarcoma (Stewart–Treves tumor) – increasing edema in lymphedematous extremity; red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphoma – facial edema in lymphomatoid granulomatosis *Postgrad Med J 68:366–368, 1992; AD 127:1693–1698, 1991;* cutaneous T-cell lymphoma; angioimmunoblastic lymphadenopathy (T-cell lymphoma) – edema of arms and legs *BJD 144:878–884, 2001*

Malignant eccrine poroma *Rook p.2284, 1998, Sixth Edition*

Malignant fibrous histiocytoma – occurrence in lymphedematous extremity *J R Soc Med 78:1497–1498, 1985*

Malignant histiocytosis mimicking kwashiorkor *Ped Derm 19:5–11, 2002*

Melanoma – occurrence in lymphedematous extremity *J Surg Oncol 30:16–18, 1985*

Metastases *JAAD 29:228–236, 1993;* carcinoma erysipelatoides – includes metastases from breast, lung, melanoma, ovary, stomach, tonsils, pancreas, kidney, rectum, colon, parotid, uterus *JAAD 39:876–878, 1998; JAAD 30:304–307, 1994; JAAD 31:877–880, 1994;* larynx *Eur J Dermatol 11:124–126, 2001;* transitional cell carcinoma with penile and scrotal edema *JAAD 51:143–145, 2004; JAAD 36:993–995, 1996;* elephantiasis-like cutaneous metastases secondary to signet-ring cell carcinoma of the stomach *Cutis 44:455–458, 1989*

Squamous cell carcinoma – occurrence in lymphedematous extremity *Cancer 54:943–947, 1984*

## PARANEOPLASTIC DISEASES

Carcinoid syndrome – foregut (stomach, lung, pancreas) – bright red geographic flush, sustained, with burning, lacrimation, wheezing, sweating; hindgut (ileal) – patchy, violaceous, intermixed with pallor, short duration *Rook p.2101, 1998, Sixth Edition;* edema, telangiectasia, cyanotic nose and face, rosacea *Acta DV* (*Stockh*) *41:264–276, 1961*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea – solid facial edema *JAAD 17:843–844, 1987; AD 121:87–90, 1985;* periorbital chronic edema *Rook p.2104–2110, 1998, Sixth Edition*

Acne vulgaris – symmetric or asymmetric facial edema *Acta DV* (*Stockh*) *67:535–537, 1987*

Acrodermatitis chronica atrophicans – bluish-red edema of extremities *BJD 147:375–378, 2002*

Blepharochalasis *Br J Ophthalmol 72:863–867, 1988; AD 115:479–481, 1979*

Cutis laxa – generalized cutis laxa – autosomal dominant – lesions often preceded in infancy by episodes of edema; infantile genitalia; scant body hair; bloodhound appearance of premature aging *Ped Derm 19:412–414, 2002; Rook p.2019–2020, 1998, Sixth Edition*

Idiopathic edema *Clin Exp Dermatol 3:411–416, 1978*

Lipedema – edema of legs, thighs, and hips; sparing of feet *JAAD 50:969–972, 2004; Plast Reconstr Surg 94:841–847, 1994; Mayo Clin Proc 15:184–187, 1940*

Pityriasis rubra pilaris – peripheral edema accompanying erythroderma *Rook p.1541, 1998, Sixth Edition*

Primary lymphedema – mutation in endothelial growth factor receptor 3 involving NF-κB pathway

Psoriatic arthritis – lymphedema of arms *Semin Arthr Rheum 22:350–356, 1993*

Scleredema of Buschke (pseudoscleroderma) *JAAD 11:128–134, 1984*

Weeping scrotum

## PSYCHOCUTANEOUS DISEASES

Factitial limb edema *Ann Hematol 70:57–58, 1995;* due to factitial application of tourniquet (elastic band, clothing) (Secretan's syndrome) *Plast Reconstr Surg 65:182–187, 1980;* subcutaneous emphysema *Ped Derm 21:205–211, 2004*

## SYNDROMES

Amnion rupture malformation sequence (amniotic band syndrome) – congenital ring constrictions and intrauterine amputations; secondary syndactyly, polydactyly; distal lymphedema *JAAD 32:528–529, 1995; Am J Med Genet 42:470–479, 1992; Cutis 44:64–66, 1989;* lymphedema of hand due to constriction bands *JAAD 15:296–297, 1986*

Anhidrotic ectodermal dysplasia with immunodeficiency – osteopetrosis and lymphedema – mutation in stop codon of NEMO gene *JAAD 47:169–187, 2002; Nat Genet 27:277–285, 2001; Am J Hum Genet 67:1555–1562, 2000*

Apert's syndrome

Caldwell's syndrome – angioedema and lymphoproliferative disease – acquired angioedema-I (AAE-I) *Clin Immunol Immunopathol 1:39–52, 1972*

Cervical rib syndrome – indurated edema *Rook p.2512–2513, 1998, Sixth Edition*

CHARGE syndrome – primary lymphedema, short stature, coloboma of the eye, heart anomalies, choanal atresia, somatic and mental retardation, genitourinary abnormalities, ear anomalies *Ped Derm 20:247–248, 2003*

Cronkhite–Canada syndrome *Cutis 61:229–232, 1998*

Distichiasis–lymphedema syndrome – double row of eyelashes, nuchal webbing *BJD 142:148–152, 2000; AD 135:347–348, 1999; Clin Dysmorphol 3:139–142, 1994; Hum Genet 39:113–116, 1977*

Dysplasia epiphysealis hemimelica (Trevor disease, tarsomegaly) – edema of the feet

Episodic non-toxic erythema – swelling of the extremities followed by generalized tender sunburn-like erythema, followed by exfoliation *AD 132:1387–1388, 1996*

Familial Mediterranean fever – edema with or without erythema of the foot *AD 134:929–931, 1998*

Fluid retention syndrome – idiopathic edema

Gardner–Diamond syndrome (painful bruising syndrome) – ecchymoses of arms and legs preceded by edema and erythema *JAAD 27:829–832, 1992; Blood 10:675–690, 1955;* autosensitization to DNA *Ann Intern Med 60:886–891, 1964*

Hennekam's syndrome – lymphedema, intestinal lymphangiectasia, facial anomalies, mental retardation *Am J Med Genet 34:593–600, 1989*

Hereditary angioneurotic edema

Hurler's syndrome and other mucopolysaccharidoses

Hypohidrotic ectodermal dysplasia of Zonana with osteopetrosis and lymphedema – lymphedema; mutation in stop codon of NEMO *Nat Genet 27:277–285, 2001*

Idiopathic retroperitoneal fibrosis

Intestinal lymphangiectasia, pes cavus, microcephaly – lymphedema

Klippel–Feil anomaly

Lymphedema-distichiasis syndrome *Ped Derm 19:139–141, 2002*

Lymphedema of pubertal onset (Meige type) with cleft palate *Cleft Palate J 20:151–157, 1983*

Lymphedema with recurrent cholestasis *West J Med 137:32–44, 1982*

Lymphedema with intestinal angiectasia *West J Med 137:32–44, 1982*

Melkersson–Rosenthal syndrome – orofacial edema

Microcephaly–lymphedema syndrome – with short stature *Am J Med Genet 280:506–509, 1998*

Microcephaly-lymphedema-chorioretinal dysplasia syndrome – edema of upper and lower extremities; autosomal dominant or recessive *Ped Derm 22:373–374, 2005*

Mulvihill–Smith syndrome – congenital lymphedema *Am J Med Genet 69:56–64, 1997*

Neu–Laxova syndrome – variable presentation; mild scaling to harlequin ichthyosis appearance; ichthyosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Am J Med Genet 35:55–59, 1990*

Neurofibromatosis – hemihypertrophy *Rook p.2287, 1998, Sixth Edition*

Neuronal migration defect and cerebellar hypoplasia – lymphedema

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; Ped Derm 15:18–22, 1998; J Med Genet 24:9–13, 1987;* extremities *Cutis 46:242–246, 1990*

Papular–purpuric gloves and socks syndrome *Ped Derm 15:413, 1998*

Peho syndrome – optic atrophy, progressive encephalopathy, hypsarrhythmia

POEMS syndrome (Takatsuki syndrome, Crowe-Fukase syndrome) – edema, osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism; sclerodermoid changes (thickening of skin), either generalized or localized (legs), cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, maculopapular brown–violaceous lesions, purple nodules *JAAD 44:324–329, 2001; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998; JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985; AD 124:695–698, 1988*

Pseudohypoparathyroidism – dry, scaly, hyperkeratotic puffy skin; multiple subcutaneous osteomas, collagenoma *BJD 143:1122–1124, 2000*

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996; JAAD 28:29–32, 1993; AD 127:1541–1544, 1991*

Scalenus anticus syndrome – indurated edema *Rook p.2512–2513, 1998, Sixth Edition*

Thrombocytopenia–absent radius syndrome (TAR syndrome) – edema of feet

Trisomy 21 – congenital lymphedema *Hum Reprod 14:823–826, 1999*

Trisomy 18 – congenital lymphedema *Hum Reprod 14:823–826, 1999*

Trisomy 13 – congenital lymphedema *Hum Reprod 14:823–826, 1999*

Turner's syndrome – congenital lymphedema of upper and lower extremities and neck, shield chest, wide nipples, micrognathia, low hairline, webbed neck, pigmented nevi, short stature *Ped Derm 22:27–275, 2005; JAAD 50:767–776, 2004;* lymphedema of scalp may mimic cutis verticis gyrata *Ped Derm 15:18–22, 1998*

Wells' syndrome (eosinophilic cellulitis) *AD 139:933–938, 2003; BJD 140:127–130, 1999; AD 133:1579–1584, 1997; JAAD 33:857–64, 1995; JAAD 18:105–114, 1988; Trans S.Johns Hosp Dermatol Soc 51:46–56, 1971*

Yellow nail syndrome – lymphedema *Acta DV (Stockh) 63:554–555, 1983*

## TOXINS

Dieffenbachia picta (Dumb-cane) – chewing the leaves results in perioral edema, salivation, burning, mucosal edema, and blisters causing hoarseness or aphonia *Cutis 66:333–334, 2000*

Eosinophilia myalgia syndrome (L-tryptophan related) – erythematous and edematous rashes, peripheral edema, morphea, urticaria, papular lesions; arthralgia *BJD 127:138–146, 1992; Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990*

## TRAUMA

Childbirth – scalp edema (caput succedaneum) – due to prolonged or precipitous delivery *AD 135:697–703, 1999*

Dental treatment – soft tissue cervicofacial emphysema after dental treatment *AD 141:1437–1440, 2005*

Hematoma

Lymph node excision

Neonatal cold injury – facial erythema or cyanosis; firm pitting edema of extremities spreads centrally resulting in total body edema; skin is cold; mortality of 25% *Rook p.482, 1998, Sixth Edition; Br Med J 1:303–309, 1960*

Penile venereal edema *AD 108:263, 1973;* edema from accidentally wrapped hair around the penis *Cutis 31:431–432, 1983*

Peritoneal laceration – scrotal edema in an infant *Adv Perit Dial 9:329–330, 1993*

Physical trauma – secondary lymphedema

Plantaris muscle tear – swelling and pain of calf *Rook p.2240, 1998, Sixth Edition; Medicine 56:151–164, 1977*

Radiation – secondary lymphedema

Subgaleal hematoma – scalp edema *AD 121:548–549, 1985*

Surgical scar

Trench foot, immersion foot

Vibration syndrome – edema of hand *AD 121:1544–1547, 1985*

Vulvar edema *Rook p.3206, 1998, Sixth Edition*

X-ray overexposure

### VASCULAR DISEASES

Aagenaes syndrome (hereditary cholestasis with lymphedema) – autosomal recessive; lymphedema of legs due to congenital lymphatic hypoplasia; pruritus, growth retardation *Textbook of Neonatal Dermatology, p.334, 2001*

Acute hemorrhagic edema of infancy – facial, earlobe, scrotal, hand edema *Rook p.3199, 1998, Sixth Edition*

Arteriovenous fistulae – venous hypertension *Rook p.2731, 1998, Sixth Edition*

Capillary leak syndrome – recurrent idiopathic form or associated with lymphomas, panniculitis, erythrodermic psoriasis, retinoids, *BJD 150:150–152, 2004; Ann Intern Med 130:905–909, 1999*

Congenital vein-valve aplasia – onset at puberty

Congestive heart failure (right sided) *Rook p.2247, 1998, Sixth Edition*

Constrictive pericarditis

Elephantiasis verrucosa nostra – lymphedema *Ghatan p.144, 2002, Second Edition*

Endovascular papillary angioendothelioma (Dabska tumor) – diffuse swelling in infant or child *Cancer 24:503–509, 1969*

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema, and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Henoch–Schönlein purpura – edema of face preceding onset of HSP *Ped Derm 9:311, 1992;* facial edema *JAAD 37:673–705, 1997*

Hypoplastic lymphatics – scrotal edema *Rook p.3199, 1998, Sixth Edition*

Klippel–Trenaunay–Weber syndrome – lymphedema; venous malformation, arteriovenous fistula, or mixed venous lymphatic malformation *Rook p.2283, 1998, Sixth Edition; Br J Surg 72:232–236, 1985; Arch Gen Med 3:641–672, 1900*

Left iliac vein compression – congenital anomaly due to compression by right common iliac artery *Rook p.2247, 1998, Sixth Edition;* compression by obesity, abdominal masses, bad posture – edema of left ankle *Rook p.2247, 1998, Sixth Edition*

Lymphangioma, diffuse *Rook p.2283, 1998, Sixth Edition; BJD 134:1135–1137, 1996; AD 129:194–197, 1993*

Lymphangiomatosis – fluctuant swellings *Am J Surg Pathol 16:764–771, 1992*

Lymphangiomyomatosis – lymphedema of one or both legs *Cancer 31:455–461, 1973*

Lymphedema – congenital (Milroy's disease), praecox, tarda *Cutis 38:105, 1986; Rook p.2247,2281–2283, 1998, Sixth Edition*

Parkes–Weber syndrome (multiple arteriovenous anastamoses) *Rook p.2287, 1998, Sixth Edition*

Polyarteritis nodosa – angioedema *Clin Rheumatol 17:353–356, 1998*

Post-thrombophlebitis *Ghatan p.252, 2002, Second Edition*

Pseudo-Kaposi's sarcoma due to arteriovenous fistula (Stewart–Bluefarb syndrome) – ulcerated purple plaque *Ped Derm 18:325–327, 2001; AD 121:1038–1040, 1985*

Stasis dermatitis

Superior vena cava syndrome *AD 128:953–956, 1992*

Thrombophlebitis migrans (Trousseau's sign) – strong association with internal malignancy *Circulation 22:780, 1960*

Venous obstruction – multiple causes

Venous suffusion, acute

Venous thrombosis – swelling and pain of calf; edema of ankle *BMJ 320:1453–1456, 2000*

## EDEMA, HANDS AND/OR FEET

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Airborne allergic contact dermatitis *JAAD 15:1–10, 1986*

Allergic contact dermatitis *Contact Dermatitis 9:517–518, 1983*

Angioedema

Contact urticaria

Dermatomyositis *Rook p.2558, 1998, Sixth Edition*

Polymyalgia rheumatica – RS3PE remitting seronegative, symmetrical synovitis with pitting edema of hands and feet *Clin Exp Rheumatol 18:2000*

Rheumatoid arthritis – lymphedema of hand and/or arms *Ann Rheum Dis 27:167–169, 1968;* lymphedema of upper extremities *J Rheumatol 22:214–217, 1995*

Scleroderma, early – swelling of hands *Rook p.2527, 1998, Sixth Edition;* CREST syndrome

Serum sickness

Urticaria

### DEGENERATIVE DISEASES

Sudeck's atrophy – hand edema, Dupuytren's contracture, and Raynaud's phenomenon

Syringomyelia – skin of fingers and knuckles becomes cyanotic, thickened, edematous, and keratotic *Rook p.2777, 1998, Sixth Edition*

### DRUGS

Acral dysesthesia syndrome – various anti-neoplastic drugs, including cytosine arabinoside, doxorubicin, and polyethylene glycol-coated liposomal doxorubicin *AD 136:1475–1480, 2000*

Drug hypersensitivity – acetaminophen *Isr J Med Sci 20:145–147, 1984;* trimethoprim-sulfa *Hautarzt 50:280–283, 1999*

Eccrine squamous syringometaplasia secondary to chemotherapy *AD 133:873–878, 1997*

Itraconazole *AD 130:260–261, 1994*

Vancomycin-induced linear IgA disease *JAAD 34:890–891, 1996*

## EXOGENOUS AGENTS

Acrodynia – mercury poisoning *Ped Derm 21:254–259, 2004*

Intravenous infiltration with compartment syndrome *AD 140:798–800, 2004*

## INFECTIONS AND INFESTATIONS

African trypanosomiasis *AD 131:1178–1182, 1995*

AIDS – AIDS-associated Kawasaki-like syndromes *Clin Inf Dis 32:1628–1634, 2001*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Arthropod bite – hypersensitivity to mosquito bites with intense erythema and edema *AD 139:1601–1607*

Cat scratch disease *Ghatan p.252, 2002, Second Edition*

Chromomycosis

Ehrlichiosis

Enterovirus 71 *NEJM 341:929–935, 1999*

Erysipelas – chronic, recurrent

Erysipeloid – *Erysipelothrix insidiosa (rhusiopathiae)* – seal finger, blubber finger *AD 130:1311–1316, 1994; Clin Microbiol Rev 2:354–359, 1989; JAAD 9:116–123, 1983*

Filariasis

Herpes simplex virus *AD 135:1125–1126, 1999*

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthem of face, hands, wrists, and elbows *NEJM 353:156–163, 2005*

Leprosy – type 2 lepra reaction *Int J Lepr Other Mycobact Dis 1986;* lepromatous; type 1 or type 2 reaction in borderline Leprosy – lepromatous; type 1 or type 2 reaction in borderline *JAAD 51:417–426, 2004; Rook p.1227, 1998, Sixth Edition*; erythema nodosum leprosum – edema of hands and feet *BJD 144:175–181, 2001*

Loiasis – Calabar swellings; temporary of arm and hand, and elsewhere; angioedema *Rook p.1387–1388, 1998, Sixth Edition*

Parvovirus B19 *Diagn Microbiol Infect Dis 36:209–210, 2000;* papular and purpuric gloves and socks syndrome; painful and pruritic symmetric swelling of hands and feet *JAAD 48:941–944, 2003*

*Pasteurella multocida* – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *Medicine 63:133–144, 1984*

*Salmonella* osteomyelitis and the hand-foot syndrome *J Pediatr Orthop 12:534–538, 1992*

Seal finger – painful, swollen red finger; synovitis *J Rheumatol 13:647–648, 1986*

Spider bites *Rev Ins Med Trop Sao Paolo 2000*

Toxic shock syndrome, either streptococcal or staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days *Clin Inf Dis 32:1470–1479, 2001; JAAD 39:383–398, 1998; Rev Infect Dis 11 (Suppl 1):S1–7, 1989; JAAD 8:343–347, 1983*

Trypanosomiasis – African; edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Scleromyxedema

## METABOLIC DISEASES

Acromegaly – soft tissue edema of hands and feet

Fabry's disease – edema of hands, arms, eyelids *AD 140:1526–1527, 2004*

Glomerulonephritis *Pediatr Med Chir 14:425–431, 1992*

Gout

Hypoalbuminemia of any cause

Hypothyroidism – puffy edema of hands *JAAD 26:885–902, 1992*

Kwashiorkor

Nephrogenic fibrosing dermoptathy

Porphyria – erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976;* congenital erythropoietic porphyria *BJD 148:160–164, 2003*

Pregnancy *Arthritis Rheumatism 39:1761–1762, 1996*

Pretibial myxedema – solid non-pitting edema of shins and feet; elephantiasic form with edema and nodule formation *Rook p.2707, 1998, Sixth Edition*

Sickle cell disease – hand–foot syndrome; edema of hands and feet due to underlying bone infarction *Clin Pediatr 20:311–317, 1981*

Thyroid acropachy – digital clubbing, periosteal reactions, edema of the hands and feet *JAAD 48:641–659, 2003*

## NEOPLASTIC DISEASES

Cancer, advanced *Rook p.2295, 1998, Sixth Edition*

Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Derm 36:735–740, 1997; Dermatology 190:324–326, 1995*

Retroperitoneal leiomyoma *Canadian J Surg 25:79–80, 1982*

## PARANEOPLASTIC DISEASES

Paraneoplastic remitting seronegative symmetrical synovitis – adenocarcinoma *Clin Exp Rheumatol 17:741–744, 1999*

## PRIMARY CUTANEOUS DISEASES

Acquired cutis laxa – acral

Collodion baby (lamellar desquamation of the newborn) – sausage-shaped swelling of digits *Rook p.1494, 1998, Sixth Edition*

Constriction bands *JAAD 15:296–297, 1986*

Harlequin fetus (ichthyosis congenital fetalis) – severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis – edema of hands and feet encased in hard casts *JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Psoriatic arthritis – lymphedema of hand/forearms *BJD 143:1297–1301, 2000;* lymphedema of arms *Semin Arthr Rheum 22:350–356, 1993*

Scleredema

## PSYCHOCUTANEOUS DISEASES

Factitial edema of hand *JAAD 13:988, 1985*

## SYNDROMES

Cardio-facio-cutaneous syndrome (NS) – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse scalp hair and eyebrows and lashes, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990*

Carpal tunnel syndrome *BJD 150:166–167, 2004*

Chromosome 18p syndrome *Ann Genet 31:60–64, 1988*

Costello syndrome *JAAD 32:914–7, 1995*

Eosinophilic fasciitis (Shulman's syndrome) *BJD 100:381–384, 1979*

Fibroblastic rheumatism *Ped Derm 19:532–535, 2002*

Hereditary angioedema

Kawasaki's disease – erythema and edema of hands and feet *Am J Cardiol 83:337–339, 1999; JAAD 39:383–398, 1998*

Neu–Laxova syndrome – variable presentation; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990*

Neurofibromatosis – hemihypertrophy *Rook p.2287, 1998, Sixth Edition*

Nevo syndrome *Am J Med Genet Feb 1998*

Nodules, eosinophilia, rheumatism, dermatitis, and swelling *Clin Exp Allergy 23:571–580, 1993*

Noonan's syndrome – transient lymphedema of hands and feet

Olmsted syndrome *Int J Derm 36:359–360, 1997*

Papular–purpuric 'gloves and socks' syndrome – erythema and edema of hands and feet as initial signs *BJD 151:201–206, 2004; JAAD 41:793–796, 1999; JAAD 37:673–705, 1997*

POEMS syndrome

Reflex sympathetic dystrophy *Cutis 68:179–182, 2001; JAAD 35:843–845, 1996; Arch Neurol 44:555–561, 1987*

RS3PE remitting seronegative symmetrical synovitis with pitting edema *Clin Exp Rheumatol Jul-Aug:18, 2000*

Secretan's syndrome (l'oedeme bleu)

Sly syndrome

Turner's syndrome – congenital lymphedema of hands; resolves in 3 years *JAAD 46:161–183, 2002; Rook p.2283, 1998, Sixth Edition*

Translocation of chromosome 13 *Humangenetik 28:93–96, 1975*

Yellow nail syndrome *BJD 134:307–312, 1996*

## TOXINS

Acrodynia

Eosinophilic myalgia syndrome (L-tryptophan)

## TRAUMA

Burns

Deprivation of hands and feet *Arch Dis Child 60:976–977, 1985*

Drug abuse (IVDA) – lymphedema of the hand due to skin popping ('puffy hand syndrome') *BJD 150:1–10, 2004*

Extravasation of medications – hydantoin (Dilantin)

Mountain sickness, acute *Respir Physiol 46:383–390, 1981*

Surgical scar

Trauma – traumatic palmar and plantar plaques of childhood *Ped Derm 12:72, 1995*

## VASCULAR DISEASES

Acute hemorrhagic edema of infancy (Finkelstein's disease) *Cutis 68:127–129, 2001; J Dermatol 28:279–281, 2001; Cutis 61:283–284, 1998; AD 130:1055–1060, 1994*

Arteriovenous fistulae – venous hypertension *Rook p.2731, 1998, Sixth Edition*

Capillary leak syndrome *BJD 150:150–152, 2004*

Eosinophilic vasculitis syndrome *Sem Derm 14:106–110, 1995*

Henoch–Schönlein purpura *Ped Derm 15:426–428, 1998*

Intestinal lymphangiectasia

Klippel–Trenaunay syndrome *Rook p.2283, 1998, Sixth Edition*

Lymphangioma, diffuse *Rook p.2283, 1998, Sixth Edition*

Lymphangiosarcoma

Lymphangitis, infectious (post-cellulitis, erysipelas) *Rook p.2283, 1998, Sixth Edition*

Lymphedema – congenital (Milroy's disease), praecox, tarda *Cutis 38:105, 1986; Rook p.2247,2281–2283, 1998, Sixth Edition*; lymphedema secondary to intestinal lymphangiectasia

Vasculitis, urticarial – painful purpuric plaques on edematous hands *AD 141:1457–1462, 2005*

Recurrent cutaneous eosinophilic vasculitis – palmar edema *BJD 149:901–902, 2003*

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenita, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

### UNILATERAL FOOT EDEMA

Freiberg's infarction

Plantar fasciitis *Am J Roentgenol 173:699–701, 1999*

Plantar neuroma

Synovial sarcoma *Clin Orthop 364:220–226, 1999*

Tenosynovitis

Venous thrombosis – swelling and pain of calf; edema of ankle *BMJ 320:1453–1456, 2000*

## EDEMA, HEAD

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Angioedema, including scalp swelling *J Pediatr 129:163–165, 1996*; hereditary angioneurotic edema

Dermatomyositis – malignant edema

### CONGENITAL LESIONS

Caput succedaneum – diffuse edematous swelling of scalp due to extravasated blood or serum *Eichenfeld, 2001, p.105*

Cephalohematoma – rupture of diploic veins during prolonged delivery with subperiosteal hemorrhage; unilateral *Eichenfeld, 2001, p.107*

ECMO (extracorporeal membrane oxygenation) – erythema, edema, crusted ulcerations, scarring alopecia *Eichenfeld, 2001, p.106*

### DRUGS

ACE inhibitors

Hydantoin (Dilantin)

Ibesartan *J Drugs Dermatol 3:329–303, 2002*

Imatinib (signal transduction inhibitor) – edema of face, forearms, ankles *JAAD 48:201–206, 2003*

Oral contraceptives *JAMA 201:982, 1967*

### INFECTIONS AND INFESTATIONS

Anthrax

Bee stings, multiple *Plast Reconstr Surg 110:1192–1193, 2002*

Cat scratch disease *Ghatan p.252, 2002, Second Edition*

Gnathostomiasis *Ned Tijdschr Geneeskd 17:322–3225, 2001*

Hantavirus *Epidemiol Infect 111:171–175, 1993*

Katayama disease (*Schistosoma japonicum*)

Leprosy – reversal reaction with unilateral facial swelling *ORL J Otorhinolaryngol Relt Spec 64:281–283, 2002*

Mucormycosis

*Mycobacterium tuberculosis* – lupus vulgaris

Necrotizing fasciitis *Ann Chir Plast Esthet 50:233–236, 2005*

Pott's puffy tumor – periosteal osteomyelitis *AD 121:548–549, 1985*

Rattlesnake envenomation of the face *Ped Emerg Care 21:173–176, 2005*

Spider bite (cutaneous loxoscelism) *Bol Chil Parasitol 53:78–83, 1998*

Tick bite – edema of scalp

Zymomycosis – rhinocerebral zygomycosis caused be Condiobolus coronatus *Mycopathologia 115:1–8, 1991*

### INFLAMMATORY DISORDERS

Kimura's disease *Kulak Burun Bogaz Ihtis Derg 12:139–143, 2004*

Lymphocytoma cutis

Sialadenitis – acute sialadenitis of parotid and submandibular glands with unilateral facial swelling *Ned Tijdschr Geneeskd 149:877, 2005*

### METABOLIC DISEASES

Congenital erythropoietic porphyria *JAAD 34:924–927, 1996*

Hypoalbuminemia of any cause

Hypothyroidism (myxedema)

Kwashiorkor – plump appearance of face

Nephrotic syndrome

Sickle cell disease *Dial Dis 7:306–309, 2001*

### NEOPLASTIC DISEASES

Kaposi's sarcoma – lymphadenopathic and lymphedematous Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition*

Lymphoma

Merkel cell carcinoma *AD 124:21, 1988*

Subcutaneous panniculitic T-cell lymphoma

### PARANEOPLASTIC DISORDERS

Capillary leak syndrome *Presse Med 29:1279–1281, 2000*

### PRIMARY CUTANEOUS DISEASES

Lipedematous alopecia – scalp edema *J Cutan Pathol 27:49–53, 2000*

Scleredema – edema of scalp, upper face, orbits *J Pediatr 101:960–963, 1982*

Solid facial edema *Eur J Dermatol13:503–504, 2003*

### SYNDROMES

Behçet's syndrome *JAAD 26:863–864, 1992*

Mutations in PHF6 associated with Borjeson–Forssman–Lehman syndrome *Nat Genet 52:661–665, 2002*

Neu–Laxova syndrome – ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema, absent nails; autosomal recessive *Am J Med Genet 35:55–59, 1990*

Sphenopalatine syndrome

Turner's syndrome – congenital lymphedema; lymphedema of scalp; resolves in 3 years *Rook p.2283, 1998, Sixth Edition*

### TRAUMA

Hematoma – subgaleal hematoma – scalp edema *J Trauma 28:1681–1683, 1988*

Subcutaneous emphysema – facial edema *NEJM 342:176, 2000; AD 134:557–559, 1998*

Trauma, including fatal massive edema of the head and neck due to scalp laceration *J Oral Surg 35:215–218, 1977*

### VASCULAR DISEASES

Angiosarcoma of the face and scalp *Cancer 59:1046–1057, 1987*

Congenital lymphedema

Eosinophilic vasculitis syndrome *Semin Dermatol 14:106–110, 1995*

Giant cell arteritis *Rev Rheum Engl Ed 63:145–147, 1996*

Hemangioma – diffuse hemangioma *AD 139:869–875, 2003*

Henoch–Schönlein purpura – scalp and facial edema *Ped Derm 9:311, 1992*

Idiopathic bilateral external jugular vein thrombosis *Angiology 52:69–71, 2001*

Lymphatic malformation

Superior vena cava syndrome *Clin Exp Derm 25:198–200, 2000*

Vascular malformation

## EDEMA, LEGS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – complicating venous stasis *Rook p.2261, 1998, Sixth Edition*

Angioedema *Am J Med 113:580–586, 2002*

Lupus erythematosus, systemic – pitting edema of legs *Rheumatol Int 18:159–160, 1999; Br J Rheumatol 37:104–105, 1998*

Morphea – linear morphea *Clin Exp Dermatol 24:467–468, 1999; JAAD 38:366–368, 1998; BJD 134:594–595, 1996;* generalized morphea – non-pitting edema of trunk and extremities *Rook p.2511, 1998, Sixth Edition*

Polymyalgia rheumatica – distal extremity swelling, pitting edema *Arthritis Rheum 39:73–80, 1996*

Serum sickness *Am J Med 113:580–586, 2002*

Urticaria *Am J Med 113:580–586, 2002*

### DEGENERATIVE DISEASES

Paralysis of any cause

### DRUG REACTIONS

Acyclovir therapy – peripheral edema *JAAD 18:1142–1143, 1988*

Antidepressants *Am J Med 113:580–586, 2002*

Anti-hypertensives *Am J Med 113:580–586, 2002; Rook p.2247, 1998, Sixth Edition*

Beta blockers *Am J Med 113:580–586, 2002; Rook p.2247, 1998, Sixth Edition*

Calcium channel blockers *Am J Med 113:580–586, 2002*

Clofazimine – pedal edema *Int J Lepr Other Mycobact Dis 61:636, 1993*

Clonidine *Am J Med 113:580–586, 2002*

Corticosteroids *Am J Med 113:580–586, 2002*

Diazoxide *Am J Med 113:580–586, 2002*

GCSF – recombinant human GCSF; livedo reticularis, edema, with thrombotic and necrotizing panniculitis *BJD 142:834–836, 2000*

Gemcitabine – edema of legs with subsequent sclerodermoid changes *JAAD 51:S73–76, 2004*

Gene transfer of naked DNA encoding vascular endothelial growth factor *Ann Intern Med 132:880–884, 2000*

Guanethidine *Am J Med 113:580–586, 2002*

Hormones (estrogens, progesterones) *Am J Med 113:580–586, 2002*

Hydralazine *Am J Med 113:580–586, 2002*

Insulin edema – generalized, 1–3 days after ketoacidosis *South Med J 2:445, 1979*

Interleukin-2 *Am J Med 113:580–586, 2002*

Methyldopa *Am J Med 113:580–586, 2002*

Methysergide – retroperitoneal fibrosis *Ghatan p.252, 2002, Second Edition*

Minoxidil *Am J Med 113:580–586, 2002*

Monoamine oxidase inhibitor anti-depressants *Am J Med 113:580–586, 2002; Rook p.2247, 1998, Sixth Edition*

Nifedipine (calcium channel blockers) *Rook p.2247, 1998, Sixth Edition*

Non-selective cyclo-oxygenase inhibitors *Am J Med 113:580–586, 2002*

Non-steroidal anti-inflammatory agents *Am J Med 113:580–586, 2002*

Phenylbutazone *Am J Med 113:580–586, 2002*

Pioglitazone *Am J Med 113:580–586, 2002*

Pramipexole – peripheral edema *Arch Neurol 57:729–732, 2000*

Reserpine *Am J Med 113:580–586, 2002*

Rosiglitazone *Am J Med 113:580–586, 2002*

Selective cyclo-oxygenase-2 inhibitors *Am J Med 113:580–586, 2002*

Testosterone *Am J Med 113:580–586, 2002*

Troglitazone *Am J Med 113:580–586, 2002*

### EXOGENOUS AGENTS

Drug abuse – edema secondary to skin popping, infection, scarring

L-tryptophan-induced eosinophilic fasciitis

Methysergide-induced retroperitoneal fibrosis

Podoconiosis – lymphedema due to silica dust in soil acquired by walking barefoot *Rook p.2282, 1998, Sixth Edition*

Post-Greenfield or other inferior vena cava filter

### INFECTIONS AND INFESTATIONS

Cat scratch fever

Chromomycosis

Dermatophyte infection

Ebola virus *Tyring p.424, 2002*

Erysipelas – chronic, recurrent

Filariasis – *Wuchereria bancrofti*, *Brugia malayi*, *Brugia timori*; mosquito vector – first sign is edema, pain, and erythema of arms, legs, or scrotum; chronically lower leg edema and elephantiasis develop *Dermatol Clin 7:313–321, 1989*

Kala-azar (visceral leishmaniasis) – *Leishmania donovani* – pedal edema; primary ulcer; hyperpigmented skin of face, hands, feet abdomen *Rook p.1419, 1998, Sixth Edition*

Leprosy – lepromatous leprosy – edema of legs and ankles *Rook p.1224, 1998, Sixth Edition*

Lymphogranuloma venereum – genital lymphedema leading to vulvar elephantiasis or 'saxaphone penis'; inguinal adenitis with abscess formation and draining chronic sinus tracts; rectal syndrome in women with pelvic adenopathy, periproctitis with rectal stricture and fistulae; esthiomene – scarring and fistulae

of the buttocks and thighs with elephantiasic lymphedema of the vulva; lymphatics may develop abscesses which drain and form ulcers *Int J Dermatol 15:26–33, 1976*

Meningococcemia – cellulitis with edema, erythema, and pain *Clin Inf Dis 21:1023–1025, 1995*

Mycobacterium tuberculosis – lupus vulgaris; tuberculous node infection *Br J Surg 51:101–110, 1964*

Onchocerciasis – edema of leg, face, arm, and scrotum *JAAD 45:435–437, 2001; Int J Derm 22:182, 1983*

Pyomyositis – non-erythematous calf edema; *Staphylococcus aureus*, streptococcal species; *Cryptococcus neoformans Clin Inf Dis 32:1104–1107, 2001*

Rattlesnake bite *Pediatr Emerg Care 10:30–33, 1994*

Toxocariasis – lymphedema as presenting sign *Infection 23:389–390, 1995*

Trichinosis *Presse Med 24:1317, 1995*

## INFILTRATIVE DISEASES

Pretibial myxedema – occurs in 1–10% of patients with Grave's disease; often associated with exophthalmos *Lancet 341:403–404, 1993; JAAD 14:1–18,1986; AD 117:250–251, 1981;* elephantiasic pretibial myxedema *JAAD 46:723–726, 2002*

Sarcoidosis – *JAAD 30:498, 1993; J R Soc Med 78:260–261, 1985;* unilateral leg edema *JAAD 44:725–743, 2001*

## INFLAMMATORY DISEASES

Bursitis – iliopectineal – iliofemoral vein compression *J Vasc Surg 13:725–727, 1991;* iliopsoas *J Rheumatol 13:197–200, 1986*

Erythema induratum (Whitfield) – nodules with edematous ankles *Rook p.2207, 1998, Sixth Edition*

Muscle infarction *Am J Kidney Dis 35:1212–1216, 2000*

Pancreatic pseudocyst – compression of inferior vena cava *Mayo Clin Proc 67:1085–1088, 1992*

Panniculitis *Rook p.2284, 1998, Sixth Edition*

RS3PE – remitting seronegative symmetrical synovitis with pitting edema *JAMA 254:2763, 1985*

Sarcoidosis – bilateral leg edema as presenting sign *Am J Med Sci 318:413–414, 1999;* unilateral leg edema *JAAD 30:498–500, 1994; AD 109:543–544, 1974*

## METABOLIC DISEASES

Acromegaly

Beriberi (vitamin $B_1$, thiamine deficiency) – anorexia, weakness, constipation, polyneuritis, cardiac failure with edema, muscle wasting *Am J Med 113:580–586, 2002; JAAD 21:15–18, 1989*

Carcinoid syndrome – dependent edema due to low serum proteins *BJD 152:71–75, 2005*

Cirrhosis, liver failure *Am J Med 113:580–586, 2002*

Congestive heart failure – ankle edema *Ghatan p.49, 2002, Second Edition*

Cryofibrinogenemia – edema and bullae of feet *Am J Med 116:332–337, 2004*

Fluid retention – ankle edema *Ghatan p.49, 2002, Second Edition*

Hypoalbuminemia of any cause

Kwashiorkor *JAAD 52:S69–72, 2005; Cutis 67:321–327, 2001*

Liver cyst – inferior vena cava compression *Acta Med Scand 205:541–542, 1979*

Malabsorption *Am J Med 113:580–586, 2002*

Myxedema *Am J Med 113:580–586, 2002*

Obesity, massive *Rook p.2247, 1998, Sixth Edition; NEJM 327:1927, 1993*

Pre-eclampsia *Am J Med 113:580–586, 2002*

Pregnancy *Am J Med 113:580–586, 2002; Rook p.2247,3270, 1998, Sixth Edition*

Premenstrual edema *Am J Med 113:580–586, 2002; Rook p.2247, 1998, Sixth Edition*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; JAAD 29:819–821, 1993; AD 127:124–125, 1991; AD 123:493–497, 1987*

Rhabdomyolysis – acute swollen legs *BMJ 309:1361–1362, 1994*

Renal failure *Am J Med 113:580–586, 2002;* nephrotic syndrome *Rook p.2247, 1998, Sixth Edition*

Scurvy – woody edema of legs *BJD 80:625–628, 1968*

Spherocytosis – pseudoerysipelas due to recurrent hemolysis *JAAD 51:1019–1023, 2004*

## NEOPLASTIC DISEASES

Abdominal masses *Rook p.2247, 1998, Sixth Edition*

Baker's cyst, ruptured – swelling and pain of calf *Rook p.2240, 1998, Sixth Edition*

Eccrine porocarcinoma (malignant eccrine poroma) *BJD 150:607–609, 2004; Rook p.2284, 1998, Sixth Edition*

Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Derm 36:735–740, 1997; Dermatology 190:324–326, 1995;* hyperkeratotic Kaposi's sarcoma in AIDS with massive lymphedema *BJD 142:501–505, 2000*

Lipomas – pelvic lipomatosis *Jpn J Med 30:559–563, 1991*

Liposarcoma, retroperitoneal *Vasa 19:334–335, 1990*

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Cancer 1:64–81, 1948*

Lymphoma – angiotropic lymphoma *South Med J 86:1432–1435, 1993;* angioimmunoblastic lymphadenopathy (T-cell lymphoma) – edema of arms and legs *BJD 144:878–884, 2001;* large cell B-cell lymphoma of the leg *JAAD 49:223–228, 2003*

Malignant glomus tumor *Br Med J 1:484–485, 1972*

Osteochondroma – unilateral edema *J Bone Joint Surg Br 69:339–340, 1987*

Waldenström's macroglobulinemia – peripheral edema due to hyperviscosity *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Paraneoplastic remitting seronegative symmetrical synovitis – pitting edema *Clin Exp Rheumatol 17:741–744, 1999*

## PRIMARY CUTANEOUS DISEASES

Lipedema – edema of legs, thighs, and hips; sparing of feet *JAAD 50:969–972, 2004; Lymphology 34:170–175, 2001; J Cutan Pathol 27:49–53, 2000; Plast Reconstr Surg 94:841–847, 1994; Mayo Clin Proc 15:184–187, 1940*

Lipodystrophy – ankle edema *Ghatan p.49, 2002, Second Edition*

Psoriasis – exfoliative erythroderma

Scleredema of Buschke (pseudoscleroderma) – of the thighs *BJD 134:1113–1115, 1996*

## PSYCHOCUTANEOUS DISORDERS

Factitial limb edema *Ann Hematol 70:57–58, 1995;* due to factitial application of tourniquet (elastic band, clothing) (Secretan's syndrome) *Plast Reconstr Surg 65:182–187, 1980*

## SYNDROMES

Bannayan–Zonana–Ruvalcaba syndrome

Distichiasis–lymphedema syndrome – lymphedema of feet and ankles *BJD 142:148–152, 2000*

Hurler's syndrome

Idiopathic retroperitoneal fibrosis *Am J Surg 103:514–517, 1962*

Kawasaki's disease

May–Thurner syndrome *Cardiovasc Intervent Radiol 10:89–91, 1987*

Microcephaly–lymphedema syndrome – with short stature *Am J Med Genet 280:506–509, 1998*

Microcephaly-lymphedema-chorioretinal dysplasia syndrome – edema of upper and lower extremities; autosomal dominant or recessive *Ped Derm 22:373–374, 2005*

Neu–Laxova syndrome – widespread ichthyosiform scaling and generalized edema

Neurofibromatosis – hemihypertrophy *Rook p.2287, 1998, Sixth Edition*

Noonan's syndrome – lymphedema *Int J Dermatol 23:656–657, 1984*

Olmsted syndrome

Proteus syndrome – hemihypertrophy *Rook p.2287, 1998, Sixth Edition*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – peripheral edema, osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism *JAAD 21:1061–1068, 1989*, *Cutis 61:329–334, 1998*

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996; Arch Neurol 44:555–561, 1987*

Sly syndrome

Turner's syndrome – congenital lymphedema of upper and lower extremities and neck *JAAD 50:767–776, 2004; Rook p.2283, 1998, Sixth Edition*

Yellow nail syndrome *BJD 134:307–312, 1996*

## TRAUMA

Total arthroplasty *J Arthroplasty 14:333–338, 1999*

Bladder distention – bladder compression of the iliac veins *Conn Med 62:313, 1998*

Burns *Am J Med 113:580–586, 2002*

Femoropopliteal artery by-pass *J Cardiovasc Surg 34:389–393, 1993*

High altitude edema *JAMA 239:2239, 1978*

Lymph node excision *Rook p.2282, 1998, Sixth Edition*

Neonatal cold injury – facial erythema or cyanosis; firm pitting edema of extremities spreads centrally resulting in total body edema; skin is cold; mortality of 25% *Rook p.482, 1998, Sixth Edition; Br Med J 1:303–309, 1960*

Plantaris muscle tear – swelling and pain of calf *Rook p.2240, 1998, Sixth Edition; Medicine 56:151–164, 1977*

Post-physical trauma (degloving injury) *Rook p.2284, 1998, Sixth Edition*

Post-surgical *Am J Med 113:580–586, 2002*

Radiotherapy – lymphedema *Br J Surg 73:580–584, 1986*

Saphenectomy *JPN J Thorac Cardiovasc Surg 47:559–562, 1999*

Surgical scars *Rook p.2284, 1998, Sixth Edition*

Trench foot (immersion foot) – edematous legs *Rook p.959, 1998, Sixth Edition*

X-ray overexposure

## VASCULAR DISEASES

Aagenaes syndrome (hereditary cholestasis with lymphedema) – autosomal recessive; lymphedema of legs due to congenital lymphatic hypoplasia; pruritus, growth retardation *Textbook of Neonatal Dermatology, p.334, 2001*

Agenesis of venous valve – ankle edema *Ghatan p.49, 2002, Second Edition*

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive; stasis edema of legs *JAAD 17:883–887, 1987; NEJM 276:1163–1167, 1967*

Ankle edema of the elderly – lymphedema *Rook p.2284, 1998, Sixth Edition*

Aortic aneurysm *Clin Exp Rheumatol 9:309–310, 1991*

Aortitis, infectious *Nippon Naika Gakkai Zasshi 88:895–896, 1999*

Arteriosclerosis with limb ischemia *Eur J Vasc Surg 17:419–423, 1999*

Arteriovenous fistula

Arteriovenous malformation

Capillary leak syndrome *BJD 150:150–152, 2004*

Churg–Strauss disease – bilateral pitting edema with necrotic vasculitis and palpable purpura *AD 139:715–718, 2003*

Compartment syndrome *Am J Med 113:580–586, 2002*

Congestive heart failure (right sided) *Am J Med 113:580–586, 2002; Rook p.2247, 1998, Sixth Edition*

Constrictive pericarditis *Am J Med 113:580–586, 2002*

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema, and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Erythromelalgia – edema and bullae of legs *BJD 151:708–710, 2004; BJD 143:868–872, 2000*

Giant cell arteritis – unilateral pitting edema *Clin Rheumatol 18:82–84, 1999*

Immobility – dependency – jet flight leg *Lancet 347:832–833, 1996;* travel, tight clothing, arthritis, polio, wheelchair-bound *Rook p.2247, 1998, Sixth Edition*

Inferior vena cava obstruction or stenosis *Am J Med 113:580–586, 2002; Eur J Med Research 1:334–338, 1996*

Klippel–Trenaunay syndrome *Rook p.2283,2287, 1998, Sixth Edition*

Left iliac vein compression – congenital anomaly due to compression by right common iliac artery *Rook p.2247, 1998, Sixth Edition;* compression by obesity, abdominal masses, bad posture – edema of left ankle *Rook p.2247, 1998, Sixth Edition*

Lipodermatosclerosis *JAAD 28:585–590, 1993*

Lymphangioma, diffuse *Rook p.2283, 1998, Sixth Edition; BJD 134:1135–1137, 1996; AD 129:194–197, 1993*

Lymphangioma circumscriptum with underlying lymphatic malformation – lymphedema of limb *Rook p.2292, 1998, Sixth Edition; BJD 83:519–527, 1970*

Lymphangiomyomatosis – lymphedema of one or both legs *Cancer 31:455–461, 1973*

Lymphatic malformation

Lymphedema – familial and congenital (Milroy's disease), Meige's syndrome (familial with onset in late childhood or puberty), lymphedema praecox, lymphedema tarda *Cutis 38:105, 1986; Rook p.2247,2281–2283, 1998, Sixth Edition;* primary lymphedema with distal obliteration – bilateral; proximal obliteration – unilateral; congenital – one or more extremities, face, genitalia, lymphangiomas, protein-losing enteropathy, chylous disease, vascular malformations

Lymphedema with lymphangiectasias

Lymphocoele secondary to renal transplant – edema of leg, scrotum, and suprapubic region *Ann Intern Med 100:254, 1984*

Lymphostasis verrucosa cutis

Megalymphatics – lymphedema of legs *Rook p.2282, 1998, Sixth Edition*

Parkes–Weber syndrome (multiple arteriovenous anastamoses) *Rook p.2287, 1998, Sixth Edition*

Phlegmasia cerulea dolens *Cardiovasc Surg 1:518–523, 1993*

Post-phlebitic syndrome – pain, edema, night cramps, hemosiderin deposition, dermatitis *Phlebology 11:2–5, 1996*

Primary intestinal lymphangiectasia – autosomal dominant, lower limb edema, loss of immunoglobulin and lymphocytes into gastrointestinal tract *Am J Med Genet 66:378–398, 1996*

Restrictive cardiomyopathy *Am J Med 113:580–586, 2002*

Stewart–Bluefarb syndrome *Hautarzt 51:336–339, 2000*

Thrombophlebitis migrans (Trousseau's sign) – strong association with internal malignancy *Circulation 22:780, 1960*

Tricuspid valvular disease *Am J Med 113:580–586, 2002*

Vasculitis – chronic unilateral painful leg swelling *J Rheumatol 15:1022–1025, 1988*

Venous obstruction *Ghatan p.49, 2002, Second Edition*

Venous stasis – acute or chronic *Phlebology 5:181–187, 1990;* with or without stasis dermatitis

Venous congestion, acute

Venous thrombosis – swelling and pain of calf; edema of ankle *Am J Med 113:580–586, 2002; BMJ 320:1453–1456, 2000*

# EROSIONS (SUPERFICIAL ULCERS)

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bullous pemphigoid

Dermatitis herpetiformis

Epidermolysis bullosa acquisita

Fogo selvagem *Tyring p.389, 2002*

Graft vs. host reaction, acute, of the newborn *JAAD 38:712–715, 1998*

Hyper-IgE syndrome – retroauricular fissures *AD 140:1119–1125, 2004*

IgA pemphigus – submammary intertrigo resembling subcorneal pustular dermatosis *AD 138:744–746, 2002;* erosions of face and scalp *JAAD 43:546–549, 2000*

Lichen planus pemphigoides *JAAD 36:638–640, 1997*

Linear IgA disease

Lupus erythematosus – neonatal lupus erythematosus *Ped Derm 15:38–42, 1998*

Pemphigus erythematosus

Pemphigus foliaceus *JAAD:S187–189, 2003*

Pemphigus vulgaris – facial erosions *JAAD 47:875–880, 2002;* neonatal *JAAD 48:623–625, 2003; Ped Derm 3:468–472, 1986*

Rheumatoid arthritis – erosive pustular dermatitis of the scalp *Int J Dermatol 34:148, 1995*

## CONGENITAL DISEASES

Adhesives *Textbook of Neonatal Dermatology, p.139, 2001*

Aplasia cutis congenita *Textbook of Neonatal Dermatology, p.139, 2001; AD 134:1121–1124, 1998;* unilateral aplasia cutis congenital *Ped Derm 21:454–457, 2004*

Congenital erosive and vesicular dermatitis with reticulate supple scarring *JAAD 45:946–948, 2001; AD 134:1121–1124, 1998 JAAD 17:369–376, 1987; AD 121:361–367, 1985*

Congenital ichthyosiform erythroderma

Congenital localized absence of skin, epidermolysis bullosa simplex, and pyloric atresia *Ped Derm 14:359–362, 1997*

Heterotopic brain or glial tissue – scalp erosion

Intrauterine epidermal necrosis *Textbook of Neonatal Dermatology, p.149, 2001; JAAD 38:712–715, 1998*

Linear porokeratosis – presenting as erosions *Ped Derm 12:318–322, 1995*

Lumpy scalp syndrome

Meningocoele – scalp erosion

Scalp electrode injury *Textbook of Neonatal Dermatology, p.139, 2001*

Sucking blisters – linear erosions *Textbook of Neonatal Dermatology, p.139,148, 2001*

## DEGENERATIVE DISORDERS

Age-related thinning of skin – skin fragility

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996*

## DRUGS

Acral erosions – docetaxel

Ibuprofen-induced vasculitis

Interleukin-2 reactions *JAMA 258:1624–1629, 1987*

Irritant dermatitis from topical medicaments

Methotrexate necrosis

Penicillamine-induced pemphigus foliaceus *AD 133:499–504, 1997*

Pseudo-porphyria cutanea tarda *JAAD 33:551–573, 1995*
- Amiodarone *Photodermatology 5:146–147, 1988*
- Benoxaprofen
- Bumetanide
- Dapsone
- Erythropoietin
- Etretinate
- Furosemide
- Nabumetone *BJD 142:1067–1069, 2000; BJD 138:549–5500, 1998*
- Nalidixic acid
- Naproxen
- Pyridoxine
- Sulfonylureas
- Tetracycline
- Tiaprofenic acid

Radiation recall – erythema, vesiculation, erosions, hyperpigmentation; dactinomycin and doxorubicin *Mayo Clin Proc 55:711–715, 1980;* edatrexate, melphalan, etoposide, vinblastine, bleomycin, fluorouracil, hydroxyurea, methotrexate *Rook p.3469, 1998, Sixth Edition*

Retinoid skin fragility

Vasculitis – drug-induced

## EXOGENOUS AGENTS

Cement burns – calcium oxide in soccer players; crusts and erosions *Cutis 61:182, 1998*

Diaper erosions *Textbook of Neonatal Dermatology, p.139, 2001*

Fiberglass dermatitis – linear erosions *Ghatan p.187, 2002, Second Edition*

## INFECTIONS AND INFESTATIONS

Amebic abscesses

Aspergillosis, neonatal *Textbook of Neonatal Dermatology, p.139,147, 2001*

Candidiasis, erosive

Chancroid

Cytomegalovirus

Dermatophytosis

Eczema vaccinatum *Tyring p.46, 2002*

Gonococcal infection – primary cutaneous gonococcal infection

Gram-negative web space infections *Caputo p.140, 2000*

Granuloma inguinale – early

Herpes simplex, intrauterine, congenital *Tyring p.89, 2002; Textbook of Neonatal Dermatology, p.139,147, 2001;* herpes simplex folliculitis; eczema herpeticum

Histoplasmosis – disseminated histoplasmosis *BJD 144:205–207, 2001*

Impetigo, bullous

Insect bite

Intertrigo

Herpes simplex

Multiple rat bites – comma-shaped crusting on hands and face *Cutis 53:302–304, 1994*

*Mycobacterium tuberculosis* – military tuberculosis

Noma neonatorum *Textbook of Neonatal Dermatology, p.139, 2001*

Protothecosis *BJD 146:688–693, 2002*

*Pseudomonas*, neonatal *Textbook of Neonatal Dermatology, p.139, 2001*

Staphylococcal scalded skin syndrome *Textbook of Neonatal Dermatology, p.139,147, 2001; Zentralseit Kinderheilkd 2:3–23, 1878*

*Streptococcus* group B infection *Textbook of Neonatal Dermatology, p.139,147, 2001*

Syphilis – congenital *Textbook of Neonatal Dermatology, p.139,147, 2001;* primary (chancre); secondary

Toxic shock syndrome

Trichosporosis, neonatal *Textbook of Neonatal Dermatology, p.139, 2001*

Vaccinia – local dissemination *Tyring p.46, 2002*

Varicella, intrauterine *Textbook of Neonatal Dermatology, p.139, 2001*

Zygomycosis, neonatal *Textbook of Neonatal Dermatology, p.139, 2001*

## INFILTRATIVE DISORDERS

Bullous mastocytosis *Ped Derm 19:220–223, 2002*

Congenital self-healing reticulohistiocytosis – generalized scaling atrophic and erosive patches *BJD 149:191–192, 2003*

Langerhans cell histiocytosis

## INFLAMMATORY DISEASE

Edematous scarring vasculitic panniculitis *JAAD 2:37–44, 1995*

Erythema multiforme with epidermal necrosis; Stevens–Johnson syndrome

Pyoderma gangrenosum

Toxic epidermal necrolysis *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Textbook of Neonatal Dermatology, p.139,150, 2001; Caputo p.133, 2000*

Biotin-responsive multiple carboxylase deficiency

Carcinoid syndrome – pellagrous dermatitis (erosions from skin fragility, erythema, and hyperpigmentation over knuckles), flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *BJD 152:71–75, 2005; AD 77:86–90, 1958*

Essential fatty acid deficiency

Kwashiorkor – crusting and superficial erosions in the diaper area *AD 137:630–636, 2001;* perinasal erosions *Cutis 67:321–327, 2001*

Liver disease, chronic (cirrhosis) – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Methylmalonic acidemia, cobalamin C type; erosive erythema; newborn and early infancy *Textbook of Neonatal Dermatology, p.139,150, 2001; AD 133:1563–1566, 1997*

Porphyria – hepatoerythropoietic porphyria *AD 138:957–960, 2002;* porphyria cutanea tarda, variegate; homozygous variegate porphyria – erosions, photosensitivity, short stature *BJD 144:866–869, 2001;* congenital erythropoietic porphyria *BJD 148:160–164, 2003;* erythropoietic porphyria, erythropoietic protoporphyria, hereditary coproporphyria; transient neonatal porphyrinemia *Textbook of Neonatal Dermatology, p.139, 2001*

Protein C, S or fibrinogen deficiency *Textbook of Neonatal Dermatology, p.139, 2001*

Tyrosinemia type II (Richner–Hanhart syndrome) – erosions of palms on thenar and hypothenar eminences, soles, tips of fingers *JAAD 35:857–859, 1997*

Zinc deficiency – inherited or acquired

## NEOPLASTIC

Proliferative actinic keratosis – red patch with erosions *Derm Surg 26:65–69, 2000*

Basal cell carcinoma – single or multiple *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Dermoid cyst

Lymphoma, including cutaneous T-cell lymphoma

Lymphomatoid papulosis

Melanocytic nevi – erosions overlying giant congenital melanocytic nevi *Bolognia p.512, 2004; Textbook of Neonatal Dermatology, p.139, 2001*

Merkel cell carcinoma – erosion of nose *JAAD 42:366–370, 2000*

Porokeratosis – congenital linear porokeratosis *Ped Derm 12:318–322, 1995*

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus *AD 141:1285–1293, 2005;* erosions and necrotic crusts of face *BJD 145:127–131, 2001;* erosive paronychia *BJD 147:725–732, 2002*

## PHOTODERMATOSES

Actinic prurigo

Dermatoheliosis with minor trauma

Hydroa vacciniforme

Pseudo-porphyria cutanea tarda from tanning beds

## PRIMARY CUTANEOUS DISEASES

Acne excoriée

Aplasia cutis congenita

Congenital bullous ichthyosiform erythroderma *Textbook of Neonatal Dermatology, p.139, 2001*

Dyshidrosis

Epidermolytic hyperkeratosis

Epidermolysis bullosa – all forms *Textbook of Neonatal Dermatology, p.139,148, 2001; Caputo p.128, 2000;* junctional epidermolysis bullosa letalis (laminin 5 defect) – scalp, perioral and periorbital erosions; junctional epidermolysis bullosa mitis – scalp erosions; acantholytic epidermolysis bullosa *AD 131:590–595, 1995;* epidermolysis bullosa, progressive junctional type – palmoplantar hyperkeratosis (non-lethal localized junctional EB) – legs and feet only; hyperkeratosis with erosions of soles *J R Soc Med 78 (Suppl 11); 32–33, 1985*

Erosive pustular dermatosis of the scalp *AD 139:712–714, 2003; JAAD 28:96–98, 1993; BJD 118:441–444, 1988 (S)*

Erythema of Jacquet – erosive diaper dermatitis with umbilicated papules *Ped Derm 15:46–47, 1998*

Hailey–Hailey disease

Ichthyosis bullosa of Siemens

Lichen planus – bullous; erosive lichen planus of the flexures *Clin Exp Dermatol 18:169–170, 1993;* ulcerative lichen planus of the soles *AD 127:405–410, 1991;* of feet *Caputo p.17, 2000*

Nummular eczema

Pitted keratolysis

Pustular psoriasis

Vorner's palmoplantar keratoderma – newborn infant with erosive erythematous dermatitis

## PSYCHOCUTANEOUS DISEASE

Delusions of parasitosis *Semin Dermatol 2:189–195, 1983*

Factitial dermatitis *Ped Derm 21:205–211, 2004; JAAD 1:391–407, 1979*

Neurotic excoriations *Compr Psychiatry 27:381–386, 1986*

## SYNDROMES

Amniotic band syndrome (disorders of amniotic band sequence) – congenital erosions *AD 134:1121–1124, 1998*

Ankyloblepharon–ectrodactyly–cleft lip/palate – congenital scalp erosions *AD 134:1121–1124, 1998;* generalized fissured erosions of trunk *BJD 149:395–399, 2003; Textbook of Neonatal Dermatology, p.468, 2001*

Conradi–Hünermann syndrome (chondrodysplasia punctata) – scalp erosions

Bart's syndrome

Ectodermal dysplasia with clefting

Ehlers–Danlos syndrome – increased skin fragility

Goltz's syndrome *AD 134:1121–1124, 1998*

Incontinentia pigmenti – scalp erosions *JAAD 47:169–187, 2002*

Lesch–Nyhan syndrome – X-linked recessive; hypoxanthineguanine phosphoribosyltransferase deficiency; self-mutilation; biting of lower lip *Ped Derm 13:169–170, 1996; AD 94:194–195, 1966*

Lipoid proteinosis – early lesions *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Mucoepithelial dysplasia – perioral erosions

Necrolytic migratory erythema (glucagonoma syndrome)

Neu–Laxova syndrome – harlequin fetus-like changes; resembles restrictive dermopathy

Patau's syndrome (trisomy 13) – parieto-occipital scalp defects, abnormal helices, low-set ears, loose skin of posterior neck, simian crease of hand, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Reiter's syndrome

Restrictive dermopathy – autosomal recessive; erythroderma at birth, with extensive erosions and contractures; taut shiny skin, uniformly fatal *Textbook of Neonatal Dermatology, p.139,289, 2001; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 134:1121–1124, 1998*

Riley–Day syndrome (familial dysautonomia) – mottling with excoriations *Rook p.2734, 1998, Sixth Edition*

Trigeminal trophic syndrome – Wallenberg's syndrome

Trisomy 13 – congenital erosions *AD 134:1121–1124, 1998*

## TRAUMA

Air bag chemical injury *JAAD 46:S25–26, 2002*

Burns – radiation, thermal, ultraviolet, chemical

Forceps delivery

Neonatal sucking blisters – on radial forearm, wrist, or hand *Cutis 62:16–17, 1998*

Perinatal trauma, iatrogenic injury *Textbook of Neonatal Dermatology, p.148, 2001*

Pressure with intertrigo

Scalp electrodes

Tape blisters

## VASCULAR DISORDERS

Hemangiomas of infancy – perineal and lip ulceration as presenting manifestations *Pediatrics 99:256, 1997*

Perinatal gangrene of the buttock in the neonate *Textbook of Neonatal Dermatology, p.139, 2001*

Vascular malformations *Textbook of Neonatal Dermatology, p.139, 2001*

Wegener's granulomatosis – crusting and erosions of nostrils, nasal septum, pharynx, larynx, trachea *Rook p.1149,2218, 1998, Sixth Edition; AD 130:861–867, 1993*

# ERYTHRODERMAS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Airborne contact dermatitis

Allergic contact dermatitis – rhus *BJD 142:937–942, 2000;* cyanamide *Contact Dermatitis 40:160–161, 1999;* ingested antibiotics after topical sensitization (systemic eczematous contact dermatitis) *AD 115:360–361, 1979; AD 111:266, 1975*

Bullous pemphigoid *JAAD 41:658–659, 1999; JAAD 39:827–830, 1998; JAAD 29:293–299, 1993; JAAD 21:1099–1104, 1989;* lichenoid bullous pemphigoid *JAAD 39:691–697, 1998*

$CD4^+$ lymphocytopenia – photoaccentuated erythroderma with CD $4^+$ T-lymphocytopenia *JAAD 35:291–294, 1996*

Cellular immunodeficiency with immunoglobulins – diffuse erythema *Rook p.2745, 1998, Sixth Edition*

Common variable hypogammaglobulinemia *Am J Med 78:523–528, 1985*

Dermatomyositis *JAAD 26:489–490, 1992;* including paraneoplastic dermatomyositis *JAAD 39:653–654, 1998*

Fogo selvagem (endemic pemphigus) *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Graft vs. host reaction, acute – toxic epidermal necrolysis or exfoliative erythroderma *BJD 144:901–902, 2001; JAAD 38:369–392, 1998; Ped Derm 12:311–313, 1995;* chronic

Immunodeficiency syndrome with erythroderma, diarrhea of infancy *Pediatr 81:66–72, 1988*

Lupus erythematosus – subacute cutaneous LE *JAAD 19:388–392, 1988;* erythroderma and bullae *JAAD 48:947–949, 2003*

Pemphigus erythematosus/foliaceus *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961*

Severe combined immunodeficiency syndrome *Ped Derm 8:314–321, 1991*

Still's disease *BJD 145:187–188, 2001*

Systemic contact dermatitis – neomycin, parabens

Transfusion reaction *Ghatan p.108, 2002, Second Edition*

## CONGENITAL DISORDERS

Collodion baby (lamellar desquamation of the newborn) – bright erythema with glisteny, translucent membrane; ectropion, everted lips, fish-like mouth, bleeding within dried fissured membrane; peels in 1–2 days in large sheets; seen in lamellar ichthyosis, non-bullous ichthyosiform erythroderma *Ann DV 113:773–785, 1986;* trichothiodystrophy *BJD 106:705–710, 1982;* ichthyosis vulgaris *Ann DV 113:773–785, 1986;* X-linked ichthyosis *JAMA 202:485–488, 1967;* Netherton's syndrome *Mod Probl Paediatr 20:40–49, 1978;* neutral lipid strorage disease *Dermatologica 177:237–240, 1988;* Sjögren–Larsson syndrome *Ann DV 113:773–785, 1986;* mild lamellar ichthyosis *Ped Derm 9:95–97, 1992;* Gaucher's disease *Arch Dis Child 63:854–856, 1988*; loricrin keratoderma – congenital ichthyosiform erythroderma and collodion baby *BJD 145:657–660, 2001*

Congenital bullous ichthyosiform erythroderma

Non-bullous congenital ichthyosiform erythroderma *Ped Derm 19:285–292, 2002; Ped Derm 16:497–508, 1998*

Congenital psoriasis *BJD 140:538–539, 1999; Rook p.1497, 1998, Sixth Edition*

Harlequin fetus *Ped Derm 20:421–426, 2003*

Sclerema neonatorum *Ghatan p.40,113, 2002, Second Edition*

## DEGENERATIVE

Involutional erythroderma (idiopathic erythroderma) – elderly men *Bolognia p.166, 2004*

## DRUG-INDUCED

Allopurinol *Rook p.3371, 1998, Sixth Edition*

Amiodarone *BMJ 296:1332–1333, 1988*

Ampicillin *Ann Acad Med Singapore 14:693–695, 1985*

Organic arsenic *Rook p.674, 1998, Sixth Edition*

Aztreonam *Bolognia p.170, 2004*

Barbiturates *Rook p.674, 1998, Sixth Edition*

Bismuth ingestion *JAAD 37:489–490, 1997*

Boric acid poisoning *JAAD 7:667–73, 1982*

Budesonide (corticosteroid) *Contact Dermatitis 27:121–122, 1992*

Captopril *Rook p.3371, 1998, Sixth Edition*

Carbamazepine *Ped Derm 13:316–320, 1996*

Carboplatin *J Clin Oncol 17:1141, 1999*

Cefoxitin *Rook p.3371, 1998, Sixth Edition*

Chloroquine *Rook p.3371, 1998, Sixth Edition*

Chlorpromazine *Rook p.3371, 1998, Sixth Edition*

Cimetidine *Rook p.674, 1998, Sixth Edition*

Ciprofloxacin-induced pityriasis rubra pilaris-like reaction

Clodronate *BMJ 307:484, 1993*

Clofazamine *Ghatan p.231, 2002, Second Edition*

Codeine *Contact Derm 32:120, 1995*

Dapsone *Lepr Rev 57:179–180, 1986*

Dideoxyinosine-associated papuloerythroderma of Ofuji in HIV disease *Dermatology 195:410–411, 1997*

Diflunisal *Bolognia p.170, 2004*

Diltiazem *J Toxicol Clin Toxicol 35:101–104, 1997*

DRESS syndrome – drug reaction with eosinophilia and systemic symptoms – facial edema, exfoliative dermatitis, follicular eruptions; association with HHV-6; lymphadenopathy, circulating atypical lymphocytes, abnormal liver function tests *AD 137:301–304, 2001*

Erythropoietin *Medicina Clinica 115:158, 2000*

Ethylenediamine *AD 115:360, 1979*

Eretinate *BJD 112:373, 1985*

Fluorouracil *Bolognia p.170, 2004*

Granulocyte–macrophage colony-stimulating factor (GM-CSF) *AD 128:1055–1059, 1992*

Gold *Rook p.674, 1998, Sixth Edition*

Griseofulvin *Rook p.3371, 1998, Sixth Edition*

Hydantoin *Rook p.675, 1998, Sixth Edition*

Hydroxychloroquin *Bolognia p.170, 2004*

Icodextrin – palmoplantar pustulosis, erythroderma, generalized exanthematous pustulosis *AD 137:309–310, 2001*

Indinivir *Clin Inf Dis 25:1268–1269, 1997*

Interleukin 1 alpha followed by ifosfamide, carboplatin, and etoposide – sunburn-like erythroderma *JAAD 35:705–709, 1996*

Isoniazid *Rook p.3371, 1998, Sixth Edition*

Intravenous immunoglobulin (IVIG) *BJD 151:721, 2004*

Lithium *Rook p.674, 1998, Sixth Edition*

M-CSF *Am J Hematol 47:147–148, 1994*

Mefloquine *Clin Inf Dis 16:341–342, 1993*

Mercury *Rook p.674, 1998, Sixth Edition*

Methylprednisolone (IV) *Contact Dermatitis 25:68–70, 1991*

Minocycline *Bolognia p.170, 2004*

Mitomycin *Int J Derm 24:472, 1985*

Nifedipine *Ann Pharmacother 28:967, 1994*

Nitrofurantoin *Rook p.3371, 1998, Sixth Edition*

*p*-aminosalicylic acid *Rook p.3371, 1998, Sixth Edition*

Penicillin *Rook p.674, 1998, Sixth Edition*

*d*-penicillamine *Rook p.3371, 1998, Sixth Edition*

Pentostatin *BMJ 319:549, 1999*

Phenobarbital *Intern Med 32:182–184, 1993*

Phenylbutazone *Rook p.3371, 1998, Sixth Edition*

Phenytoin *BJD 134:1109–1112, 1996;* phenytoin-induced pseudo CTCL *AD 133:499–504, 1997*

Plaquenil *JAAD 12:857–862, 1985*

Practolol

Prostaglandin – acute flush

Proton pump inhibitors (omeprazole, lansoprazole) *BJD 141:173–175, 1999*

Pseudolymphoma, drug-induced *AD 132:1315–1321, 1996; JAAD 38:877–905, 1998*

Quinidine *Rook p.3371, 1998, Sixth Edition*

Ranitidine *Bolognia p.170, 2004*

Rifampin – red man syndrome *Ghatan p.231, 2002, Second Edition*

Streptomycin *Rook p.3371, 1998, Sixth Edition*

Sulfasalazine *AD 134:1113–1117, 1998*

Sulfonamides *Rook p.3371, 1998, Sixth Edition*

Sulfonylureas *Rook p.3371, 1998, Sixth Edition*

Teicoplanin *Bolognia p.170, 2004*

Terbinifine *Bolognia p.170, 2004*

Thalidomide *Dermatology 189:179–181, 1994;* toxic pustuloderma *Clin Exp Dermatol 22:297–299, 1997*

Thiacetazone *Rook p.3371, 1998, Sixth Edition*

Ticopidine *NEJM 340:1212, 1999*

Timolol maleate eyedrops (beta blocker) *JAAD 37:799–800, 1997*

Tobramycin *Bolognia p.170, 2004*

Tocainide *Ann Intern Med 107:693–696, 1987*

Toxic epidermal necrolysis *AD 111:1433–1437, 1975*

Tramadol *Bolognia p.170, 2004*

Trovofloxacin *Ann Pharmacother 33:1122, 1999*

Vancomycin – red man syndrome, acute erythroderma *Postgrad Med 75:41–43, 1999*

Vinca alkaloids *Bolognia p.170, 2004*

Zidovudine *J Allergy Clin Immunol 98:234–235, 1996*

## EXOGENOUS AGENTS

Cyanamide *Contact Derm 40:160–161, 1999*

*Rhus* – ingestion of *Rhus* as folk medicine remedy *BJD 142:937–942, 2000*

Selenium excess – exfoliative dermatitis *Ghatan p.294, 2002, Second Edition*

St. John's wort *BJD 143:1127–1128, 2000*

Tear gas *Bolognia p.170, 2004*

## INFECTIONS AND INFESTATIONS

AIDS – recalcitrant erythematous desquamating disorder *JAAD 17:507–508, 1987; Clin Inf Dis 18:942, 1999;* initial presentation of seroconversion *JAAD 28:167–173, 1993; Dermatologica 183:143–145, 1991;* $CD8^+$ erythroderma of HIV infection *JAAD 41:722–727, 1999*

Bee sting *AD 120:1595, 1984*

Candidiasis, congenital *Textbook of Neonatal Dermatology, p.225, 2001; AD 129:897–902, 1993;* invasive systemic candidiasis in premature neonate (*Candida albicans*) *Ped Derm 21:260–261, 2004*

Coccidioidomycosis – toxic erythema *Dermatol Clin 7:227–239, 1989*

Dengue hemorrhagic fever *JAAD 46:430–433, 2002*

Dermatophytosis – generalized *Trichophyton rubrum* dermatophytosis in congenital ichthyosiform erythroderma *JAAD 20:1133–1134, 1989*

Ehrlichiosis – human monocytic ehrlichiosis (*Ehrlichia chaffeensis*) – resembles toxic shock syndrome *Am J Med 95:351–357, 1993*

Hepatitis – fulminant *Cutis 37:56, 1986*

HHV 6 *J Clin Pathol 47:762–763, 1994*

Histoplasmosis *AD 101:216–219, 1970*

Leishmaniasis *Revista Clinica Espanola 191:454, 1992*

*Mycobacterium tuberculosis* – exfoliative erythroderma as a manifestation of pulmonary tuberculosis *BJD 148:346–348, 2003*

Scabies – crusted (Norwegian) scabies *Ped Derm 17:410–414, 2000; AD 124:123,126, 1988*

Scarlet fever

Staphylococcal scalded skin syndrome *Textbook of Neonatal Dermatology, p.187, 2001; Eur J Clin Microbiol Infect Dis 15:499–503, 1996; JAAD 30:319–324, 1994; J Clin Microbiol 26:1283–1286, 1988*

Staphylococcal scarlatina *Rook p.1104, 1998, Sixth Edition*

Streptococcal sex syndrome – postcoital lower extremity, streptococcal erythroderma in women *JAMA 257:3260–3262, 1987*

Syphilis – congenital

Toxic epidermal necrolysis – staphylococcal, streptococcal, *Klebsiella*, *Escherichia coli Ped Derm 11:331–334, 1994*

Toxic shock syndrome *Pediatr Rev 17:319, 321–322, 1996; Staphylococcus aureus* toxic shock syndrome *Curr Prob Dermatol 14:183–220, 2002; JAAD 39:383–398, 1998; Clin Inf Dis 18:942–945, 1994; J Infect 16:87–103, 1988; NEJM 303:1436–1442, 1980;* associated with Adenovirus Type 3 *Clin Inf Dis 33:260–262, 2001;* streptococcal toxic shock syndrome *Curr Prob Dermatol 14:183–220, 2002; JAAD 39:383–398, 1998; JAAD 24:786–787, 1991; BMJ 301:1006–1007, 1990;* Pseudomonas species *Lancet 2 (8517):1218–1219, 1986;* Group C streptococci A*rch Intern Med 152:882, 884, 1992;* Group B streptococcal toxic shock syndrome *AD 140:163–165, 2004*

Toxoplasmosis – exfoliative erythroderma *Int J Derm 33:s129–130, 1994*

## INFILTRATIVE

Langerhans cell histiocytosis

Mastocytosis – diffuse cutaneous mastocytosis *Ped Derm 19:375–381, 2002; Dermatology 187:127–129, 1993; Cutis*

*49:189–192, 1992* telangiectasia macularis eruptiva perstans *Cutis 71:357–359, 2003*

## INFLAMMATORY DISEASES

Erythema multiforme, Stevens–Johnson syndrome – acute erythroderma

Sarcoid *Hautarzt 61:675, 1986; BJD 95:93–97, 1976;* may mimic pityriasis rubra pilaris *BJD 95:93–97, 1976*

Pseudolymphoma – $CD8^+$ pseudolymphoma in HIV disease *JAAD 49:139–141, 2003*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – psoriasiform exfoliative dermatitis *JAAD 50:159–161, 2004; JAAD 41:335–337, 1999; J Dermatol 20:49–55, 1993; AD 114:191–197, 1978*

Toxic epidermal necrolysis *BJD 68:355–361, 2005*

## METABOLIC

Biotinidase deficiency (biotin-responsive multiple carboxylase deficiency) – neonatal and infantile; autosomal recessive; neonatal – holocarboxylase synthetase deficient; first 6 weeks of life; erythrodermic with fiery red intertriginous dermatitis *AD 123:1696–1698, 1987; Pediatrics 68:113–118, 1981;* infantile – biotinidase deficient; after 3 months of life, intertriginous rash with keratoconjunctivitis, xerosis, generalized pallor, periorificial dermatitis, alopecia, branny desquamation, and atrophic glossitis *Semin Dermatol 10:296–302, 1991; JAAD 9:97–103, 1983*

Citrullinemia *Ghatan p.108, 2002, Second Edition*

Essential fatty acid deficiency *Ghatan p.108, 2002, Second Edition,*

Gaucher's disease – collodion babies *Arch Dis Child 66:667, 1991*

Hyper-IgE syndrome *JAAD 36:106–107, 1997*

Idiopathic hypoparathyroidism *AD 109:242–244, 1974*

Kwashiorkor *Ped Derm 16:95–102, 1999*

Maple syrup urine disease *AD 129:384–385, 1993*

Thyrotoxicosis – pruritic exfoliative dermatitis *Dermatology 184:157, 1992*

## NEOPLASTIC

Hemophagocytic lymphohistiocytosis (hemophagocytic syndrome) – erythroderma and edema *AD 138:1208–1212, 2002; AD 128:193–200, 1992*

Leukemia – HTLV-1 (acute T-cell leukemia) *JAAD 49:979–1000, 2003*

Lymphoma/leukemia – cutaneous T-cell lymphoma (Sézary syndrome) *JAAD 27:427–433, 1992; JAAD 41:254–259, 1999; Semin Oncol 26:276–289, 1999;* presenting as papuloerythroderma *Clin Exp Dermatol 20:161–163, 1995; BJD 130:773–736, 1994;* syringotropic CTCL *BJD 148:349–352, 2003;* angioimmunoblastic lymphadenopathy with dysproteinemia (angioimmunoblastic T-cell lymphoma) *JAAD 38:992–994, 1998; JAAD 36:290–295, 1997; BJD 104:131–139, 1981;* HTLV-1 (adult T-cell leukemia) *JAAD 46:S137–141, 2002; JAAD 36:869–871, 1997; JAAD 27:846–849, 1992;* Hodgkin's disease, non-Hodgkin's lymphoma, leukemia, myelodysplasia *Rook p.675, 1998, Sixth Edition;* chronic T-cell lymphocytic leukemia *JAAD 8:874–878, 1983;* Ki-1 (CD30) positive anaplastic large cell lymphoma *JAAD 47:S201–204, 2002;*

Lymphoproliferative disease of granular lymphocytes *JAAD 32:829–33, 1995*

Malignant histiocytosis *Int J Derm 29:214–216, 1990;* malignant histiocytosis mimicking kwashiorkor *Ped Derm 19:5–11, 2002*

Monoclonal T-cell dyscrasia of undetermined significance *AD 141:361–367, 2005*

Myelodysplasia *Postgrad Med J 63:481–482, 1987*

Plasmacytic pseudolymphoma *Int J /dermatol 37:778–780, 1998*

Waldenström's macroglobulinemia with neoplastic cellular infiltrate – deck chair sign *JAAD 52:S45–47, 2005*

## PARANEOPLASTIC

Esophageal carcinoma *JAAD 13:311, 1985*

Fallopian tube carcinoma *Obstet Gynecol 71:1045–1047, 1988*

Gastric carcinoma *Am J Gastroenterol 79:921–923, 1984*

Leukemia – chronic lymphocytic leukemia *Bolognia p.1947, 2003*

Lymphoma – Hodgkin's disease *JAAD 49:772–773, 2003*

Other occult malignancies

Paraneoplastic pemphigus *Bolognia p.166, 2004*

## PHOTOSENSITIVITY DISEASES

Chronic actinic dermatitis, including actinic reticuloid *JAAD 38:877–905, 1998; J Clin Pathol 51:154–158, 1998; AD 131:1298–1303, 1995; Semin Derm 9:47–54, 1990*

Persistent light reaction to musk ambrette *Cutis 54:167, 1994*

Photoaccentuated erythroderma associated with $CD4^+$ lymphopenia *JAAD 35:291–294, 1996*

## PRIMARY CUTANEOUS DISEASE

Adolescent-onset ichythyosiform-like erythroderma with lichenoid tissue reaction *BJD 144:1063–1066, 2001*

Alopecia mucinosa (follicular mucinosis) *Clin Exp Dermatol 12:50–52, 1987*

Atopic dermatitis *Bolognia p.166, 2004; Clin Exp Derm 25:535–543, 2000*

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) – mutations in keratin 10 *Exp Dermatol 8:120–123, 1999*

Congenital ichthyosiform erythroderma *J Dermatol 26:791–796, 1999*

Darier's disease *JAAD 23:926–928, 1990*

Episodic non-toxic erythema – recurrent swelling of the extremities followed by generalized tender sunburn-like erythema, followed by exfoliation *AD 132:1387–1388, 1996*

Erythema neonatorum – generalized hyperemia of newborn, fades in 1–2 days *Rook p.451, 1998, Sixth Edition*

Erythrokeratodermas

- Annular migrating erythrokeratoderma – slowly migrating orange–brown plaques of buttocks and legs *Hautarzt 42:634–637, 1991*
- Erythrokeratoderma with ataxia
- Erythrokeratoderma with physical retardation and deafness
- Erythrokeratoderma with periorificial lesions – around mouth, genital, and perianal regions; acral involvement and pachyonychia *Hautarzt 34:465–467, 1983*
- Erythrokeratoderma hiemalis *Hautarzt 45:776–779, 1994*
- Erythrokeratoderma variabilis (Mendes da Costa syndrome) – autosomal dominant; dark red fixed plaques with transient polycyclic red macules with fine scale *JID 113:1119–1122, 1999; Ped Derm 12:351–354, 1995*
- Genodermatose en cocardes (Degos' syndrome) – fixed plaques; large round transient plaques *Clin Exp Dermatol 24:173–174, 1999*

Keratosis–ichthyosis–deafness (KID) syndrome
Localized erythrokeratoderma *Hautarzt 7:231, 1956*
Progressive partially symmetrical erythrokeratoderma with deafness (Schnyder's syndrome) – inner ear deafness, myopathy, mental retardation, keratitis; resemble KID syndrome but lesions are localized *Int J Pediatr Otorhinolaryngol 15:279–289, 1988; Hautarzt 33:416–419, 1982*
Symmetric progressive erythrokeratoderma (Gottron's syndrome) – autosomal dominant; large fixed geographic symmetric scaly red–orange plaques; shoulders, cheeks, buttocks, ankles, wrists *AD 122:434–440, 1986; Dermatologica 164:133–141, 1982*

Hailey–Hailey disease *BJD 99:553–560, 1978*

Ichthyosiform erythroderma with generalized pustulosis *BJD 138:502–505, 1998*

Keratosis lichenoides chronica *Australas J Dermatol 41:247–249, 2000*

Lamellar ichthyosis – transglutaminase 1 mutation *Eur J Human Genet 6:589–596, 1998*

Lichen planus *Rook p.674, 1998, Sixth Edition; Am J Dermatopathol 13:358–364, 1991*

Papuloerythroderma of Ofuji *Clin Exp Dermatol 25:293–295, 2000; Clin Exp Dermatol 23:79–83, 1998; JAAD 26:499–501, 1992;* in CTCL *JAAD 20:927–931, 1989; J Dermatol 25:185–189, 1998*

Pityriasis rosea *JAAD 15:159–167, 1986*

Pityriasis rubra pilaris *J Dermatol 27:174–177, 2000; JAAD 31:997–999, 1994*

Poikiloderma vasculare atrophicans

Psoriasis *Eur J Dermatol 9:537–539, 1999; Dermatology 194:102–106, 1997; Dermatol Clin 13:757–770, 1995;* congenital erythrodermic psoriasis *BJD 140:538–539, 1999*

Recalcitrant erythematous desquamating disorder (RED) *J Clin Inf Dis 24:1274–1275, 1997*

Recurrent non-toxic erythema

Seborrheic dermatitis – of infancy *Textbook of Neonatal Dermatology, p.248, 2001*

Senile erythroderma with serum hyper-IgE *Dermatologica 183:72–73, 1991*

Vorner's palmoplantar keratoderma – exfoliative erythroderma in infant whose mother has Vorner's PPK

## SYNDROMES

Annular epidermolytic ichthyosis – variant of bullous congenital ichthyosiform erythroderma – mutation in keratin 10 *JID 111:1220–1223, 1998*

CHILD syndrome (hemidysplasia, ichthyosiform erythroderma, unilateral limb defects (hypoplasia)) – X-linked dominant; unilateral inflammatory epidermal nevus or unilateral ichthyosiform erythroderma with skeletal abnormalities *AD 123:503–509, 1987*

Congenital reticular ichthyosiform erythroderma (ichthyosis variegata, ichthyosis en cocarde) *BJD 139:893–896, 1998; Dermatology 188:40–45, 1994*

Conradi–Hünermann syndrome – generalized erythema *Hum Genet 53:65–73, 1979*

Degos' syndrome – erythrokeratodermia en cocardes

Degos–Touraine syndrome – incontinentia pigmenti with poikiloderma in photodistribution, bullae of face, extremities; chronic erythroderma with subsequent hyperpigmentation *Soc Gr Dermatol Syph 68:6–10, 1961*

Dermatitis–eosinophilia syndrome following wasp sting *AD 120:1595–1597, 1984*

Happle's syndrome – X-linked dominant chondrodysplasia punctata *Ped Derm 13:1–4, 1996*

Hypereosinophilic syndrome *Ped Derm 15:363–371, 1996; Semin Dermatol 14:122–128, 1995; Blood 83:2759–2779, 1994;* in AIDS *JAAD 23:202–204, 1990*

Hystrix-like ichthyosis–deafness syndrome – postnatal erythroderma, generalized spiky and cobblestoned hyperkeratosis, sensorineural deafness, connexin mutation *BJD 146:938–942, 2002*

Ichthyosiform erythroderma and cardiomyopathy *BJD 139:1055–1059, 1998*

Ichythyosis bullosa of Siemens *Clin Exp Derm 15:53–56, 1990*

Ichthyosis congenita type IV – erythrodermic infant with follicular hyperkeratosis *BJD 136:377–379, 1997*

Kawasaki's disease

Keratosis linearis with ichthyosis and sclerosing keratoderma (KLICK syndrome) – autosomal recessive; erythroderma, palmoplantar keratoderma, ainhum, red elbows and knees *BJD 153:461, 2005; Acta DV 77:225–227, 1997; Am J Hum Genet 61:581–589, 1997*

KID syndrome – keratosis, ichthyosis, deafness syndrome – erythrokeratoderma-like *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Leiner's syndrome *NEJM 282:354, 1976; J Ped 80:879, 1972*

MAUIE syndrome – erythroderma with skip areas; micropinnae, alopecia, ichthyosis, and ectropion *JAAD 37:1000–1002, 1997*

Netherton's syndrome *AD 135:823–832, 1999; BJD 141:1097–1100, 1999; Ped Derm 14:473–476, 1997; Ped Derm 13:183–199, 1996*

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; at birth collodion baby or ichthyosiform erythroderma (non-bullous congenital ichthyosiform erythroderma and neutral lipid storage disease); thereafter pattern resembles non-bullous ichthyosiform erythroderma; hypohidrosis; ectropion; palmoplantar hyperkeratosis, WBC vacuoles, myopathy, fatty liver, CNS disease, deafness *AD 141:798–800, 2005; Am J Dermatopathol 20:79–85, 1998; JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*

Omenn's syndrome – autosomal recessive; immunodeficiency; erythroderma with occasional alopecia of scalp and eyebrows; generalized adenopathy with hepatosplenomegaly *Ped Derm 14:49–52, 1997; JAAD 25:442–446, 1991*

Phakomatosis pigmentovascularis

Progressive symmetric erythrokeratoderma – autosomal dominant; hyperkeratotic patches *Curr Prob Derm 14:71–116, 2002*

Red man syndrome (idiopathic) *JAAD 18:1307, 1988*

Reiter's syndrome *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Restrictive dermopathy – autosomal recessive *Textbook of Neonatal Dermatology, p.139,289, 2001*

Tay syndrome – collodion baby *Pediatrics 87:571–574, 1991*

Vogt–Koyanagi–Harada disease – prodrome erythroderma *Dermatology 198:65–68, 1999*

## TOXINS

Acute arsenic ingestion *BJD 141:1106–1109, 1999*

Boric acid

Scombroid fish poisoning

### TRAUMA

Burns – acute erythroderma

Immersion burn

Post-cardiac surgery

### VASCULAR DISEASES

Generalized port wine stain

Stasis dermatitis with autosensitization *Bolognia p.166, 2004; Ghatan p.39, 2002, Second Edition*

## ERYTHRODERMIC INFANT

***Textbook of Neonatal Dermatology, p.261, 2001; AD 136:875–880, 2000***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Alopecia and infantile erythroderma – highly suggestive of an immunodeficiency syndrome including Omenn syndrome *AD 136:875–880, 2000*

Atopic dermatitis *AD 136:875–880, 2000*

Bruton's hypogammaglobulinemia

Combined immunodeficiency – desquamative erythematous, morbilliform or vesiculopapular eruption of newborn (3 weeks) which progresses to erythroderma (with pachydermatous appearance) *Rook p.498–499, 1998, Sixth Edition*

Common variable hypogammaglobulinemia

Graft vs. host disease in severe combined immunodeficiency *Textbook of Neonatal Dermatology, p.269, 2001; JAAD 29:863–865, 1993;* maternal-fetal GVHD *AD 136:875–880, 2000*

Hyper-IgE syndrome

Secretory IgA deficiency *AD 136:875–880, 2000*

Severe combined immunodeficiency syndrome *AD 136:875–880, 2000*

### DRUG-INDUCED

Ceftriaxone *Bolognia p.168, 2004*

Toxic epidermal necrolysis, neonatal *BJD 152:150–151, 2005; JAAD 27:340–344, 1992; Ped Derm 2:197–2000, 1985; Dermatologica 169:88–90, 1984*

Vancomycin *Bolognia p.168, 2004*

### INFECTIONS AND INFESTATIONS

*Aspergillus*

Bullous impetigo

Congenital cutaneous candidiasis *AJDC 135:273–275, 1981*

*Curvularia*

Dermatophytosis

Eczema herpeticum

HHV-6

Herpes simplex virus

Scabies

Staphylococcal scalded skin syndrome *Bolognia p.168, 2004*

Syphilis, congenital *J Fam Pract 35:327–329, 1992*

Toxic shock syndrome

*Trichophyton rubrum* in congenital ichthyosiform erythroderma

*Trichosporon*

### INFILTRATIVE DISORDERS

Langerhans cell histiocytosis

Mastocytosis

### INFLAMMATORY DISEASES

Eosinophilic gastroenteritis

Toxic epidermal necrolysis

### METABOLIC DISEASES

Acrodermatitis enteropathica

Aminoaciduria – methylmalonic, arginino – succinicaciduria, maple syrup urine disease (MSUD), propionic acidemia

Argininosuccinicaciduria

Biotinidase deficiency *AD 136:875–880, 2000*

Carbamoyl phosphate synthetase deficiency

Carbohydrate deficient glycoprotein syndromes

Citrullinemia *AD 136:875–880, 2000*

Cobalamin deficiency

Cystic fibrosis

Essential fatty acid deficiency

Gaucher's disease – collodion babies *Arch Dis Child 66:667, 1991*

Holocarboxylase deficiency

Maple syrup urine disease *AD 129:384–385, 1993*

Methylmalonicacidemia – perioral erosions

Porphyria – transient erythropoietic protoporphyria *JAAD 35:833–834, 1996*

Propionic acidemia

Protein malnutrition

Secretory IgA deficiency *AD 136:875–880, 2000*

Zinc deficiency

### NEOPLASTIC DISEASES

Leukemia – acute lymphocytic leukemia

### PHOTOSENSITIVITY DISORDERS

Chronic actinic dermatitis *Bolognia p.166, 2004*

### PRIMARY CUTANEOUS DISEASES

Atopic dermatitis *Bolognia p.171, 2004*

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) *JID 91:357–361, 1993*

Erythrokeratoderma variabilis *Ped Derm 12:351–354, 1995*

Harlequin infant – presenting as non-bullous congenital ichthyosiform erythroderma *BJD 135:448–453, 1996*

Ichthyosis

Lamellar ichthyosis *AD 136:875–880, 2000*

Non-bullous congenital ichthyosiform erythroderma *AD 136:875–880, 2000*

Psoriasis *AD 136:875–880, 2000; Ped Derm 12:231–234, 1995*

Seborrheic dermatitis *AD 136:875–880, 2000*

### SYNDROMES

AEC syndrome *Ped Derm 10:336–370, 1993*

CHILD syndrome *Am J Med Genet 62:192–194, 1996*

Congenital erosive and vesicular dermatosis with reticulate scarring – erythroderma at birth *Ped Derm 15:214–218, 1998; JAAD 32:873–877, 1995*

Conradi–Hünermann syndrome – X-linked dominant *JAAD 21:248–256, 1989;* ichthyosiform erythroderma, linear hyperkeratotic bands with diffuse erythema and scale, follicular atrophoderma, hypochromic areas, scalp alopecia *Ped Derm 15:299–303, 1998; AD 127:539–542, 1991; Hum Genet 53:65–73, 1979*

CRIE syndrome – congenital reticulated ichthyosiform erythroderma *Dermatology 188:40–45, 1994*

Dorfman–Chanarin syndrome (neutral lipid storage disease) – ichthyosiform erythroderma *BJD 144:430–432, 2001; Am J Dermatopathol 20:79–85, 1998*

Dubowitz's syndrome

Episodic non-toxic erythema – swelling of the extremities followed by generalized tender sunburn-like erythema, followed by exfoliation *AD 132:1387–1388, 1996*

HID syndrome (hystrix-like ichthyosis with deafness) – autosomal dominant; neonatal erythroderma, shark-skin appearance, sensorineural deafness, spiky and cobblestoned hyperkeratosis, scarring alopecia, occasional punctate keratitis; probably variant of KID syndrome with mutation of connexin 26 (gap junction protein) *BJD 146:938–942, 2002*

Idiopathic hypereosinophilic syndrome *BJD 144:639, 2001; Blood 83:2759–2779, 1994*

Leiner's disease

Netherton's syndrome *AD 136:875–880, 2000; Ped Derm 13:183–199, 1996*

Neuroichthyosis *AD 136:875–880, 2000*

Omenn syndrome (familial reticulendotheliosis with eosinophilia) *AD 136:875–880, 2000*

Peeling skin syndrome – type A (non-inflammatory); type B (inflammatory) – autosomal recessive; erythroderma, congenital onset, pruritus, infections *Ped Derm 19:382–387, 2002*

Restrictive dermopathy – autosomal recessive, erythroderma at birth, with extensive erosions and contractures; taut shiny skin; fetal akinesia, multiple joint contractures, dysmorphic facies with fixed open mouth, hypertelorism, pulmonary hypoplasia, bone deformities; uniformly fatal *Ped Derm 19:67–72, 2002; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 128:228–231, 1992*

Sjögren–Larsson syndrome *AD 136:875–880, 2000*

Tay syndrome – collodion baby *Pediatrics 87:571–574, 1991*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – collodion baby, erythroderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

Wiskott–Aldrich syndrome *AD 136:875–880, 2000*

X-linked (male) ectodermal dysplasia *Textbook of Neonatal Dermatology, p.266, 2001; J Pediatr 114:600–602, 1989*

Zunich neuroectodermal syndrome *AD 132:535–541, 1996*

### TOXINS

Arsenic intoxication, acute – vesico-edematous erythroderma with small blisters or pustules *BJD 149:757–762, 2003; BJD 141:1106–1109, 1999*

Boric acid poisoning

## ESCHARS

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

Anthrax

Antiphospholipid antibody syndrome

Aspergillosis *AD 141:633–638, 2005*

Atherosclerotic peripheral vascular disease

Boutonneuse fever

Brown recluse spider bite

Calciphylaxis

*Capnocytophagia canimorsus* sepsis – dog and cat bites; necrosis with eschar; cellulitis *Cutis 60:95–97, 1997; JAAD 33:1019–1029, 1995*

Cholesterol emboli

Coumadin necrosis

Ecthyma

Ecthyma gangrenosum

Emboli

Fusariosis – localized fusariosis (*Fusarium solanae*) – red plaque of arm with eschar *AD 141:794–795, 2005*

Glanders

Heparin necrosis

Herpes simplex virus

Milker's nodule

Mucormycosis

Necrotizing fasciitis

Orf

Phagedenic ulcer

Queensland tick typhus

Rat bite fever

Rickettsial pox

Scrub typhus

Siberian typhus

Tularemia

## EXANTHEM

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – clothing *Rook p.778, 1998, Sixth Edition;* poison ivy; systemic contact dermatitis (ingestion of previously skin-sensitized allergen) (baboon syndrome) – dermatitis of buttocks, anogenital areas, flexures, and eyelids – mercury *Ped Derm 21:250–253, 2004; Contact Dermatitis 10:97–100, 1984*

Anaphylaxis – generalized erythema *Rook p.2119, 1998, Sixth Edition*

Autoeczematization reaction

Autoprogesterone dermatitis

C3 deficiency – morbilliform eruption demonstrating leukocytoclastic vasculitis *Pediatrics 71:81–87, 1983*

Common variable immunodeficiency – papulonodular eruption *JAAD 44:710–713, 2001*

Cutaneous eruption of lymphocyte recovery – morbilliform eruption at 14–21 days after graft *AD 125:1512–1517, 1989*

Dermatomyositis – dermatomyositis with hydroxychloroquine *AD 138:1231–1233, 2002*

Dermatophytids – associated with kerion; widespread eruption; follicular papules occasionally with keratotic spines *J Dermatol 21:31–34, 1994*

DiGeorge's syndrome – morbilliform exanthem; developmental defects of 3rd and 4th pharyngeal pouches, congenital thymic aplasia, autosomal dominant or sporadic, neonatal tetany due to absence of parathyroids, cardiac anomalies (truncus arteriosus), short philtrum, low-set malformed ears, hypertelorism, increased susceptibility to *Candida*, viral, and *Pneumocystis carinii* infections, loss of portion of proximal long arm of chromosome 22, may be same as velocardiofacial syndrome *Rook p.498, 1998, Sixth Edition*

Familial cold autoinflammatory syndrome (cold urticaria) *BJD 150:1029–1031, 2004*

Fogo selvagem

Graft vs. host disease, adult; acute – macular erythema starts on face, neck and shoulders, then becomes generalized; may start on palms, soles, and ears *JAAD 49:1081–1085, 2003;* may become lichenoid or bullous; or chronic *AD 132:1161–1163, 1996; JAAD 38:369–392, 1998; AD 134:602–612, 1998; AD 126:1324–1329, 1990;* infant with severe combined immunodeficiency disease; diffuse blanching erythema *Textbook of Neonatal Dermatology, p.270, 2001*

Hyper-gD syndrome – macular, papular, nodular, and urticarial eruptions *Ann Dermatol Venereol 123:314–321, 1996*

Linear IgA disease *Dermatol Clinics 4:89–98, 1986*

Lupus erythematosus – systemic lupus erythematosus *Rook p.2472, 1998, Sixth Edition; BJD 135:355–362, 1996;* discoid lupus; papulonodular mucinosis *JAAD 32:199–205, 1995; AD 114:432–435, 1978*

Pemphigus vulgaris

Pemphigus foliaceus

Pemphigus – IgA pemphigus, subcorneal pustular dermatosis type *JAAD 53:541–543, 2005*

Rheumatoid arthritis – maculopapular erythema *BJD 147:905–913, 2002*

Scleroderma, including CREST syndrome

Serum sickness

Severe combined immunodeficiency syndrome – desquamative erythematous, morbilliform or vesiculopapular eruption of newborn (3 weeks) *Rook p.494, 498–499, 1998, Sixth Edition*

Still's disease (juvenile rheumatoid arthritis), including neonatal exanthem in JRA *BJD 145:187–188, 2001; J Pediatr 137:128–131, 2000;* adult Still's disease *Medicine 70:118–136, 1991*

Urticaria *Rook p.2116–2117, 1998, Sixth Edition*

X-linked agammaglobulinemia – dermatomyositis-like eruption

## CONGENITAL DISORDERS

Post-maturity desquamation

## DRUG-INDUCED

Acute generalized exanthematous pustulosis – multiple drugs *Semin Cutan Med Surg 15:244–249, 1996*

Ampicillin in infectious mononucleosis

Autologous peripheral blood stem cell transplantation – flexural erythematous eruption *BJD 145:490–495, 2001*

BCG vaccination – morbilliform or purpuric eruptions with arthralgia, abdominal pain *BJD 75:181–192, 1963;* lichenoid and red papules and papulopustules *Ped Derm 13:451–454, 1996*

Chemotherapy-induced eccrine squamous syringometaplasia *Soc Ped Derm Annual Meeting, July 2005; AD 132:873–878, 1997*

Drug-induced diffuse erythema – multiple drugs *Rook p.2079, 1998, Sixth Edition*

ddC *JAAD 21:1213, 1217, 1989*

Fixed drug eruption – lamotrigine *BJD 144:1289–1291, 2001*

Foscarnet – urticarial rash with or without exanthema; eosinophilic pustular folliculitis *JAAD 44:546–547, 2001*

G-CSF – papular exanthem *Ped Derm 17:205–207, 2000*

GM-CSF *AD 127:49–52, 1991*

IL-2 reaction *JAMA 258:1624–1629, 1987*

Iododerma *Australas J Dermatol 28:119–122, 1987*

Jarisch–Herxherimer reaction – treatment of syphilis, onchocerciasis, Lyme disease, strongyloidiasis *AD 125:77–81, 1989; Hautarzt 35:588–590, 1984*

Methotrexate – papular eruption in patients with rheumatic diseases *JAAD 40:702–707, 1999*

Morbilliform drug eruption – multiple drugs *Tyring p.365, 2002; Rook p.3368–3369, 1998, Sixth Edition*

Non-pigmenting fixed drug eruption *BJD 118:827–829, 1988*

Prednisone *JAAD 790–793, 1998*

Pseudolymphoma – drug-induced pseudolymphoma syndrome including cutaneous pseudolymphoma syndrome due to carbamazepine *JAAD 38:806–809, 1998; JAAD 38:877–905, 1998*

Radiocontrast material – persistent erythema

Suramin *AD 128:75–79, 1992*

## EXOGENOUS AGENTS

Aniline-contaminated rape seed oil (Spanish toxic oil syndrome) – pruritic exanthem followed by cutaneous sclerosis *JAAD 9:159–160, 1983;* cutaneous mucinosis of arms, thighs and lower legs *JAAD 16:139–140, 1987*

*Rhus* – ingestion of *Rhus* as folk medicine remedy; morbilliform eruption *BJD 142:937–942, 2000*

## INFECTIONS AND INFESTATIONS

Adenovirus – age 6 months to 5 years; morbilliform, rubelliform, or petechial eruptions *Tyring p.203, 2002*

African tick bite fever (*Rickettsia* africae) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks) – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles and pustules *JAAD 48:S18–19, 2003*

AIDS – pruritic papular eruption of AIDS; firm discrete red, hyperpigmented urticarial papules *JAMA 292:2614–2621, 2004;* generalized skin-colored papules and nodules *Int J Derm 32:784–789, 1993;* morbilliform eruption – acute HIV infection – erythematous macules, morbilliform eruptions on trunk and face, also palms and soles with arthralgias; generalized

seborrheic dermatitis *AD 138:117–122, 2002; JAAD 28:167–173, 1993; AD 134:1279–1284, 1998;* Kawasaki-like syndrome *Clin Inf Dis 32:1628–1634, 2001;* pruritic papular eruption with HIV in Uganda *JAMA 292:2614–2621, 2004*

Alphavirus/flavivirus/bunyavirus

Anthrax

*Arcanobacterium haemolyticum* – mono-like syndrome; exanthem and pharyngitis *AD 132:61–64, 1996; Clin Inf Dis 21:177–181, 1995;* annular urticarial lesions *JAAD 48:298–299, 2003*

Aspergillosis (disseminated) – morbilliform rash which becomes pustular *Ped Derm 19:439–444, 2002*

*Bartonella quintana* – urban trench fever; body louse; transient truncal morbilliform rash *Clin Inf Dis 31:131–135, 2000; Bull WHO 35:155–164, 1996*

Bartonellosis (*Bartonella bacilliformis*) – 1–4-mm pruritic red papules *Clin Inf Dis 33:772–779, 2001*

BCG infection, disseminated – patchy erythema *Ped Derm 17:208–212, 2000*

Black widow spider bite

Boutonneuse fever – *Rickettsia conorii*; diffuse morbilliform eruption; petechiae; palms and soles involved *JAAD 49:363–392, 2003*

Bristle worm dermatitis

Brown recluse spider bite – morbilliform eruption *Cutis 74341–347, 2004;* purpuric morbilliform eruption in children at 24–48 hours *JAAD 44:561–573, 2001; JAAD 44:599–602, 2001*

Brucellosis – morbilliform, scarlatiniform, disseminated papulonodular, bullous, hemorrhagic eruptions *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

*Campylobacter jejuni* – in X-linked agammaglobulinemia *J Clin Inf Dis 23:526–531, 1996*

Candidiasis – including congenital cutaneous candidiasis *JAAD 37:817–823, 1997*

*Capnocytophagia canimorsus* sepsis – dog and cat bites; necrosis with eschar; macular and morbilliform eruptions *Cutis 60:95–97, 1997; Eur J. Epidemiology 12* (*5*) *521–533, 1996; JAAD 33:1019–1029, 1995*

Cat scratch disease – morbilliform eruption *JAAD 41:833–836, 1999; JAAD 31:535–556, 1994; JAAD 18:239–259, 1988; Ped Derm 5:1–9, 1988*

Cercarial dermatitis – schistosomes; pruritic red papules; fresh water avian cercarial dermatitis (swimmer's itch) *Cutis 19:461–467, 1977;* sea water avian cercarial dermatitis *Bull Mrine Sci Gulf Coast 2:346–348, 1952;* fresh water mammalian cercarial dermatitis *Trans R Soc Trop Med Hyg 66:21–24, 1972*

Chagas' disease

*Cheyletiella* infestation

Chikungunya fever – morbilliform exanthem of trunk and limbs *Tyring p.513, 2002*

Coccidioidomycosis – macular red rash in 10% *Am Rev Resp Dis 117:559–585; 727–771, 1978;* morbilliform toxic erythema *Dermatol Clin 7:227–239, 1989;* hypersensivity reaction in primary pulmonary coccidioidomycosis *JAAD 46:743–747, 2002*

Colorado tick fever – Orbivirus; macules, papules, morbilliform eruption, petechiae *JAAD 49:363–392, 2003*

*Corynebacterium hemolyticum* – pharyngitis and scarlatiniform rash *Ann Intern Med 105:867–72, 1986*

Cowpox *BJD 153:451–453, 2005*

Coxsackie virus A1–A24, B1–B6 (enterovirus) – most common summertime viral skin exanthem *Skin and Allergy News 30:38,1999;* Coxsackie A 4,5,6,9,16 and B5 – macular exanthem *Tyring p.3, 2002; Rook p.998, 1998, Sixth Edition;* Coxsackie A 2,4,7,9;B1,2,3,4,5,6 – morbilliform *Tyring p.463, 2002; A9,16,B5* – sparse papulovesicular exanthem *AD 139:1545–1552, 2003*

Cryptococcosis

Cytomegalovirus – morbilliform, scarlatiniform eruptions *Dermatology 200:189–195, 2000;* papular, purpuric, vesiculobullous lesions with indurated pigmented nodules or plaques *JAAD 24:860–867, 1991; JAAD 18:1333–1338, 1988;* rubella-like or measles-like exanthems *BJD 144:203–205, 2001; Ann Med Interne 152:227–235, 2001;* CMV mononucleosis with ampicillin-induced rash *Tyring p.181, 2002*

Dengue fever (flavivirus) – morbilliform eruption (classic dengue fever) *JAAD 46:430–433, 2002; Tyring p.477, 2002; Dermatol Clinics 17:29–40, 1999; Inf Dis Clin NA 8:107, 1994;* exanthem with islands of sparing ('white islands in a sea of red') *Clin Inf Dis 36:1004–1005,1074–1075, 2003;* clinical differential diagnosis includes typhoid fever, leptospirosis, meningococcal disease, streptococcal disease, staphylococcal, rickettsial disease, malaria, arbovirus (chikungunya, o'nyon nyong fevers), Kawasaki's disease

Dermatophytid *Acta DV 74:403–404, 1994*

Dermatophytosis, generalized

Ebola virus hemorrhagic fever (filovirus) *Tyring p.423, 2002; MMWR 44, No.19, 382, 1995*

Echovirus 1–34 (enterovirus) (esp 6 and 9) – morbilliform eruption *Tyring p.3,457, 2002; Rook p.998, 1998, Sixth Edition;* 2,4,6,9,11,16,18 – macular exanthem *Rook p.998, 1998, Sixth Edition;* Echovirus 9 and 16 – sparse papulovesicular exanthem *AD 139:1545–1552, 2003*

Eczema vaccinatum – sparse papulovesicular exanthem *AD 139:1545–1552, 2003*

Ehrlichiosis – morbilliform and petechial eruptions *J Pediatr 120:998–1000, 1992; Ehrlichia chaffeensis*; *E. ewingii* (human monocytic ehrlichiosis) (*Amblyomma americanum*) – diffusely erythematous or morbilliform, scattered petechiae or macules *Clin Inf Dis 33:1586–1594, 2001; E. equi*, *E. phagocytophila* (human granulocytic ehrlichiosis) (*Ixodes scapularis*, *Dermacentor variabilis*, *I. pacificus*) – petechia, macules, papules *JAAD 49:363–392, 2003*

Enterovirus infections – include poliovirus, coxsackie viruses A and B, and echoviruses *Textbook of Neonatal Dermatology, p.216, 2001*

Enterovirus 68–95 *Skin and Allergy News 30:38,1999;* enterovirus 71 *Tyring p.464, 2002*

Endemic typhus (murine typhus) (*Rickettsia mooseri*) (rat flea) – rash resembling epidemic typhus with no purpura and low mortality *JAAD 2:359–373, 1980*

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980;* transient red rash of trunk and face *Clin Inf Dis 32:979–982, 2001;* Brill–Zinsser disease – recrudescence of epidemic typhus

Epidermodysplasia verruciformis

Erysipelothrix rhusiopathiae in neonate – erythema multiforme-like exanthem *J Clin Inf Dis 24:511, 1997*

Filoviruses – Marburg and Ebola virus; transient morbilliform rashes, purpura, red eyes *JAAD 49:979–1000, 2003*

Folliculitis

Gianotti–Crosti syndrome – papular acrodermatitis of childhood *Ped Derm 21:542–547, 2004; Tyring p.533, 2002; Cutis 67:291–294, 2001; G Ital Dermatol 96:678, 1955*

Gonococcemia – sparse papulovesicular exanthem *AD 139:1545–1552, 2003*

Hand, foot and mouth disease – coxsackie A16, A5, A7, A9, A10, B2, B3, B5, enterovirus 7; exanthem *Ped Derm 20:52–56, 2003*

Hepatitis B – macular, morbilliform, or lichenoid eruptions *Rook p.1052, 1998, Sixth Edition;* morbilliform exanthem *JAAD 8:539–548, 1983*

Hepatitis C – morbilliform eruption *Tyring p.3, 2002*

Hepatitis virus G *Lancet 1:1065, 1988; NEJM 329:156–161, 168–171, 1973*

Herpes B virus – secondary papular eruptions *Tyring p.240, 2002*

Herpes simplex virus – eczema herpeticum (Kaposi's varicelliform eruption) *Cutis 73:115–122, 2004; Rook p.1028, 1998, Sixth Edition; Arch Dis Child 60:338–343, 1985;* Kaposi's varicelliform eruption associated with Grover's disease *JAAD 49:914–915, 2003*

Herpes zoster, disseminated

Histoplasmosis (disseminated) in AIDS – morbilliform rash with scale *Cutis 55:161–164, 1995; AD 121:1455–1460, 1985; Am J Med 64:923, 1978;* id reaction *JAAD 48:S5–6, 2003*

Hot tub folliculitis

HTLV-1 infection – infective dermatitis of scalp, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin; generalized papular dermatitis *Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Human herpesvirus 6 – exanthem after bone marrow transplant *Bone Marrow Transplant 28:77–81, 2001;*

Human herpesvirus 7 – macular exanthem *Rook p.998, 1998, Sixth Edition*

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthem of face, hands, wrists, and elbows *NEJM 353:156–163, 2005*

Izumi fever

Infectious mononucleosis (Epstein–Barr virus) – morbilliform or macular exanthem *Tyring p.3,149 2002; Rook p.998,1024, 1998, Sixth Edition;* sparse papulovesicular exanthem *AD 139:1545–1552, 2003;* urticarial, vesicular, bullous, petechial and purpuric exanthems *Tyring p.149, 2002;* ampicillin-associated morbilliform or scarlatini form rash *Tyring p.149–150, 2002*

Insect bites, including avian mite bites (*Dermanyssus gallinae*) – diffuse morbilliform rash *The Clinical Management of Itching; Parthenon; p.62, 2000*

Legionellosis – Pontiac fever; morbilliform rashes, pretibial erythema *Medicine 59:188–205, 1980*

Leishmaniasis – disseminated leishmaniasis *JAAD 50:461–465, 2004;* post-kala-azar dermal leishmaniasis – papules of cheeks, chin, ears, extensor forearms, buttocks, lower legs; in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1419–1420, 1998, Sixth Edition; JAAD 34:257–272, 1996; E Afr Med J 63:365–371, 1986*

Leprosy *Clin Inf Dis 35:1388–1389, 2002;* erythema nodosum leprosum *AD 111:1575–1580, 1975*

Leptospirosis – morbilliform *J Clin Inf Dis 21:1–8, 1995;* truncal red morbilliform, urticarial, pretibial, purpuric desquamative exanthem *Tyring p.436, 2002;* pretibial fever or canicola fever – blotchy erythema of legs *Rook p.1162, 1998, Sixth Edition*

Listeriosis, congenital – gray–white papules or pustules with red margins; predilection for the back *J Natl Med Assoc 57:290–296, 1965;* purpura, morbilliform rashes *J Cutan Pathol 18:474–476, 1991; Am J Dis Child 131:405–408, 1977*

Lyme disease – morbilliform eruption *NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

Lymphogranuloma venereum – exanthems *Rook p.1167, 1998, Sixth Edition*

Malaria

Marburg virus disease (filovirus) *Tyring p.423, 2002*

Mayaro – arbovirus; Brazil and Trinidad *Tyring p.399, 2002*

Measles *Tyring p.406–409, 2002;* atypical measles *Tyring p.411, 2002*

Mediterranean spotted fever – *Rickettsia conorii*; petechiae *JAAD 49:363–392, 2003*

Melioidosis

Meningococcemia – early may show discrete pink macules or papules or transient morbilliform or urticarial eruptions *Pediatrics 60:104–106, 1977*

Milker's nodule

Mite bites

Monkeypox – exanthem indistinguishable from smallpox (papulovesiculopustular) *J Infect Dis 156:293–298, 1987*

Murine typhus – *Rickettsia typhi* and ELB agent – blanching macular or morbilliform rash *MMWR 52:1224–1226, 2003; J Clin Inf Dis 21:991, 1995*

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

*Mycobacterium tuberculosis* – lichen scrofulosorum *Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976*

*Mycoplasma pneumoniae* – exanthem *J Pediatr 87:369–373, 1975;* varicella-like rash *Am J Dis Child 128:254–256, 1974*

North American blastomycosis – in AIDS *Rook p.1068, 1998, Sixth Edition*

Onchocerciasis – acute papular onchodermatitis – non-specific papular rash *Rook p.1381, 1998, Sixth Edition; BJD 121:187–198, 1989*

ONN – arbovirus; morbilliform eruption, fever, arthritis *Tyring p.399, 2002*

Orf – generalized bullous orf *Int J Derm 19:340–341, 1980*

Papular urticaria

Parvovirus B19 infection – erythema infectiosum; morbilliform *J Clin Inf Dis 21:1424–1430, 1995;* skin-colored papules of upper arms, anterior thighs; papular dermatitic eruption of thighs and forearms progressing to morbilliform eruption *Hum Pathol 31:488–497, 2000;* mimicking measles and echovirus 9

Pediculosis – head lice – pediculid *JAAD 50:1–12, 2004;* generalized pruritic eruption *NEJM 234:665–666, 1946;* pruritic papules of nape of neck *Rook p.1441, 1998, Sixth Edition*; pediculosis corporis (body lice) – excoriated papules *Adv Parasitol 36:271–342, 1995*

*Peloderma strongyloides* (nematode larvae) – exanthem of papules and pustules *JAAD 51:S109–112, 2004*

*Penicillium marneffei* – generalized papular eruption *Lancet 344:110–113, 1994; Mycoses 34:245–249, 1991*

Picornavirus *Skin and Allergy News 30:38,1999*

Pityrosporum folliculitis *JAAD 52:528, 2005*

Plague (*Yersinia pestis*) – macular, red, petechial or purpuric eruption (black death) *West J Med 142:641–646, 1985*

Protothecosis

*Pseudomonas* – swimming pool or hot tub folliculitis; macules, papules, pustules, urticarial lesions *JAMA 239:2362–2364, 1978; JAMA 235:2205–2206, 1976*

Psittacosis – morbilliform eruption *Br Med J 289:510–511, 1984;* rose spots *AD 120:1227–1229, 1984;* erythema nodosum *J Hyg 92:9–19, 1984;* erythema multiforme *Br Med J 2:1469–1470, 1965;* disseminated intravascular coagulation *AD 120:1227–1229, 1984*

Q fever – *Coxiella burnetii*; red macules, morbilliform, papular, urticarial, and purpuric eruptions *JAAD 49:363–392, 2003; Pediatr Inf Dis J 19:358, 2000*

Rat bite fever (*Streptobacillus moniliformis* (pleomorphic facultative anaerobic bacillus) or *Spirillium minor* (Soduku)) – macular, petechial, or morbilliform widespread exanthem; palmoplantar rash; arthralgia, septic arthritis and chronic arthritis; Haverhill fever (raw milk) – papules, crusted papules, vesicles, pustules; chronic abscesses *MMWR 53:1198–1202, 2005; Cleveland Clin Q 52 (2):203–205, 1985; Pediatr Clin N Am 26:377–411, 1979*

Relapsing fever (tick-borne relapsing fever) – *Ornithodoros* soft ticks transmitting *Borrelia hermsii*, *B.turicata*, or *B. parkeri*; 1–2 cm rose-colored macules, papules, petechiae, purpura, facial flushing; arthralgias, iritis, myalgia; found in cabins of coniferous forest of western United States or caves of southwest US *JAAD 49:363–392, 2003;* diffuse macular rash *Tyring p.438, 2002*

Rickettsial pox – sparse papulovesicular exanthem (Kew Gardens spotted fever) *JAAD 47:766–769, 2002; NY Med 2:27–28, 1946*

Rocky Mountain spotted fever (*Rickettsia rickettsii*) – initially blanching pink macules, or morbilliform eruption of wrists and ankles; soon spreads to face, trunk, and extremities; palms and soles involved; becomes purpuric with acral gangrene *Cutis 70:165–168, 2002; JAAD 2:359–373, 1980*

Rose spots
- Brucellosis
- Leptospirosis
- Meningitis
- Miliary tuberculosis
- Psittacosis
- Rat bite fever
- *Salmonella* – typhoid fever *AD 105:252–253, 1972; Lancet 1:1211–1213, 1975; NEJM 340:869–876, 1999*
- Shigellosis
- Trichinosis

Roseola infantum (human herpesvirus 6) (possibly human herpes virus 7) *NEJM 352:768–776, 2005; Arch Dis Childhood 72:518–519, 1995*) – rose–pink macules start on neck and trunk, then spread to face and extremities; rarely vesicular *Tyring p.3,201–203, 2002; Rook p.998,1025, 1998, Sixth Edition*; *BJD 132:614–616, 1995*

Rotavirus exanthem – pink–red 2–3-mm macules or papules on the trunk on days 3–6 of the illness *Skin and Allergy News 30:38,1999; AD 121:253–254, 1985*

Rubella – macular exanthem *Tyring p.3, 522–523, 2002; Rook p.998, 1998, Sixth Edition*

Rubeola *Tyring p.3, 2002*

Scabies, including crusted (Norwegian) scabies *Rook p.1069, 1998, Sixth Edition*

Scarlet fever – *Streptococcus pyogenes*; scarlatiniform (sandpaper) rash, erythema marginatum *JAAD 39:383–398, 1998*

Schistosomiasis – schistosomal dermatitis – identical to swimmer's itch *Dermatol Clin 7:291–300, 1989*

Scrub typhus (*Rickettsia tsutsugamuchi*) (mites) – headache and conjunctivitis; eschar with black crust; generalized macular or morbilliform rash *Clin Inf Dis 18:624, 1994; JAAD 2:359–373, 1980*

Seabather's eruption – larvae of *Scyphomedusa, Linuche unguiculata* (thimble jellyfish) *JAAD 44:624–628, 2001*

Seaweed dermatitis

Shigellosis – rose spots *Am J Dis Child 119:152–154, 1970*

Sindbis – arbovirus; fever, rash, arthritis; Europe, Asia, Africa, Australia *Tyring p.399, 2002*

Smallpox – morbilliform exanthem as initial cutaneous manifestation *Cutis 71:319–321, 2003*

Smallpox vaccination – with erythema multiforme *Clin Inf Dis 37:251–271, 2003;* eczema vaccinatum *Clin Inf Dis 37:251–271, 2003*

Staphylococcal scalded skin syndrome

Staphylococcal scarlet fever *Rook p.1104,1127, 1998, Sixth Edition*

Streptococcal toxic shock syndrome – morbilliform or scarlatiniform exanthem; painful localized edema and erythema; progression to vesicles and bullae *Textbook of Neonatal Dermatology, p.189, 2001; Rook p.1107, 1998, Sixth Edition*

*Strongyloides stercoralis* – disseminated strongyloidiasis with morbilliform exanthem *JAAD 49:S57–60, 2003*

Swimmer's itch

Syphilis, secondary – macular syphilid *Rook p.1245, 1998, Sixth Edition;* morbilliform or papular *J Clin Inf Dis 21:1361–1371, 1995;* roseolar eruptions *Rook p.2079, 1998, Sixth Edition*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980*

Togavirus – morbilliform eruption *Rook p.998, 1998, Sixth Edition*

Toxic shock syndrome, either streptococcal or staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days; diffuse erythema *Clin Inf Dis 32:1470–1479, 2001; Rook p.2079, 1998, Sixth Edition; JAAD 39:383–398, 1998; Rev Infect Dis 11* (*Suppl 1*):*S1–7, 1989; JAAD 8:343–347, 1983*

Toxoplasmosis (*Toxoplasma gondii*) – maculopapular eruption *AD 136:791–796, 2000;* macular, morbilliform, purpuric exanthemata; scarlatiniform desquamation *Rook p.1422, 1998, Sixth Edition*

Trichinosis – periorbital edema, conjunctivitis; transient morbilliform eruption, splinter hemorrhages *Can J Public Health 88:52–56, 1997; Postgrad Med 97:137–139, 143–144, 1995; South Med J 81:1056–1058, 1988*

*Trichosporon beigelii Medicir GS 268:1986*

Trypanosomiasis – African; edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition; AD 131:1178, 1995;* American – cutaneous inoculation (inoculation chagoma); edema with exanthems *Rook p.1409–1410, 1998, Sixth Edition*

Tularemia – *Franciscella tularensis* (non-encapsulated gram-negative coccobacillus); transmitted in tick feces; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; typhoidal, pneumonic, oropharyngeal, and gastrointestinal types; toxemic stage heralds macular, generalized morbilliform eruption, vesicular, pustular, nodular or plaque-like secondary eruption *JAAD 49:363–392, 2003;* erythema multiforme-like rash, crops of red nodules on extremities *Cutis 54:279–286, 1994; Medicine 54:252–269, 1985;* vesiculopapular lesions of trunk and extremities *Photodermatology 2:122–123, 1985*

Typhoid fever – rose spots *Tyring p.425, 2002*

Unilateral laterothoracic exanthema

Vaccinia – vaccinial roseola; transient red rash following vaccination *Tyring p.46, 2002; Rook p.1000, 1998, Sixth Edition*

Viral exanthems including:
- Adenovirus
- Arena virus hemorrhagic fevers, including lassa fever
- Cowpox – papulovesiculopustular
- Coxsackie virus A4,5,6,9,16 B5, B1–6 – macular
- Coxsackie A4 – widespread vesicular eruption *Pediatrics 41:873–882, 1968*
- Coxsackie A5,16 – hand, foot, and mouth disease – vesicular
- Coxsackie A5,9,10,16 – maculopapular-vesicular
- Coxsackie A9 – urticarial
- Coxsackie A16 – Gianotti–Crosti-like rash *JAAD 6:862–866, 1982*
- Coxsackie B5 – morbilliform *Am J Med Sci 251:141–158, 1966*
- Cytomegalovirus *JAAD 18:1333, 1988*
- Dengue fever (flavivirus) – morbilliform or scarlatiniform eruption on day 3–4, then becomes petechial; joint and bone pain with severe backache *Bull Soc Pathol Exot 86:7–11, 1993*
- Ebola viral hemorrhagic fever – morbilliform rash *MMWR 44:468–469, 1995*
- Echovirus 9 – rubelliform and morbilliform eruptions *Pediatrics 26:12–26, 1960;* Echovirus 16 – Boston eruption *JAMA 155:544–548, 1954;* Echovirus 2 – rubelliform *Am J Hyg 79:64–73, 1964;* Echovirus 11,19 – petechial rash *Arch Dis Child 57:22–29, 1982;* Echovirus 6,11,25 – morbilliform rash *J Infect 6:67–70, 1983;* Echovirus 23,32 – telangiectatic macular lesions *Pediatrics 44:498–502, 1969;* Echovirus 19 – punctate macular rash in infants *Arch Dis Child 51:631–633, 1976;* Echovirus 11 – vesicular rash *AD 113:1705–1706, 1977;* Echovirus 4, 9, 11 – maculopapular–vesicular;
- Echovirus 19 – punctate macular
- Echovirus 23 and 3 – telangiectatic macular rash
- Epstein–Barr virus – infectious mononucleosis – macular or morbilliform
- Gianotti–Crosti syndrome – papular acrodermatitis of childhood; papules of buttocks and thighs, then extensor arms, then face *JAAD 26:207–210, 1992; AD 120:891–896, 1984*
- Hepatitis A – rash *Ann DV 110:647–654, 1983;* or B – urticarial
- Herpes simplex virus – vesicular
- Herpes virus 6 *Lancet 1:1065, 1988*
- Infectious mononucleosis
- Interface dermatitis of AIDS
- Lassa fever (arenavirus) – morbilliform or petechial rash with conjunctivitis *J Infect Dis 155:445–455, 1985*
- Marburg virus (filovirus) – maculopapular-vesicular *S Afr Med J 60:751–753, 1981*
- Measles (rubeola) *Rook p.1089, 1998, Sixth Edition*; atypical measles
- Milker's nodule – papulovesicular
- Molluscum contagiosum – popular
- Orf – papulovesicular
- Parvovirus B19 – morbilliform
- Pityriasis rosea *JAAD 15:159–167, 1986*
- Reovirus
- Respiratory syncytial virus – fine macular eruption *J Pediatr 65:368–370, 1964*
- Roseola infantum (exanthem subitum) HHV-6 – macular *NEJM 352:768–776, 2005; Ped Inf Dis J 13:1010, 1994*
- Rotavirus
- Rubella – macular erythema starts on face, spreads rapidly to trunk and limbs *Rook p.1084, 1998, Sixth Edition*
- Tacaribe viruses – Argentinian, Bolivian, and Venezuelan hemorrhagic fevers – erythema of face, neck, and thorax with petechiae *Lancet 338:1033–1036, 1991; JAMA 273:194–196, 1994*
- Togavirus – morbilliform, maculopapular-petechial (Sindbis *BJD 135:320–323, 1996; BJD 80:67–74, 1968;* chickungunya *Trans R Soc Trop Med Hyg 49:28–32, 1955;* and O'Nyong-Nyong fever *Trans R Soc Med Hyg 55:361–373, 1961;* bunyavirus fevers) with joint pains; Ross River virus – morbilliform eruption and polyarthritis in Australia and Fiji *Med J Aust 159:159–162, 1993;* Barmah Forest virus – similar to Ross River virus *Med J Aust 152:463–466, 1990*
- Vaccinia – papulovesiculopustular; generalized exanthem after inoculation *Rook p.1000, 1998, Sixth Edition*
- Varicella – vesiculopustular; disseminated herpes zoster
- Variola – papulovesiculopustular
- Verruca vulgaris – papular
- Vesicular stomatitis virus – vesicular
- Virus-associated hemophagocytic syndrome – macular exanthem *Cancer 44:993–1002, 1979*
- West Nile virus – Culex salinarius; punctuate (1–2-mm) red macular, papular, or morbilliform eruption of neck, trunk, arms, or legs in 20% of patients *JAAD 51:820–823, 2004; JAAD 49:979–1000, 2003; Ann Intern Med 137:173–179, 2002; Ann DV 128:656–658, 2001 Lancet 358:261–264, 2001*
- Yellow fever *Tyring p.425, 2002*

West Nile virus – red macular, papular, or morbilliform eruption of neck, trunk, arms, or legs *Ann Intern Med 137:173–179, 2002; Ann DV 128:656–658, 2001*

Yersiniosis

## INFILTRATIVE DISEASES

Congenital self-healing histiocytosis *Ped Derm 17:364–368, 2000*

Generalized eruptive histiocytosis *JAAD 50:116–120, 2004; Ped Derm 17:364–368, 2000*

Indeterminate cell histiocytosis *BJD 153:206–207, 2005; Cutis 59:27–31, 1997*

Juvenile xanthogranuloma – reticulated maculopapular eruption *AD 105:99–102, 1972*

Langerhans cell histiocytosis – cutaneous findings include crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Rook p.2319–2320, 1998, Sixth Edition; JAAD 39:372–374, 1998; Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985;* Letterer–Siwe disease *JAAD 18:646–654, 1988;* adult Letterer–Siwe disease *JAAD 36:628–629, 1997*

Lichen myxedematosus – generalized lichenoid eruption *Rook p.2616–2617, 1998, Sixth Edition*

Mastocytosis – urticaria pigmentosa; *Rook p.2341–2344, 1998, Sixth Edition; Acta DV* (*Stockh*) *42:433–439, 1962;* telangiectasia macularis eruptiva perstans – telangiectasia, erythema, brown pigmentation *AD 124:429–434, 1988; JAAD 7:709–722, 1982*

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis of AIDS

Erythema annulare centrifugum

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* chronic erythema multiforme

Eosinophilic fasciitis

Erythema toxicum neonatorum

Kikuchi's disease (histiocytic necrotizing lymphadenitis) (subacute necrotizing lymphadenitis) – morbilliform eruption,

urticarial, and rubella-like exanthems; red papules of face, back, arms; red plaques; erythema and acneform lesions of face; exanthem overlying involved lymph nodes; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Ped Derm 18:403–405, 2001; Rook p.1090, 1998, Sixth Edition; JAAD 22:909–912, 1990; Am J Surg Pathol 14:872–876, 1990;* rubella-like eruption, generalized erythema and papules *BJD 146:167–168, 2002*

Lymphocytoma cutis, disseminated *Acta DV* (*Stockh*) *40:10–18, 1960*

Miliaria

Miliaria rubra

Neutrophilic eccrine hidradenitis (maculopapular/purpuric) *JAAD 23:111–1113, 1990*

Sarcoid *Rook p.2343,2688, 1998, Sixth Edition; Q J Med 28:109–124, 1959;* juvenile sarcoid *JAAD 48:S99–102, 2003*

Toxic epidermal necrolysis *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

Asymmetric periflexural exanthem of childhood – unilateral laterothoracic exanthema of childhood; scarlatiniform, morbilliform, dermatitic *AD 138:1371–1376, 2002; Ped Derm 19:461–462, 2002; JAAD 34:979–984, 1996; Ped Derm 12:112–115, 1995; JAAD 29:799–800, 1993; JAAD 27:693–696, 1992*

## METABOLIC DISEASES

Cholinergic urticaria *Rook p.2131, 1998, Sixth Edition; AD 123:462–467, 1987*

Idiopathic hypoparathyroidism *AD 112:991–992, 1976*

Maple syrup disease (treated) *JAAD 28:289–292, 1993*

Methylmalonic acidemia, cobalamin C type *AD 133:1563–1566, 1997*

Pruritic urticarial papules and plaques of pregnancy (PUPPP) *JAAD 39:933–939, 1998*

Scurvy – purpuric exanthem *Rook p.2661, 1998, Sixth Edition*

Xanthomas – eruptive xanthomas *Rook p.2605–2606, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Angioimmunoblastic lymphadenopathy – morbilliform eruption *AD 136:881–886, 2000; JAAD 38:992–994, 1998; AD 130:1551–1556, 1994*

Diffuse cutaneous reticulohistiocytosis

Hemophagocytic lymphohistiocytosis (hemophagocytic syndrome) – macular or papular exanthem; fever and rash; to be differentiated from Langerhans cell histiocytosis, leukemia cutis, myofibromatosis, extramedullary hematopoiesis *AD 138:1208–1212, 2002; AD 128:193–200, 1992*

Kaposi's sarcoma *Tyring p.222, 2002*

Keratoacanthomas – eruptive, Grzybowski-type – papular eruption of the face, scalp, neck, and upper back *JAAD 37:478–480, 1997; JAAD 29:299, 1993; Skin and Allergy News 30:1,63, 1999*

Leukemia cutis – acute or chronic myelogenous leukemia *JAAD 40:966–978, 1999;* acute lymphocytic leukemia *J Dermatol 26:216–219, 1999;* acute monocytic leukemia – diffuse papulonodular eruption *Rook p.2335, 1998, Sixth Edition;* congenital aleukemic leukemia cutis *Ped Derm 21:458–461, 2004;* HTLV-1 leukemia/lymphoma

Leukemid

Lymphoma – cutaneous T-cell lymphoma (CTCL) *Rook p.2376, 1998, Sixth Edition;* blastic natural killer (NK) cell lymphoma *BJD 148:507–515, 2003;* nasal NK/T-cell lymphoma *JAAD 46:451–456, 2002;* angioimmunoblastic T-cell lymphoma (angioimmunoblastic lymphadenopathy with dysproteinemia) – morbilliform eruption *BJD 144:878–884, 2001; JAAD 36:290–295, 1997; JAAD 1:227–32, 1979;* angiocentric T-cell lymphoma *AD 132:1105–1110, 1996;* adult T-cell leukemia (HTLV-1) (HTLV-1 leukemia/lymphoma) *AD 134:439–444, 1998; JAAD 34:69–76, 1996;* Hodgkin's disease *AD 116:1038–1040, 1980;* Hodgkin's disease

Lymphomatoid granulomatosis (angiocentric lymphoma) – morbilliform eruption *Ped Derm 17:369–372, 2000*

Lymphomatoid papulosis

Malignant histiocytosis – diffuse papulonodular eruption *Hum Pathol 15:368–377, 1984*

Myelodysplastic syndrome – disseminated cutaneous granulomatous eruptions *Clin Exp Dermatol 18:559–563, 1993*

Porokeratosis palmaris plantaris et disseminata

Post-transplant Epstein–Barr virus-associated lymphoproliferative disorder *JAAD 51:778–780, 2004*

Syringomas

Waldenström's macroglobulinemia – papular eruptions *AD 134:1127–1131, 1998;* Waldenström's macroglobulinemia with neoplastic cellular infiltrate – deck chair sign *JAAD 52:S45–47, 2005*

## PARANEOPLASTIC

Generalized eruptive histiocytosis associated with acute myelogenous leukemia *JAAD 49:S233–236, 2003*

Paraneoplastic pemphigus – lichenoid dermatitis *AD 136:652–656, 2000*

Paraneoplastic vasculitis – leukocytoclastic vasculitis *J Rheumatol 18:721–727, 1991; Medicine 67:220–230, 1988*

## PHOTODERMATOSES

Chronic actinic dermatitis

Photosensitivity of AIDS

Polymorphic light eruption *The Clinical Management of Itching; Parthenon; p.xvi, 2000*

## PRIMARY CUTANEOUS DISEASES

Asymmetric periflexural exanthem of childhood *AD 135:799–803, 1999;* in adults *BJD 143:224–226, 2000; Acta DV 77:79–80, 1997; JAAD 37:484–485, 1997*

Darier's disease

Diaper dermatitis with rapid dissemination – expanding nummular dermatitis of trunk, and red scaly plaques of neck and axillae ('psoriasiform id') *BJD 78:289–296, 1966*

Episodic non-toxic erythema *AD 132:1387–1388, 1996*

Eruptive pseudoangiomatosis *AD 140:757–758, 2004*

Exanthematous elastolytic granuloma *JAAD 19:564–565, 1988*

Febrile ulceronecrotic PLEVA

*Ped Derm 22:360–365, 2005*

Granuloma annulare – disseminated *Rook p.2301, 1998, Sixth Edition; JAAD 3:217–230, 1980;* disseminated in AIDS *JAAD 20:232–235, 1989;* pustular generalized granuloma *BJD 149:866–868, 2003*

Granulomatous periorificial dermatitis – extrafacial and generalized periorificial dermatitis *AD 138:1354–1358, 2002*

Large plaque parapsoriasis

Lichen planus

Mucha–Habermann disease (acute parapsoriasis) – febrile Febrile ulceronecrotic Mucha–Habermann disease (acute parapsoriasis) – painful hemorrhagic ulcers *BJD 152:794–799, 2005; JAAD 49:1142–1148, 2003; AD 100:200–206, 1969*

Pityriasis rosea

Pityriasis lichenoides chronica *The Clinical Management of Itching; Parthenon; p.137, 2000*

Pityriasis lichenoides et varioliformis acuta (acute parapsoriasis) *The Clinical Management of Itching; Parthenon; p.137, 2000; BJD 86:215–225, 1972;* acute febrile ulceronecrotic Mucha–Habermann disease *BJD 147:1249–1253, 2002; Ann DV 93:481–496, 1966*

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis – guttate, plaque-type *Rook p.1598, 1998, Sixth Edition*

Recalcitrant erythematous desquamating disorder *Clin Infec Dis 18:942–945, 1994*

Scleredema

Seborrheic dermatitis

Toxic erythema of the newborn – blotchy macular erythema (one to several hundred lesions); surmounted by pustules *Rook p.454, 1998, Sixth Edition*

Transient acantholytic dermatosis (Grover's disease)

### SYNDROMES

Angiokeratoma corporis diffusum

Baboon syndrome – acute exanthem of anogenital region, buttocks, and flexural extremities; amoxicillin, ampicillin, heparin, mercury, nickel, food additives *Ghatan p.341, 2002, Second Edition*

Blau or Jabs syndrome (familial juvenile systemic granulomatosis) – translucent skin-colored papules of trunk and extremities with uveitis, synovitis, arthritis; polyarteritis, multiple synovial cysts; red papular rash in early childhood *Clin Exp Dermatol 21:445–448, 1996*

Chronic infantile neurological cutaneous articular syndrome (CINCA) (neonatal onset multisystem inflammatory disorder (NOMID)) *Eur J Ped 156:624–626, 1997*

Epidermodysplasia verruciformis – TV-like changes *AD 131:1312–8, 1995*

Familial dysautonomia (Riley–Day syndrome) (hereditary sensory and autonomic neuropathy type III) – blotchy erythema in infancy with 2–5-cm red macules on trunk and extremities *AD 89:190–195, 1964*

Familial hemophagocytic lymphohistiocytosis – transient morbilliform exanthem, lymphadenopathy; macules and papules with fever *Textbook of Neonatal Dermatology, p.438, 2001 Rook p.2327, 1998, Sixth Edition*

Glucagonoma syndrome

Hereditary lactatate dehydrogenase M-subunit deficiency – annually recurring acroerythema *JAAD 27:262–263, 1992*

Hypereosinophilic syndrome – morbilliform eruption *JAAD 49:918–921, 2003; Rook p.703, 1998, Sixth Edition*

Incontinentia pigmenti

Kawasaki's disease – macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, pustular, erythema marginatum-like exanthems; non-suppurative conjunctivitis, strawberry tongue; cheilitis; edematous hands with lamellar desquamation; myocarditis and coronary artery thrombosis and aneurysms; arthralgia, arthritis *Textbook of Neonatal Dermatology, p.306, 2001; JAAD 39:383–398, 1998; Jpn J Allergol 16:178–222, 1967*

Kindler's syndrome

Mitochondrial DNA syndrome *JAAD 39:819–823, 1998*

Recalcitrant erythematous desquamating (RED) syndrome – diffuse macular erythema, ocular and mucosal erythema, strawberry tongue, delayed desquamation in the setting of AIDS *JAAD 39:383–398, 1998*

Relapsing polychondritis – toxic erythema *Rook p.2042, 1998, Sixth Edition; Medicine 55:193–216, 1976;* morbilliform eruption *Clin Exp Rheumatol 20:89–91, 2002*

Sweet's syndrome

### TOXINS

Arsenic – acute arsenic intoxication; initially morbilliform eruption with development of vesicles, pustules on red background; followed by generalized desquamation and palmoplantar lamellar desquamation *BJD 149:757–762, 2003; BJD 141:1106–1109, 1999*

Ciguatera fish poisoning

Eosinophilic myalgia syndrome (L-tryptophan-induced) – morbilliform eruption *JAAD 25:54–58, 1991*

Mercury – morbilliform exanthem *JAAD 43:81–90, 2000*

Scombroid fish poisoning

Toxic oil syndrome – rapeseed oil denatured with aniline; early see morbilliform exanthem *JAAD 18:313–324, 1988*

Wissler's syndrome – diffuse erythema *Rook p.2079, 1998, Sixth Edition; Acta Paediatr 49:90–95, 1960*

### TRAUMA

Phototherapy of neonatal jaundice – macular red rash as bilirubin falls *JAMA 208:1703, 1969*

Sunburn

### VASCULAR

Angiolymphoid hyperplasia with eosinophilia – disseminated papules over face, trunk and extremities *Cutis 72:323–326, 2003*

Degos' disease *Seminars in Derm 14:99–105, 1995*

Generalized essential telangiectasia

Leukocytoclastic vasculitis

Pigmented purpuric eruption, generalized

Polyarteritis nodosa *Arch Dis Child 55:569–572, 1980;* infantile polyarteritis nodosa – exanthem *JAMA 217:1666–1670, 1971, J Pediatr 120:206–209, 1992*

Post-valsalva purpura

Telangiectasias secondary to liver disease

Wegener's granulomatosis *Q J Med 208:435–460, 1983*

## EXFOLIATION (DESQUAMATION)

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Fogo selvagem

Graft vs. host disease – desquamation following acute exanthem *AD 124:1849–1850, 1988*

Pemphigus foliaceus

## CONGENITAL LESIONS

Collodion baby *Rook p.1494, 1998, Sixth Edition*

Dysmature or small-for-dates neonates vernix caseosa – 'crazed' with long transverse splits on the trunk which peels *Rook p.454, 1998, Sixth Edition*

Ectodermal dysplasias at birth

Lamellar exfoliation of the newborn *Ophthalmologica 152:68–73, 1966*

Physiologic scaling of the newborn – appears around ankles on day 1, confined to hands and feet *Caputo p.171, 2000; JAAD 23:77–81, 1990*

Postmaturity desquamation *Eichenfeld p.99, 2001*

Toxic erythema of the newborn *Eichenfeld p.92, 2001*

Transient neonatal pustular melanosis *Eichenfeld p.93, 2001*

Vernix caseosa – white, greasy film present at birth, may be accentuated in flexures (groin) *Rook p.451, 1998, Sixth Edition*

## DRUGS

Azathioprine *Dermatology 194:175–176, 1997*

Benzoyl peroxide

Penicillin allergy – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Retinoids – topical or systemic

Salicylic acid

Membranous desquamation following morbilliform drug eruption

Toxic epidermal necrolysis

Trimethoprim–sulfamethoxazole – localized exfoliation *DICP 24:140–142, 1990*

## EXOGENOUS AGENTS

Betel quid chewing – peeling of oral mucous membrane with underlying wrinkled appearance *Cutis 71:307–311, 2003*

Hypervitaminosis A – desquamation *Ghatan p.295, 2002, Second Edition*

Irritant contact dermatitis

Pustular reaction to rubber gloves

Selenium excess – exfoliative dermatitis *Ghatan p.294, 2002, Second Edition*

## INFECTIONS AND INFESTATIONS

Bullous impetigo – resolving

Colorado tick fever – Orbivirus; macules, papules, morbilliform eruption; branny desquamation *JAAD 49:363–392, 2003*

*Corynebacterium haemolyticum Ghatan p.244, 2002, Second Edition*

Leprosy – erythema nodosum leprosum; acute lesions erupt then desquamate *Rook p.1227, 1998, Sixth Edition*; onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Lyme disease – centrifugal desquamation with collarette of scale *JAAD 49:363–392, 2003*

Measles *Ghatan p.244, 2002, Second Edition*

Rocky Mountain spotted fever *Ghatan p.244, 2002, Second Edition*

Scarlet fever *JAAD 39:383–398, 1998*

Staphylococcal scalded skin syndrome *JAAD 39:383–398, 1998*

Syphilis, congenital – generalized exfoliation *Textbook of Neonatal Dermatology, p.261, 2001;* palmar exfoliation

Tinea imbricata

Tinea manuum *Acta DV* (*Stockh*) *36:272–278, 1956*

Tinea versicolor *Semin Dermatol 4:173–184, 1985*

Toxic shock syndrome, streptococcal *Curr Prob Dermatol 14:183–220, 2002; JAAD 39:383–398, 1998; AD 131:73–77, 1995;* staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days *Curr Prob Dermatol 14:183–220, 2002; Clin Inf Dis 32:1470–1479, 2001; JAAD 39:383–398, 1998; Rev Infect Dis 11 (Suppl 1):S1–7, 1989; JAAD 8:343–347, 1983;* Group B streptococcal toxic shock syndrome *AD 140:163–165, 2004*

Toxoplasmosis

Trichosporosis, neonatal – generalized peeling *Textbook of Neonatal Dermatology, p.147, 2001*

Viral exanthem, resolving

Zygomycosis, neonatal – generalized peeling with development of necrotic ulcers *Textbook of Neonatal Dermatology, p.147, 2001*

## INFLAMMATORY DISEASES

Stevens–Johnson syndrome

Toxin-mediated erythema

Toxic epidermal necrolysis

## METABOLIC DISEASES

Kwashiorkor *JAAD 52:S69–72, 2005; Cutis 67:321–327, 2001* ; *Ped Derm 16:95–102, 1999*

*AD 134:107–108, 1998*

Methylmalonic aciduria – desquamating eruptions *Ped Derm 16:95–102, 1999*

Peeling skin syndrome with aminoaciduria *Ped Derm 22:314–316, 2005*

Pellagra

Propionic aciduria – desquamating eruptions *Ped Derm 16:95–102, 1999*

Renal failure *BMJ 4 (833):179, 1972*

Zinc deficiency

## NEOPLASTIC DISEASES

HTLV-1 lymphoma – palmar exfoliation *BJD 128:483–492, 1993; Am J Med 84:919–928, 1988*

## PRIMARY CUTANEOUS DISEASES

Acral peeling skin syndrome *JAAD 43:1112–1119, 2000; AD 133:535–536, 1997*

Annular epidermolytic hyperkeratosis – congenital peeling *JAAD 27:348–355, 1992*

Darier's disease – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Epidermolysis bullosa – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Epidermolysis bullosa simplex superficialis – EB with subcorneal skin cleavage mimicking peeling skin syndrome *AD 125:633–638, 1989*

Epidermolytic hyperkeratosis – desquamation of newborn *Semin Dermatol 12:202–209, 1993*

Episodic non-toxic erythema (episodic toxin-mediated erythema) – swelling of the extremities followed by generalized tender sunburn-like erythema, followed by exfoliation *AD 132:1387–1388, 1996*

Erythrokeratoderma hiemalis (erythrokeratolysis hiemalis (Oudtshoorn disease)) (keratolytic winter erythema) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet; annular serpiginous lesions of lower legs, knees, thighs, upper arms, shoulders – seen in South African whites; precipitated by cold weather or fever *Curr Prob Derm 14:71–116, 2002; S Afr Med J 52:871–874, 1977; BJD 98:491–495, 1978*

Erythrokeratoderma variabilis – palmoplantar scaling *BJD 143:1133–1139, 2000*

Exfoliative erythrodermas

Ichthyosis bullosa of Siemens *BJD 140:689–695, 1999; Arch Derm Res 282:1–5, 1990*

Ichthyosis exfoliativa, autosomal dominant *BJD 124:191–194, 1991*

Ichthyosis exfoliativa – autosomal recessive; peeling of neonate; resembles ichthyosis bullosa of Siemens in adult life *BJD 149:174–180, 2003*

Ichthyosis vulgaris

Juvenile plantar dermatosis *Clin Exp Dermatol 11:529–534, 1986; Semin Dermatol 1:67–75, 1982; Clin Exp Dermatol 1:253–260, 1976*

Keratolysis exfoliativa (acquired peeling of the palms) – recurrent *Rook p.652, 1998, Sixth Edition; Trans St John's Hosp Dermatol Soc 53:165–167, 1967*

Keratosis punctata palmaris et plantaris – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Lamellar ichthyosis variants

Leiner's disease

Lichen planus – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Miliaria crystallina *Cutis 47:103–106, 1991*

Pustular psoriasis of von Zumbusch

X-linked ichthyosis

### SYNDROMES

Chondrodysplasia punctata – Conradi's disease

Glucagonoma syndrome

Kawasaki's disease – recurrent skin peeling *Arch Dis Child 83:353–355, 2000;* membranous desquamation of hands and feet *JAAD 39:383–398, 1998;* perianal erythema and desquamation *Textbook of Neonatal Dermatology, p.306, 2001*; *AD 124:1805–1810, 1988*

Multicentric reticulohistiocytosis – onychomadesis (shedding of nail) *Ghatan p.83, 2002, Second Edition*

Netherton's syndrome – ichthyosis linearis circumflexa

Peeling skin syndrome (erythrokeratolysis, familial peeling skin syndrome, keratolysis exfoliativa congenita, deciduous skin) – generalized superficial peeling at birth or early childhood; reported with easily plucked hair, shedding of nails, stunted growth with hypogonadism, anosmia *Int J Dermatol 38:208–210, 1999; JAAD 30:135–136, 1994; BJD 116:117–125, 1987; AD 122:71–75, 1986; AD 9:487–498, 1924;* familial peeling skin syndrome with eosinophilia *Arch Pathol Lab Med 120:662–665, 1996;* type A (non-inflammatory); type B (inflammatory) – autosomal recessive; erythroderma, congenital onset, pruritus, infections *Ped Derm 19:382–387, 2002*; peeling skin syndrome, fissured cheilitis, blistering of palms and soles, and desmosomal abnormalities *JAAD 34:379–385, 1996*

Recalcitrant erythematous desquamating (RED) syndrome – diffuse macular erythema, ocular and mucosal erythema, strawberry tongue, delayed desquamation in the setting of AIDS *JAAD 39:383–398, 1998*

X-linked hypohidrotic ectodermal dysplasia – neonatal scaling mimicking physiologic scaling of the newborn *J Pediatr 114:600–602, 1989*

### TOXINS

Acrodynia (pink disease) – mercury poisoning; *AD 124:107–109, 1988;* desquamation of palms *Ped Derm 21:254–259, 2004* mercurochrome *Clin Toxicol 13:79–96, 1978*

Arsenic – acute arsenic intoxication; initially morbilliform eruption with development of vesicles, pustules on red background; followed by generalized desquamation and palmoplantar lamellar desquamation *BJD 149:757–762, 2003; BJD 141:1106–1109, 1999*

### TRAUMA

Burns – thermal, sunburn

### VASCULAR DISEASES

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema, and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Polyarteritis nodosa, infantile – desquamation of the hands and feet *J Pediatr 120:206–209, 1992; JAMA 217:1666–1670, 1971*

## EYELID LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Airborne allergic contact dermatitis *JAAD 15:1–10, 1986*

Allergic contact dermatitis – medications, cosmetics, fragrances, occupational – eyelid edema *JAAD 48:617–619, 2003; Contact Dermatitis 42:291–293, 2000; JAAD 41:435–442, 1999;* sensitization to cobalt in a dental prosthesis – lid edema *BJD 136:971–972, 1997;* epoxy resins *Contact Dermatitis 19:279–280, 1988;* plant dermatitis *Rook p.788, 1998, Sixth Edition;* woods *Rook p.794, 1998, Sixth Edition;* nail polish *Contact Dermatitis 34:140–141, 1996;* acrylic nails *Rook p.2867, 1998, Sixth Edition;* neomycin, idoxuridine, other topical medications *Surv Ophthalmol 24:57–88, 1989;* airborne allergen blepharitis *Clin Ther 17:800–810, 1995;* nickel in eye pencil *The Clinical Management of Itching; Parthenon; p.117, 2000;* eyelash curler *Contact Dermatitis 25:77, 1991;* contact lens cleaner *Contact Dermatitis 24:232–233. 1991;* protein contact dermatitis *JAAD 47:755–765, 2002*

Angioedema *JAAD 25:155–161, 1991; Dermatol Clin 3:85–95, 1985*

Autoimmune progesterone dermatitis – fixed drug-like lesions

Chronic granulomatous disease – translucent facial papules around eyes, nose, lips, cheeks; mimics lupus vulgaris *NEJM 317:687–694, 1987*

Cicatricial pemphigoid – red eyelid plaque *AD 138:527–532, 2002*

Dermatomyositis – eyelid edema *JAAD 48:617–619, 2003; JAAD 47:755–765, 2002;* heliotrope

Graft vs. host disease – sclerodermatous graft vs. host reaction; periorbital papules *JAAD 26:49–55, 1992*

Immunodeficiency disorders – hypercupremia and decrease intracellular killing – blepharitis and pyoderma of the scalp *Ped Derm 1:134–142, 1983*

Jung's syndrome – atopic dermatitis, pyoderma, folliculitis, blepharitis *Lancet ii:185–187, 1983*

Linear IgA disease (chronic bullous disease of childhood) – perioral, eyelids, ears, scalp, perineum, vulva; annular polycyclic bullae *Ped Derm 15:108–111, 1998*

Lupus erythematosus – discoid lupus erythematosus *AD 138:527–532, 2002; BJD 121:727–741, 1989;Rook p.2444–2449, 1998, Sixth Edition; JAAD 16:1259–1260, 1987*; periorbital edema and erythema *JAAD 26:334–338, 1992;* red/swollen, sclerotic plaque *AD 129:495–600, 1993; Am J Ophthalmol 98:32–36, 1984;* systemic LE – red eyelid plaque *AD 138:527–532, 2002*

Morphea – 'en coup de sabre' with loss of eyelashes of upper eyelid *Acta DV* (*Stockh*) *63:75–77, 1983*

Ocular pemphigus – lid margin ulceration *JAAD 53:585–590, 2005*

Pemphigus vulgaris, foliaceus, erythematosus *Eur J Dermatol 11:141–143, 2001*

Scleroderma – atrophy of bound down lower eyelids *Rook p.2528, 1998, Sixth Edition*

Urticaria – systemic, contact, physical *JAAD 47:755–765, 2002*

## CONGENITAL ANOMALIES

Dermoid cyst – cystic nodule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.159, 1999*

Nevus simplex (capillary ectasias) – glabella, eyelids, nose, upper lip, nape of neck *Eichenfeld p.100, 2001*

## DEGENERATIVE DISEASES

Ectropion of the elderly *Ophthalmology 92:120–127, 1985;* scars

Facial paralysis – ectropion *Rook p.2982, 1998, Sixth Edition*

## DRUG-INDUCED

Corticosteroid (topical)-induced acne rosacea

Fixed drug eruption – secondary to pseudoephedrine *Cutis 41:339–340, 1988*

Mercurial ointments – periorbital depigmentation *Rook p.2985, 1998, Sixth Edition*

Thiotepa eyedrops – periorbital depigmentation *AD 115:973–974, 1979*

## EXOGENOUS AGENTS

Fixed food eruption – lactose *JAAD 52:370–371, 2005*

Iododerma in chronic renal failure – edema of eyelids; pustulovesicular eruption, pustules, pseudovesicles, marked edema of face and eyelids, vegetative plaques *AD 140:1393–1398, 2004; JAAD 36:1014–1016, 1997; Clin Exp Dermatol 15:232–233, 1990; BJD 97:567–569, 1977*

Irritant contact dermatitis – eye shadow, eye shadow setting creams, eye-liners, mascaras, artificial eyelashes, eyebrow pencils, eye makeup removers *JAAD 47:755–765, 2002; The Clinical Management of Itching; Parthenon; p.117, 2000*

Mercury – in skin folds and eyelids *JAAD 39:524–525, 1998*

Pseudolymphoma, lymphomatoid contact dermatitis – upper eyelid nodules *BJD 143:411–414, 2000*

Silicone breast implant – silicone granulomas, chronic eyelid edema *Ophthal Plast Reconstr Surg 14:182–188, 1998;* metastatic silicone granuloma – eyelid papules, eyelid edema *AD 138:537–538, 2002*; eyelid augmentation – nodules *BJD 152:1064–1065, 2005*

## INFECTIONS AND INFESTATIONS

Actinomycosis

Anthrax *Ped Derm 20:93–94, 2003; Eur J Ophthalmol 11:171–174, 2001;* preseptal cellulitis and cicatricial ectropion *Acta Ophthalmol Scand 79:208–209, 2001; Br J Opthalmol 76:753–754, 1992; Ophthalmic Physiol Opt 10:300–301, 1990*

Ascariasis – unilateral eyelid edema *Klin Oczna 97:346–347, 1995* (*Polish*)

Bacterial sinusitis – eyelid edema

Bacillary angiomatosis *SKIN med 4:215, 2005*

Blister beetle – periorbital dermatitis and keratoconjunctivitis *Eye 12:883–885, 1998*

Candidiasis, including chronic mucocutaneous candidiasis – blepharitis *Rook p.3009, 1998, Sixth Edition*

Cat scatch disease – oculoglandular granuloma; simulating lymphoma *Cancer 50:584–586, 1982*

Caterpillar dermatitis – urticarial papules surmounted by vesicles, eyelid edema *Rook p.1450, 1998, Sixth Edition;* gypsy moth caterpillar – conjunctivitis with eyelid dermatitis *NEJM 306:1301–1302, 1982*

Cellulitis – including association with sinusitis *JAAD 48:617–619, 2003; J Eur Acad Dermatol Venereol 11:74–77, 1998*

Chagas' disease – American tryposomiasis; Romana's sign – unilateral edema of the eyelids and inflammation of the lacrimal gland *Rook p.1409–1410, 1998, Sixth Edition*

Chancriform pyoderma (*Staphylococcus aureus*) – ulcer with indurated base; eyelid, near mouth, genital *AD 87:736–739, 1963*

Coccidioidomycosis – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.11, 1999*

Cysticercosis (*Taenia solium*) (*Cysticercus cellulosae*) *AD 89:319–320, 1973*

Dirofilariasis, subcutaneous (migratory nodules) – eyelid, scrotum, breast, arm, leg, conjunctiva *JAAD 35:260–262, 1996*

Eczema vaccinatum *Tyring p.47, 2002*

Erysipelas/cellulitis – eyelid erythema, edema *JAAD 48:617–619, 2003; Rook p.1114, 1998, Sixth Edition*

Folliculitis *Ghatan p.57, Second Edition*

Gonorrheal conjunctivitis – profuse purulent discharge; swollen hemorrhagic eyelids *Rook p.2998, Sixth Edition*

Herpes simplex *Tyring p.80, 2002;* eczema herpeticum (Kaposi's varicelliform eruption) *Rook p.1028, 1998, Sixth Edition; Arch Dis Child 60:338–343, 1985*

Herpes zoster *Rook p.2992, 1998, Sixth Edition*

HTLV-1 infection – infective dermatitis of scalp, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin; generalized papular dermatitis *Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Impetigo contagiosa

Infectious mononucleosis (Epstein–Barr virus) – eyelid edema in 50% of patients – periorbital and eyelid edema *Tyring p.149, 2002; Ghatan p.344, 2002, Second Edition; Cutis 47:323–324, 1991; Pediatrics 75:1003–1010, 1985*

Leishmaniasis *Ophthalmology 107:169–172, 2000*

Leprosy – tuberculoid

Loiasis – *Loa loa*; Chrysops (deer fly, horse fly, mangrove fly) – adult worms in conjunctiva with unilateral palpebral edema *AD 108:835–836, 1973*

Molluscum contagiosum – giant tumor *Ethiop Med J 38:125–130, 2000; Am J Ophthalmol 124:240–241, 1997; Pediatr AIDS HIV Infect 7:43–46, 1996;* papule *Tyring p.63, 2002; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.163, 1999*

Mucormycosis – papule, pustule, necrotic ulcer *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.169, 1999*

*Mycobacterium tuberculosis* – tuberculous chancre – ulceration and edema of the lids *Pakistan J Ophthalmol 4:37–40, 1988;* lupus vulgaris *Ophthalmology 106:1990–1993, 1999;* tuberculous abscess *Am J Ophthalmol 121:717–718, 1996*

Myiasis – resemble hordeolum *Korean J Ophthalmol 13:138–140, 1999;* Dermatobia hominis – edema and erythema of eyelid *Ped Inf Dis 21:82–83, 2002*

Necrotizing fasciitis

North American blastomycosis – papule *Ophthal Plast Reconstr Surg 8:143–149, 1992; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.169, 1999*

Orf *Cutis 20:109–111, 1977*

Paracoccioidomycosis *Mycopathologia 140:29–33, 1997*

Pediculosis (*Phthirus pubis*) – blepharitis *Am J Dis Child 138:1079–1080, 1984*

*Pseudomonas* sepsis – gangrenous eyelids (noma neonatorum) *Lancet 2:289–291, 1978*

Rhinosporidiosis – conjunctivitis and eversions of eyelid *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

Staphylococcal blepharitis with associated conjunctivitis *Arch Ophthalmol 95:812–816, 1977*

Syphilis, secondary

Tinea faciei *Cutis 17:913–915, 1976;* in newborn *Minerva Pediatr 53:29–32, 2001;* steroid modified tinea – may resemble stye *Rook p.1314, 1998, Sixth Edition*

Trichinosis *J Egypt Soc Parasitol 27:529–538, 1997*

Trypanosomiasis

Vaccinia – autoinoculation *Tyring p.47, 2002*

Varicella *Clin Pediatr 23:434–436, 1984*

Verruga peruana *Am J Trop Med Hyg 50:143–144, 1994*

Warts *JAAD 47:908–913, 2002; Tyring p.265, 2002; Rook p.2992, 1998, Sixth Edition*

Yaws – papules

## INFILTRATIVE DISORDERS

Amyloidosis – primary systemic; papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.175, 1999; Postgrad Med J 64:696–698, 1988; Clin Exp Dermatol 4:517–536, 1979;* diffuse eyelid swelling *J Dermatol 19:113–118, 1992;* conjunctival amyloidosis with unilateral upper and lower eyelid edema *Korean J Ophthalmol 15:38–40, 2001*

Benign cephalic histiocytosis – eyelid papules; mimic flat warts, Spitz nevi, juvenile xanthogranuloma, Langerhans cell histiocytosis, urticaria pigmentosum, generalized eruptive histiocytosis, sarcoid *JAAD 47:908–913, 2002; AD 135:1267–1272, 1999*

Colloid milium – juvenile colloid milium – eyelids, nose, gingiva, conjunctiva *JAAD 49:1185–1188, 2003; Clin Exp Dermatol 25:138–140, 2000*

Focal mucinosis – eyelid papule

Generalized eruptive histiocytosis *JAAD 47:908–913, 2002*

Jessner's lymphocytic infiltrate red eyelid plaque *AD 138:527–532, 2002*

Juvenile xanthogranuloma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.141, 1999; JAAD 36:355–367, 1997;* adult *Trans Am Ophtalmol Soc 91:99–129, 1993*

Langerhans cell histiocytosis – infiltrated red plaque – urticating Langerhans cell histiocytosis *JAAD 14:867, 873, 1986*

Mastocytoma *Virchows Arch A Pathol Anat Histopathol 412:31–36, 1987*

Self-healing juvenile cutaneous mucinosis *JAAD 50:S97–100, 2004*

Xanthogranuloma *AD 137:1253–1255, 2001*

## INFLAMMATORY DISEASES

Blepharitis granulomatosa – edema *AD 120:1141–1142, 1984*

Chronic blepharitis – red eyelid plaque *AD 138:527–532, 2002*

Chronic dacryoadenitis – eyelid edema *Jpn J Ophthalmol 43:109–112, 1999*

Idiopathic facial aseptic granuloma – eyelid papulonodule *AD 137:1253–1255, 2001*

Kikuchi's disease – eyelid edema *Ann DV 126:826–828, 1999*

Lipogranulomas – orbital lipogranulomas – yellow eyelid papules *Ophthal Plast Reconstr Surg 15:438–441, 1999; JAAD 37:839–842, 1997*

Malacoplakia – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.179, 1999; Ophthalmology 95:61–68, 1988*

Marginal blepharitis

Nodular fasciitis *Ophthal Plast Reconstr Surg 15:139–142, 1999;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.147, 1999*

Orbital lipogranulomas – yellow eyelid papules *Ghatan p.58, 2002, Second Edition*

Orbital myositis – erythema and edema *Aust N Z J Med 17:585–591, 1987*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Pseudolymphoma – as manifestation of allergic contact dermatitis (upper eyelid nodules) *BJD 143:411–414, 2000*

Pyoderma gangrenosum *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988*

Pyostomatitis vegetans

Sarcoid *Can J Ophthalmol 25:256–259, 1990;* papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999;* destructive eyelid lesions *Ophthal Plas Reconstr Surg 17:123–125, 2001*

Stevens–Johnson syndrome *Rook p.2999, 1998, Sixth Edition;* scarring of upper lid *JAAD 25:69–79, 1991*

Toxic epidermal necrolysis – begins with inflammation of the eyelids *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

## METABOLIC DISEASES

Acrodermatitis enteropathica – blepharitis *Ped Derm 19:426–431, 2002*

Acromegaly – edematous thick eyelids *Rook p.2704, 1998, Sixth Edition*

Angiokeratoma corporis diffusum (Fabry's disease) ($\alpha$-galactosidase A) – X-linked recessive; upper eyelid edema *NEJM 276:1163–1167, 1967*

Calcinosis cutis – on eyelid margin in chronic renal failure *Am J Ophthalmol 107:556–557, 1989;* subepidermal calcified nodule; papule *Ped Derm 18:227–229, 2001; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.179, 1999*

Hyperthyroidism – unilateral eyelid edema *JAAD 48:617–619, 2003;* hyperpigmentation of eyelids (Jellinek's sign) *JAAD 47:438, 2002; BJD 76:126–139, 1964;* Grave's disease – proptosis due to retraction of eyelids *Rook p.3010, 1998, Sixth Edition*

Hypoalbuminemia – eyelid edema *JAAD 48:617–619, 2003*

Myotonic dystrophy – ptosis (blepharochalasis?) *JAAD 50:S1–3, 2004*

Myxedema (hypothyroidism) – eyelid edema *JAAD 48:617–619, 2003*

Necrobiosis lipoidica diabeticorum

Ochronosis – hyperpigmentation of eyelids with blue tarsal plates of eyelids *Am J Med 34:813–838, 1963*

Pellagra – eyelid edema *Cutis 69:96–98, 2002*

Porphyria – congenital erythropoietic porphyria – ectropion *Semin Liver Dis 2:154–63, 1982;* erythropoietic porphyria – mutilation of eyelids

Pregnancy – eyelid edema *Rook p.3270, 1998, Sixth Edition*

Xanthomas – diffuse planar, tuberous, xanthelasma – yellow eyelid papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.139, 1999; Rook p.2605, 1998, Sixth Edition;* xanthelasma – swollen lids *Cutis 41:113–114, 1988;* generalized plane xanthomas

## NEOPLASTIC DISEASES

Actinic keratosis – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.19, 1999; Rook p.2988, 1998, Sixth Edition*

Apocrine gland carcinoma *Br J Plast Surg 42:598–602, 1989*

Apocrine hidrocystomas – string of pearls *JAAD 10:922–925, 1984*

Atypical lymphoid hyperplasia – yellow eyelid papules *JAAD 37:839–842, 1997*

Basal cell carcinoma *AD 140:1003–1008, 2004; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.24–31, 1999; Ophthalmologica 212 Supp1:40–41, 1998; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:1203–1207, 1985*

Blue nevus – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.90–91, 1999*

Bowen's disease *Rook p.2988, 1998, Sixth Edition*

Chalazion – yellow, skin-colored or red papule or nodule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.165 1999; Ophthalmology 87:218–221, 1980*

Chondroid syringoma *J Postgrad Med 42:125–126, 1996*

Conjunctival congenital cysts *Klin Monatsbl Augenheilkd 213:117–120, 1998*

Cutaneous horn – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.15, 1999*

Dermoid cyst

Eccrine acrospiroma *Eur J Ophthalmol 1:187–193, 1991;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.55, 1999*

Eccrine spiradenomas – linear *J Eur Acad Dermatol Venereol 15:163–166, 2000*

Eccrine sweat gland carcinoma – papule or indurated thickening of eyelid *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.61, 1999; Int Ophthalmol Clin 22:1–22, 1982*

Embryonal rhabdomyosarcoma *AD 138:689–694, 2002*

Epidermal nevus, including epidermal nevus syndrome *Rook p.3008, 1998, Sixth Edition*

Epidermoid cyst – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.157, 1999*

Epidermolytic acanthoma *AD 101:220–223, 1970*

Epstein–Barr virus associated lymphoproliferative lesions – eyelid edema *BJD 151:372–380, 2004*

Eruptive vellus hair cysts – skin-colored, red, white, blue, yellow eyelid papules *Ped Derm 19:26–27, 2002*

Ethmoid sinus mucocele

Extramammary Paget's disease *JAAD 47:S229–235, 2002*

Fibrosarcoma – juvenile fibrosarcoma *Arch Ophthalmol 101:253–259, 1983;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.148, 1999*

Giant cell angiofibroma *Ophthalmology 106:1223–1229, 1999*

Granular cell tumor – eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.179, 1999*

Hair follicle hamartoma – edematous lids *BJD 143:1103–1105, 2000*

Hidradenoma papilliferum *JAAD 41:115–118, 1999; AD 117:55–56, 1981*

Hidrocystoma – eccrine *J Dermatol 21:490–493, 1994; JAAD 26:780–782, 1992;* apocrine – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.153, 1999*

Intra-epidermal carcinoma of the eyelid margin *BJD 93:239–252, 1975*

Inverted follicular keratosis – papule *Ophthalmology 94:1465–1468, 1987; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.9, 1999*

Kaposi's sarcoma *JAAD 40:312–314, 1999; Ann Ophthalmol 14:497–499, 1982;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.121, 1999*

Keratoacanthomas *Ophthalic Surg 17:565–569, 1986;* Grzybowski eruptive keratoacanthomas; ectropion *BJD 147:793–796, 2002; BJD 142:800–803, 2000;* eruptive – periorbital papules *JAAD 37:478–480, 1997;* solitary papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.13, 1999*

Large cell acanthoma *Arch Ophthalmol 109:1433–1434, 1991*

Leiomyoma of the lacrimal sac – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.189, 1999*

Lentigo maligna – macule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.85, 1999*

Leukemia cutis – acute myelogenous leukemia – eyelid nodule *JAAD 40:966–978, 1999*

Lymphoma *Cutis 57:437–440, 1996;* cutaneous T-cell lymphoma (Sézary syndrome) *Semin Oncol 26:276–289, 1999; JAAD 27:427–433, 1992; JAAD 41:254–259, 1999;* B-cell, T-cell – papules, plaques, and tumors *Br J Ophthalmol 69:861–864, 1985;* gastric MALT-lymphoma *Klin Monatsbl Augenheilkd 217:133–135, 2000; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.129–131, 1999;* eyelid ulcers *AD 138:527–532, 2002*

Marginal cysts – occluded glands of Moll; painless white or yellow cyst of lower eyelid close to lacrimal punctum *Rook p.2987, 1998, Sixth Edition*

Meibomian gland cancer

Melanoacanthoma *AD 105:898–899, 1972*

Melanocytic nevus – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.77, 1999;* divided nevus *Br J Ophthalmol 72:198–201, 1988;* periorbital congenital nevi with ankyloblepharon *Ped Derm 18:31–33, 2001*

Melanoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.93, 1999;* desmoplastic melanoma *Ann Ophthalmol 14:141–143, 1982;* lentigo maligna melanoma

Merkel cell carcinoma – red papule mimicking chalazion *Am J Ophthalmol 121:331–332, 1996; Aust N Z J Ophthlmol 24:377–380, 1996; J R Coll Surg Edin 36:129–130, 1991;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.101, 1999*

Metastases – induration, ulcer, or painless nodule *Arch Opthalmol 92:276–286, 1974;* breast cancer *Cutis 31:411–415, 1983; Ophthalmology 94:667–670, 1987;* gastric *Eur J Ophthalmol 2:3–9, 1992;* renal cell, carcinoid – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.135, 1999; JAAD 36:997–998, 1996;* melanoma *Ophthalmol Surg Lasers 29:993–995, 1998*

Microcystic adnexal carcinoma *JAAD 45:283–285, 2001; JAAD 41:225–231, 1999*

Milia *Rook p.2986–2987, 1998, Sixth Edition*

Milia en plaque *Ped Derm 15:282–284, 1998*

Mucinous eccrine carcinoma (mucinous carcinoma of skin) – eyelid papules *JAAD 49:941–943, 2003; AD 136:1409–1414, 2000; Dermatol Surg 25:566–568, 1999; JAAD 36:323–326, 1997*

Mucocoele of frontal or ethmoid sinus – subcutaneous nodule *Arch Ophthalmol 81:683–688, 1969*

Mucoepidermoid carcinoma – eyelid nodule *Derm Surg 27:1046–1048, 2001*

Myospherulosis *Am J Rhinol 11:345–347, 1997*

Myxoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.149, 1999*

Neurilemmoma (Schwannoma) – resembling chalazion *Arch Ophthalmol 102:1650, 1984;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.99, 1999*

Neurofibromas – papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.97, 1999*

Neuroma – palisaded encapsulated neuroma *Br J Ophthalmol 85:949–951, 2001*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *BJD 67:317–319, 1955*

Nevus sebaceus

Nevus spilus, divided *J Cutan Pathol 6:507–512, 1979*

Oncocytoma – bright red or yellow papule *Arch Ophthalmol 102:263–265, 1984*

Papilloma – sessile, pedunculated papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.5, 1999*

Perforating follicular hybrid cyst (pilomatrixoma and steatocystoma) of inner eyelid (tarsus) *JAAD 48:S33–34, 2003*

Pilomatrixoma – papule *Cutis 69:23–24, 2002; Ophthal Plast Reconstr Surg 15:185–189, 1999; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.71, 1999; Ophthalmologica 90:766–769, 1993*

Plasmacytoma – primary plasmacytoma *Med Oncol 17:74–75, 2000;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.133, 1999;* retrobulbar *NEJM 345:1917, 2001*

Pleomorphic adenoma (benign mixed tumor) – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.59, 1999*

Pseudoepitheliomatous hyperplasia – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.11, 1999*

Retention cyst from glands of Zeis *Rook p.2987, 1998, Sixth Edition*

Rhabdomyoma *Am J Dermatopathol 22:264–267, 2000*

Sea-blue histiocyte syndrome

Sebaceous adenoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.39, 1999; J Cutan Pathol 11:396–414, 1984*

Sebaceous carcinoma – red eyelid papule (mimics chalazion) *JAAD 53:925–927, 2005;* late ulceration *Sem Cut Med Surg 21:159–165, 2002; Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.40–41, 1999;* morpheic plaque, blepharitis *JAAD 14:668–673, 1986*

Seborrheic keratosis – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.7, 1999*

Smooth muscle hamartoma *Am J Ophthalmol 128:643–644, 1999*

Spitz nevus *AD 137:1253–1255, 2001;* agminated Spitz nevi *Ped Derm 6:114–117, 1989*

Squamous cell carcinoma – papule *Arch Ophthalmol 118:422–424, 2000; Ophthal Plast Reconstr Surg 10:153–159, 1994; JAAD 25:685–690, 1991; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.32–35, 1999;* adenoid SCC *Am J Ophthalmol 99:291–297, 1985*

Squamous cell carcinoma of the lacrimal sac – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.185, 1999*

Syringocystadenoma papilliferum *Ophthalmology 88:1175–1181, 1981;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.55, 1999*

Syringomas *Derm Surg 25:136–139, 1999;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.53, 1999*

Syringomatous carcinoma (malignant syringoma) *Br J Ophthalmol 81:668–672, 1997; Ophthalmology 91:987–990, 1984*

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003;* in trisomy 21 or normal patients; periorbital

vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

Transitional cell carcinoma of the lacrimal sac papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.185, 1999*

Trichilemmomas *Arch Ophthalmol 98:844–847, 1980;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.69, 1999;* thickened eyelids along lash margin – trichilemmomas in Cowden's disease

Trichoadenoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.67, 1999*

Trichoepithelioma *Eye 12:43–46, 1998; Ophthalmology 93:531–533, 1986;* solitary or multiple – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.65, 1999*

Trichofolliculoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.67, 1999*

## PARANEOPLASTIC DISORDERS

Acanthosis nigricans *BJD 153:667–668, 2005*

Diffuse plane xanthomatosis – flat yellow plaques of eyelids, neck, trunk, buttocks, flexures *AD 93:639–646, 1966*

Hypertrichosis lanuginosa acquisita (malignant down) – in mild forms, confined to face – starts on nose and eyelids; lung, colon carcinomas most common; also breast, gall bladder, uterus, urinary bladder if accompanied by acanthosis nigricans, the malignancy is always an adenocarcinoma *Can Med Assoc 118:1090–1096, 1978*

Necrobiotic xanthogranuloma with paraproteinemia – yellow eyelid papules *Hautarzt 46:330–334, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.143, 1999; Arch Ophthalmol 101:6063, 1983; JAAD 3:257–270, 1980*

## PHOTODERMATOSES

Chronic actinic dermatitis

Dermatoheliosis – ectropion *Rook p.2982, 1998, Sixth Edition*

Favre–Racouchot syndrome (actinic comedonal plaque) *Am J Ophthalmol 96:687–688, 1983*

Piroxicam photodermatitis

Polymorphic light eruption

Quinidine photo-lichen planus

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *Ophthal Plast Reconstr Surg 10:49–50, 1994; Am J Ophthalmol 115:42–45, 1993*

Acne rosacea – blepharitis (desquamation and erythema) *BJD 65:458–463, 1953;* periorbital chronic edema *Rook p.2104–2110, 1998, Sixth Edition*; *Arch Ophthalmol 108:561–563, 1990;* acne agminata (granulomatous rosacea) – monomorphic brown papules of chin, cheeks, eyelids *BJD 134:1098–1100, 1996;* red eyelid plaque *AD 138:527–532, 2002;* acne rosacea cysts of eyelid

Atopic dermatitis – eyelids lichenified, inflamed, scaly, crusted *Rook p.2997, 1998, Sixth Edition;* Dennie–Morgan folds *Rook p.2982, 1998, Sixth Edition*

Blepharochalasis *Br J Ophthalmol 72:863–867, 1988; Cutis 45:91–94, 1990; Can J Ophthalmol 27:10–15, 1992; AD 115:479–481, 1979*

Ascher's syndrome – blepharochalasis with progressive enlargement of upper lip; increased thickness of eyelids *JAAD 29:650–651, 1993; Ped Derm 8:122–123, 1991; BJD 66:129–138, 1954*
Chronic dermatitis
Cutis laxa
Familial systemic amyloid
Floppy eyelid syndrome
Granulomatous slack skin syndrome (CTCL)
Hughes syndrome (acromegaloid features and thickened oral mucosa) *J Med Genet 22:119–125, 1985*
Idiopathic
Meretoja's syndrome

Blepharophimosis
Cleft lip–palate, blepharophimosis, lagophthalmos, hypertelorism *Am J Med Genet 10:409–412, 1981*
Marden–Walker syndrome *J Med Genet 18:50–53, 1981*
Schwartz–Jampel syndrome (chondrodystrophic myotonia) *Arch Neurol 22:455–462, 1972*

Blepharospasm *Rook p.2981, 1998, Sixth Edition*

Childhood granulomatous perioral (orbital) dermatitis – papules *AD 128:1395–1400, 1992*

Collodion baby (lamellar desquamation of the newborn) – ectropion *Rook p.1494, 1998, Sixth Edition*

Dermatochalasis – lax eyelid skin in elderly *Rook p.2981, 1998, Sixth Edition*

Dowling–Degos disease – comedone-like lesions on upper eyelids

Entropion *Rook p.2983, 1998, Sixth Edition*

Epidermolysis bullosa, recessive dystrophic – symblepharon *Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer, 1992:135–151*

Erythroderma – ectropion *Rook p.2982, 1998, Sixth Edition*

Granuloma annulare *Ped Derm 16:373–376, 1999; Ann Ophthalmol 17:73–75, 1985*

Granuloma faciale – red eyelid plaque *AD 138:527–532, 2002*

Harlequin fetus (ichthyosis congenital fetalis) – severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis; eversion of eyelids *Rook p.2980, 1998, Sixth Edition; JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Ichthyosiform erythroderma – ectropion *Rook p.2980,2982, 1998, Sixth Edition*

Keratosis follicularis spinulosa decalvans – blepharitis *JAAD 47:S275–278, 2002*

Kimura's disease *Surv Ophthalmol 44:79–91, 1999; Br J Ophthalmol 76:755–757, 1992*

Lamellar ichthyosis – ectropion *Rook p.1500, 1998, Sixth Edition*

Laxity of the eyelid *Dermatol Clin 10:793–798, 1992*

Lichen planus *Dermatol Online J 7:5, 2001; Dermatology 191:350–351, 1995; JAAD 27:638–639, 1992*

Lichen sclerosus et atrophicus

Lichen simplex chronicus *Arch Ophthalmol 117:829–831, 1999*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive – presents with collodion baby; ectropion *AD 121:477–488, 1985*

Periorbital dermatitis (periorbital variant of perioral dermatitis) – idiopathic or topical corticosterioid-associated *Rook p.2110–2111, 1998, Sixth Edition;* including facial Afro-Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Psoriasis – may mimic chronic blepharitis *Rook p.1604, 1998, Sixth Edition;* red eyelid plaque *AD 138:527–532, 2002*

Ptosis – congenital, aging, Horner's syndrome, third nerve palsy, myasthenia gravis, myotonic dystrophy, Ehlers–Danlos syndrome; Frydman syndrome (ptosis with blepharophimosis, epicanthus inversus and telecanthus)

Seborrheic blepharitis *The Clinical Management of Itching; Parthenon; p.35, 2000; Rook p.2990, 1998, Sixth Edition*

Vitiligo

## PSYCHOCUTANEOUS DISEASE

Factitial dermatitis *Br J Ophthalmol 82:97, 1998*

## SYNDROMES

Aarskog syndrome – ptosis *Birth Defects 11:25–29, 1975*

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

Ablepharon with follicular ichthyosis and hairy pinnae *Clin Genet 2:111–114, 1971*

Acrocallosal syndrome (Greig cephalopolysyndactyly syndrome) – abnormal upper lids, frontonasal dysostosis, callosal agenesis, cleft lip/palate, redundant skin of neck, grooved chin, bifid thumbs, polydactyly, syndactyly *Am J Med Genet 43:938–941, 1992*

Acrocraniofacial dysostosis – ptosis *Am J Med Genet 29:95–106, 1988*

Acrofacial dysostosis (Reynolds syndrome) – ptosis *Am J Med Genet Suppl 2:143–150, 1986*

AEC syndrome (Hay–Wells syndrome) – ankyloblepharon, ectodermal dysplasia, cleft lip/palate syndrome – eyelid papillomas, periorbital wrinkling *Textbook of Neonatal Dermatology, p.468, 2001; Ped Derm 14:149–150, 1997*

Anhidrotic ectodermal dysplasia – folds and creases of upper and lower eyelids *J Med Genet 38:579–585, 2001; Am J Med Genet 53:153–162, 1994*

Ankyloblepharon – AEC (Hay–Wells) syndrome, ADULT syndrome, EEC syndrome, Limb–mammary syndrome *JAAD 47:805, 2002*

Ankyloblepharon with cleft palate *Br J Ophthalmol 63:129, 1969*

Ascher's syndrome – blepharochalasis with progressive enlargement of upper lip; increased thickness of eyelids *AD 139:1075–1080, 2003; JAAD 29:650–651, 1993; Ped Derm 8:122–123, 1991; BJD 66:129–138, 1954; Klin Monatsbl Augenheilkd 65:86–97, 1920*

Ataxia telangiectasia – telangiectasias of eyelids, bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *Rook p.2095,1998, Sixth Edition; JAAD 10:431–438, 1984; Ann Intern Med 99:367–379, 1983*

Barber–Say syndrome – ablepharon, ectropion of lower eyelids, hypertrichosis, atrophic skin *Am J Med Genet 47:20–23, 1993*

Basaloid follicular hamartoma syndrome – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 43:189–206, 2000*

Beckwith–Wiedemann syndrome (Exomphalos–Macroglossia–Gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Benign joint hypermobility syndrome – arthralgia, joint dislocation, hyperextensible skin, laxity of eyelids, normal skin texture and thickness (unlike Ehlers–Danlos syndrome) *J Rheumatol 13:239–243, 1986*

Blepharophimosis syndrome – autosomal dominant; ptosis, blepharophimosis, epicanthus inversus, telecanthus *Am J Ophthalmol 72:625–631, 1971*

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, and hand and forearms; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy, no neurologic deficits *Am J Hum Genet 21:196–227, 1969; AD 94:687–694, 1966*

Borjeson–Forssman–Lehman syndrome – ptosis *Am J Med Genet 19:653–664, 1984*

Bowen–Armstrong syndrome (cleft lip-palate, ectodermal dysplasia, mental retardation) – ankyloblepharon *Clin Genet 9:35–42, 1976*

Cardio-facio-cutaneous syndrome (NS) – ptosis, xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes (decreased or absent eyebrows), seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse scalp hair and eyebrows and lashes, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990*

Carnevale syndrome – ptosis *Am J Med Genet 33:186–189, 1989*

Carney complex (NAME/LAMB) – myxoma *JAAD 43:377–379, 2000;* bilateral *Br J Ophthalmol 75:251–252, 1991*

Char syndrome (short philtrum, patulous lips, ptosis, low-set pinnae) *Birth Defects 14 (6B):303–305, 1978*

Congenital ichthyosis, alopecia, eclabion, ectropion, mental retardation – autosomal recessive *Clin Genet 31:102–108, 1987*

Cowden's disease – trichilemmomas (small pebbly papules) *JAAD 11:1127–1141, 1984*

Craniocarpotarsal dysplasia (whistling face syndrome) – ptosis *J Med Genet 14:139–141, 1977*

Cryptophthalmos syndrome (Fraser syndrome) *Am J Med Genet 31:159–168, 1988*

Del (13q) syndrome – ptosis *Eur J Pediatr 128:27–31, 1978*

Deletion of short of chromosome 18 – mental and growth deficiency, microcephaly, ptosis *Am J Med Genet 66:378–398, 1996*

Delleman–Oorthuys syndrome – oculocerebrocutaneous syndrome – eyelid tag, periorbital tags, facial tags, orbital cysts, focal punched-out skin defects of the ala nasi, cerebral malformations *Clin Dysmorphol 7:279–283, 1998*

Down's syndrome – thickened eyelids and syringomas *AD 77:319–323, 1958*

Dubowitz syndrome – ptosis; narrow eyelids *Eur J Pediatr 144:574–578, 1986*

Dup (10q) syndrome – ptosis *Hum Genet 46:29–40, 1979*

Ectodermal dysplasia – ankyloblepharon, absent lower eyelashes, hypoplasia of upper lids, coloboma, seborrheic

dermatitis, cribriform scrotal atrophy, ectropion, lacrimal duct hypoplasia, malaligned great toenails, gastroesophageal reflux, ear infections, laryngeal cleft, dental anomalies, scalp hair coarse and curly, sparse eyebrows, xerosis, hypohidrosis, short nose absent philtrum, flat upper lip *BJD 152:365–367, 2005*

Ectrodactyly–ectodermal dysplasia–cleft lip/palate syndrome (EEC syndrome) – chronic blepharitis *Ped Derm 20:113–118, 2003*

Encephalocranial lipomatosis – linear yellow papules of forehead extending to eyelids; ophthalmologic manifestations; seizures, mental retardation; mandibular or maxillary ossifying fibromas and odontomas *Ped Derm 22:206–209, 2005; JAAD 47:S196–200, 2002; Am J Med Genet 191:261–266, 2000; JAAD 37:102–104, 1998; BJD 104:89–96, 1981*

Epidermal nevus syndrome – pedunculated eyelid papules *JAAD 50:957–961, 2004*

Eyelid cysts, hypodontia and hypotrichosis *JAAD 10:922–925, 1984*

Familial dyskeratotic comedones

Fetal alcohol syndrome – narrow eyelids *Drug Alcohol Depend 14:1–10, 1984*

FG syndrome (unusual facies, mental retardation, congenital hypotonia, imperforate anus) – short narrow eyelids *Am J Med Genet 19:383–386, 1984*

Floppy eyelid syndrome – eversion of lids during sleep *BJD 151:706, 2004*

Frydman syndrome – autosomal recessive; prognathism, syndactyly, short stature, blepharophimosis, weakness of extraocular and frontal muscles, synophrys *Clin Genet 41:57–61, 1992*

Goldenhaar syndrome – mandibulofacial dysostosis *Rook p.2980, 1998, Sixth Edition*

Hereditary angioneurotic edema (Quincke's edema)

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa with blepharochalasis, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids (ectropion), sparse arched lateral eyebrows, prominent ears) fetal finger pads, mental retardation *Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Leprechaunism (Donohue's syndrome) – ptosis, decreased subcutaneous tissue and muscle mass, characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Lipoid granulomatosis (Erdheim–Chester disease) – yellow eyelid papules *Ghatan p.58, 2002, Second Edition*

Lipoid proteinosis – papules along the lash margin *Int J Derm 39:203–204, 2000; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.177, 1999; Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Lymphedema–distichiasis syndrome – periorbital edema, vertebral abnormalities, spinal arachnoid cysts, congenital heart disease, thoracic duct abnormalities, hemangiomas, cleft palate, microphthalmia, strabismus, ptosis, short stature, webbed neck *Ped Derm 19:139–141, 2002*

Marcus Gunn phenomenon (winking jaw syndromes) – ptosis *Am J Ophthalmol 82:503–504, 1976*

MAUIE syndrome – micropinnae, alopecia, ichthyosis, and ectropion *JAAD 37:1000–1002, 1997*

Melkersson–Rosenthal syndrome – granulomatous blepharitis *Ophthalmology 104:1185–1189, 1997*

MEN IIB – thickened eyelid margins *AD 139:1647–1652, 2003 JAAD 42:939–969, 2000*

MEN type III – eyelid papules – plexiform neuromas *JAAD 36:296–300, 1997*

Moebius syndrome – ptosis *J Med Genet 14:415–417, 1977*

Multicentric reticulohistiocytosis – multiple papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.149, 1999*

Multiple pterygium syndrome – ptosis *Am J Med Genet 7:91–102, 1980*

Myotonic dystrophy (Steinert syndrome) – ptosis *J Pediatr 81:83–86, 1972*

Neu–Laxova syndrome – rudimentary eyelids, polyhydramnios, growth retardation, microcephaly, ichthyosis, thick hyperkeratotic skin *Am J Med Genet 43:602–605, 1992*

Neurofibromatosis type I – plexiform neurofibroma of the eyelids *J Maxillofac Surg 12:78–85, 1984*

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; at birth collodion baby or ichthyosiform erythroderma; thereafter pattern resembles non-bullous ichthyosiform erythroderma; hypohidrosis; ectropion; palmoplantar hyperkeratosis, WBC vacuoles, myopathy, fatty liver, CNS disease, deafness *BJD 144:430–432, 2001; JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*

Nevoid basal cell carcinoma (Gorlin's) syndrome – eyelid lesions *JAAD 11:98–104, 1984; AD 114:95–97, 1978; Birth Defects 8:140–148, 1971*

Nevus sebaceus syndrome *Dermatologica 181:221–223, 1990*

Noonan syndrome – ptosis *J Med Genet 24:9–13, 1987*

Oculo-auricular vertebral syndrome – epibulbar dermoid tumors *Ped Derm 20:182–184, 2003*

Pallister–Killian syndrome – ptosis *J Clin Dysmorphol 1:2–3, 1983*

Penchaszadeh syndrome (nasopalpebral lipoma–coloboma syndrome) – eyelid lipoma *Am J Med Genet 11:397–410, 1982*

Popliteal pterygium syndrome – autosomal dominant; eyelid adhesions, bilateral popliteal pterygia, intercrural pterygium, hypoplastic digits, valgus or varus foot deformities, syndactyly, cryptorchidism, inguinal hernia, cleft scrotum, lower lip pits, mucous membrane bands *J Med Genet 36:888–892, 1999; Int J Pediatr Otorhinolaryngol 15:17–22, 1988*

Ptosis–aortic coarctation syndrome *J Pediatr Surg 22:724–726, 1987*

Ptosis and unusual facies *Am J Med Genet 7:5–9, 1980*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Restrictive dermopathy – autosomal recessive, swollen eyelids, erythroderma at birth, with extensive erosions and contractures; taut shiny skin; fetal akinesia, multiple joint contractures, dysmorphic facies with fixed open mouth, hypertelorism, pulmonary hypoplasia, bone deformities; uniformly fatal *Ped Derm 19:67–72, 2002; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 128:228–231, 1992*

Robinow syndrome (fetal face syndrome) – ankyloblepharon *Clin Genet 31:77–85, 1987*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – eyelid edema, periorbital edema *BJD 145:323–326, 2001; Trans Am Ophthalmol Soc 86:113–135, 1988;* bilateral eyelid edema *Ped Derm 17:377–380, 2000; Ophthal Plast Reconstr Surg 15:52–55, 1999*

Saethre–Chotzen syndrome – ptosis *J Pediatr 76:928–930, 1970*

Schopf–Schulz–Passarge syndrome – hidrocystomas (cysts on eyelid margins), conical teeth, alopecia (thin scalp hair), fissured palmoplantar keratoderma, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; JAAD 36:569–576, 1997; BJD 127:33–35, 1992; Birth Defects XII:219–221, 1971*

Schwartz–Jampel syndrome (chondrodystrophic myotonia) – ptosis *Arch Ophthalmol 68:52–57, 1962*

Sjögren's syndrome – eyelid pruritus and dermatitis *Int J Derm 33:421–424, 1994*

Smith–Lemli–Opitz syndrome – ptosis *Am J Med Genet 28:733–734, 1987; Clin Pediatr 16:665–668, 1977*

Sturge–Weber syndrome (encephalofacial angiomatosis) – facial port wine stain almost invariably involving upper eyelid with homolateral leptomeningeal angiomatosis *Pediatrics 76:48–51, 1985*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – hyperpigmented eyelids, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Tuberous sclerosis *J Pediatr Ophthalmol 13:156–158, 1976;* white eyelashes *South Med J 75:227–228, 1982*

Turner syndrome – ptosis *J Craniofac Genet Dev Biol 5:327–340, 1985*

Van der Woude syndrome – ankyloblepharon, congenital sinuses of the lower lip *Am J Hum Genet 19:416–432, 1967*

Velocardiofacial syndrome – short narrow eyelids *J Craniofac Genet Dev Biol 4:39–46, 1984*

Vogt–Koyanagi–Harada syndrome – depigmented eyelids *JAAD 15:17–24, 1986*

Williams syndrome – premature laxity of skin, congenital heart disease (supravalvular aortic stenosis), baggy eyes, full cheeks, prominent lips, dental malocclusion, delayed motor skills, cocktail party personality *J Pediatr 113:318–326, 1988*

Wyburn–Mason (Bonnet–Duchaume–Blanc) syndrome – unilateral salmon patch with punctate telangiectasias or port wine stain; unilateral retinal arteriovenous malformation, ipsilateral aneurysmal arteriovenous malformation of the brain *Am J Ophthalmol 75:224–291, 1973*

Xeroderma pigmentosum – blepharospasm, entropion, ectropion, symblepharon, scarring and tumors of eyelids *Rook p.2980, 1998, Sixth Edition*

### TRAUMA

Eyelid laceration – in neonate by fetal monitoring electrode *Am J Ophthalmol 125:715–717, 1998*

Scars – ectropion *Rook p.2982–2983, 1998, Sixth Edition*

### VASCULAR DISEASES

Angiofibromas – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.146, 1999*

Angiosarcoma *Am J Ophthalmol 125:870–871, 1998; Aust N Z J Ophthalmol 23:69–72, 1995;* eyelid edema *Hautarzt 51:419–422, 2000;* eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.125, 1999;* nodule *AD 121:549–550, 1985;* yellow plaques of eyelids *JAAD 34:308–310, 1996;* nodule *AD 121:549–550, 1985*

Arteriovenous hemangioma (cirsoid aneurysm or acral arteriovenous tumor) – associated with chronic liver disease *BJD 144:604–609, 2001*

Arteriovenous malformation *Ophthalmic Surg 26:145–152, 1995; Ophthalmic Surg 11:771–777, 1980*

Carotid–cavernous sinus fistula – eyelid edema *JAAD 48:617–619, 2003*

Cherry angioma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.113, 1999*

Congestive heart failure – eyelid edema *JAAD 48:617–619, 2003*

Dural arteriovenous malformation – eyelid edema *JAAD 48:617–619, 2003*

Glomus tumor – papule *Ophthalmology 100:139–143, 1993; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.119, 1999*

Hemangioma *Am J Ophthalmol 124:403–404, 1997; Dermatol Clin 10:653–661, 1992;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins pp.109–111, 1999;* focal hemangioma *AD 139:869–875, 2003*

Hemangiopericytoma *Am J Ophthalmol 121:445–447, 1996*

Henoch–Schönlein purpura – eyelid and facial edema due to intracerebral hemorrhage *Brain and Development 24:115–117, 2002;* upper eyelid ecchymoses and edema *Arch Ophthalmol 117:842–843, 1999*

Lymphangioma *Ophthalmology 91:1278–1284, 1984;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.119, 1999*

Port wine stain *Rook p.571,2985, 1998, Sixth Edition*

Pyogenic granuloma *J Am Optok Assoc 58:664–673, 1987*

Salmon patch (nevus simplex) ('stork bite') – pink macules with fine telangiectasias of the nape of the neck, glabella, forehead upper eyelids, tip of nose, upper lip, midline lumbosacral area *Ped Derm 6:185–187, 1989; Ped Derm 73:31–33, 1983*

Sinus pericranii *JAAD 46:934–941, 2002*

Thrombosed varix – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.119, 1999*

Wegener's granulomatosis – necrotizing inflammation of eyelid *NEJM 352:392, 2005;* yellow eyelid papules (florid xanthelasmata) *Br J Ophthalmol 79:453–456, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999*

## EYES, RED, AND RASH

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – latex *J Occup Environ Med 42:613–621, 2000;* flowers *Contact Dermatitis 42:369–370, 2000;* tulip workers *Cutis 71:319–321, 2003; JAAD 7:500–503, 2003;* eye drops (phenylephrine) *J Invest Allergol Clin Immunol 9:55–57, 1999;* food (potato, onion) – facial dermatitis, contact

urticaria, rhinoconjunctivitis *Am J Contact Dermat 10:40–42, 1999;* methacrylate *Allergy 51:56–59, 1996*

Autoimmune iritis and alopecia areata

Benign familial neutropenia – conjunctivitis and blepharitis *JAAD 30:877–880, 1994*

Chronic granulomatous disease *JAAD 36:899–907, 1997*

Cicatricial pemphigoid (mucous membrane pemphigoid) *AD 138:370–379, 2002; JAAD 43:571–591, 2000; J Periodontol 71:1620–1629, 2000; Cutis 63:181–183, 1999; Rook p.1875, 1998, Sixth Edition; JAAD 24:987–1001, 1991; BJD 118:7–10, 1988;* ocular cicatricial pemphigoid *AD 129:456–459, 1993;* anti-epiligrin cicatricial pemphigoid *JAAD 42:841–844, 2000*

Common variable immunodeficiency *BJD 144:597–600, 2001*

Dermatitis herpetiformis

Dermatomyositis *Eye and Skin Disease, pp.233–238, Lippincott, 1996*

Epidermolysis bullosa acquisita *AD 135:954–959, 1999 JAAD 16:439–443, 1986*

Graft vs. host disease, chronic – keratoconjunctivitis sicca *JAAD 38:369–392, 1998; AD 134:602–612, 1998*

Hayfever conjunctivitis – associated with atopic dermatitis

Juvenile rheumatoid arthritis (Still's disease)

Linear IgA disease – conjunctivitis *JAAD 51:S112–117, 2004; JAAD 30:355–357, 1994; Opthalmology 107:1524–1528, 2000; JAAD 19:792–805, 1988;* linear IgA disease vs. 290 Kd – cicatricial pemphigoid-like syndrome *JAAD 31:884–888, 1994; JAAD 20:761–770, 1989*

Lupus erythematosus – systemic lupus erythematosus episcleritis *BJD 135:355–362, 1996;* subacute cutaneous LE and keratoconjunctivitis sicca *AD 128:1265–1270, 1992;* discoid lupus with punctate keratopathy or stromal keratitis *Arch Ophthalmol 107:545–547, 1989;* conjunctival erythema *Rook p.2448, 1998, Sixth Edition;* nodular episcleritis

Mixed connective tissue disease – keratoconjunctivitis sicca, conjunctivitis, episcleritis, scleritis *Eye and Skin Disease, pp.247–251, Lippincott, 1996*

Ocular pemphigus *JAAD 53:585–590, 2005*

Pemphigus foliaceus *Ghatan p.173, 2002, Second Edition;* conjunctivitis of endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

Pemphigus vulgaris *Curr Prob Derm VIII:41–96, 1996; BJD 123:615–620, 1990*

Pseudopemphigoid *Ophthalmology 88:95–100, 1981*

Rheumatoid arthritis – episcleritis, scleritis *JAAD 46:161–183, 2002; Rook p.3006, 1998, Sixth Edition;* peripheral ulcerative keratitis associated with neutrophilic disorders *JAAD 40:331–334, 1999*

Scleroderma – keratoconjunctivitis sicca *Br J Ophthalmol 53:388–392, 1969;* CREST syndrome

Sjögren's syndrome

## DRUG-INDUCED

Corticosteroids – periorbital dermatitis and conjunctivitis *Eye 12:148–149, 1998*

Drug hypersensitivity syndromes

Drug-induced pemphigoid

Intravenous 5-fluorouracil therapy

Gold

Isotretinoin, oral (retinoid conjunctivitis) – blepharoconjunctivitis *JAAD 19:209–211, 1988*

Methotrexate, high dose and leucovorin – conjunctivitis and bullae

Minocycline – drug-induced Sweet's syndrome *JAAD 27:801–804, 1992*

Morbilliform drug eruption

Pilocarpine – ocular pseudopemphigoid *AD 136:113–118, 2000*
Ranitidine (Zantac)

Toxic epidermal necrolysis

Vancomycin – linear IgA disease mimicking toxic epidermal necrolysis *JAAD 48:S56–57, 2003*

## EXOGENOUS AGENTS

*Agave americana* (century plant) dermatitis – palpable purpuric agave dermatitis with contact conjunctivitis *Cutis 72:188–190, 2003*

Air bag chemical keratitis *JAAD 46:S25–26, 2002*

Cobalt – light blue; uveitis *Lancet ii:27–28, 1969*

Foreign body conjunctivitis

## INFECTIONS AND/OR INFESTATIONS

Abscess – staphylococcal obtrurator abscess with adjacent ischial osteomyelitis *J Am Osteopath Assoc 91:807–812, 1991*

Actinomycosis – keratitis, conjunctivitis, anterior uveitis *Eye and Skin Disease, pp.567–570, Lippincott, 1996*

Adenoviral conjunctivitis with erythema multiforme

Adenoviral pharyngoconjunctival fever

African tick-bite fever – *Rickettsia africae Clin Inf Dis 39:700–701, 741–742, 2004*

AIDS – keratoconjunctivitis sicca; pink patches of keratitis *Arch Ophthalmol 102:201–206, 1984;* AIDS-associated Kawasaki-like syndromes *Clin Inf Dis 32:1628–1634, 2001;* recurrent Kawasaki's disease-like syndrome *Clin Inf Dis 105–111, 2003*

Amebiasis – acanthamebiasis in AIDS *AD 131:1291–1296, 1995*

Angular blepharitis secondary to *Staphylococcus aureus* or *Moraxella*

Arenaviruses (hemorrhagic fevers) – Lassa fever (rats and mice) (West Africa), Junin virus (Argentine pampas), Machupo virus (Bolivian savannas), Guanarito virus (Venezuela), Sabia virus (Southeast Brazil), Whitewater virus (California, New Mexico), Tacaribe virus complex (mice) – swelling of face and neck, oral hemorrhagic bullae, red eyes *JAAD 49:979–1000, 2003*

Bartonellosis (*Bartonella bacilliformis*) – conjunctival lesions *Clin Inf Dis 33:772–779, 2001*

Blister beetle periorbital dermatitis and keratoconjunctivitis *Eye 12:883–885, 1998*

Brucellosis

Cache Valley virus *NEJM 336:547, 1997*

Candidiasis, including chronic mucocutaneous candidiasis – keratoconjunctivitis; keratitis *Rook p.3009, 1998, Sixth Edition; Clin Genet 27:535–542, 1985*

Cat scratch disease (*Bartonella henselae*) – Parinaud's oculoglandular syndrome – granulomatous conjunctivitis with pre-auricular adenopathy *Ped Derm 5:1–9, 1988;* endogenous endophthalmitis *Clin Inf Dis 33:718–721, 2001*

Caterpillar dermatitis – conjunctivitis *Rook p.1450, 1998, Sixth Edition;* gypsy moth caterpillar – conjunctivitis with eyelid dermatitis *NEJM 306:1301–1302, 1982*

Cellulitis/erysipelas

Chagas' disease – American trypanosomiasis; Romana's sign – unilateral edema of the eyelids and inflammation of the lacrimal gland *Rook p.1409–1410, 1998, Sixth Edition*

*Chlamydia trachomatis*

Cobra spray

Coccidioidomycosis – episcleritis with erythema nodosum *Rook p.3006, 1998, Sixth Edition*

Conjunctivitis
- Adenoviral pharyngoconjunctival fever – type 3
- *Chlamydia trachomatis*
- Coccidioidomycosis
- Epidemic keratoconjunctivitis – adenovirus type 8
- Mumps interstitial conjunctivitis
- Pharyngoconjunctival fever – adenovirus type 3
- Secondary syphilis – iris roseata
- Streptococcal
- Tuberculous interstitial (parenchymal) conjunctivitis

Cowpox (feline orthopoxvirus) – conjunctivitis, keratitis *JAAD 49:513–518, 2003*

Cryptococcosis – in AIDS; conjunctivitis *Eye and Skin Disease, pp.471, Lippincott, 1996*

Cysticercosis *JAAD 25:409–414, 1991*

Dacryocystitis (infection of the lacrimal sac) – acute or chronic

Dengue hemorrhagic fever – conjunctival suffusion *Clin Inf Dis 36:1004–1005,1074–1075, 2003; JAAD 46:430–433, 2002; Tyring p.476, 2002*

Dermatophytosis *Ghatan p.173, 2002, Second Edition*

Diphtheria

Dirofilariasis, subcutaneous (migratory nodules) – eyelid, scrotum, breast, arm, leg, conjunctiva *JAAD 35:260–262, 1996*

Ebola virus *Tyring p.423, 2002*

Echovirus 16

Ehrlichiosis – conjunctivitis, morbilliform eruption, transient erythema, petechiae, purpura, TSS/Kawasaki's like eruption *Ann Intern Med 120:736–743, 1994*

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

Ethmoid sinusitis with periorbital cellulitis

Filariasis

Filoviruses – Marburg and Ebola virus; transient morbilliform rashes, purpura, red eyes *JAAD 49:979–1000, 2003*

Fusarium – of sinuses; nasal erythema with conjunctivitis *JAAD 47:659–666, 2002*

Gonorrheal conjunctivitis – profuse purulent discharge; swollen hemorrhagic eyelids *Rook p.2998, Sixth Edition*

Hantavirus hemorrhagic fever *Tyring p.425,435, 2002*

Herpangina – conjunctivitis *Curr Prob Derm VIII:41–96, 1996*

Herpes simplex – follicular conjunctivitis, episcleritis, keratitis, dendritic ulcer, anterior uveitis, central retinal vein occlusion, eczema herpeticum, periocular zosteriform eruption *J Virol 75:5069, 5075, 2001; Medicine 78:395–409, 1999; Arch Ophthalmol 107:1155–1159, 1989; Nephron 50:368–370, 1988; Am J Med Sci 277:39–47, 1979;* Kaposi's varicelliform eruption

Herpes zoster – episcleritis, scleritis, keratitis *Rook p.2992,3006, 1998, Sixth Edition*; *J Laryngol Otol 100:337–340, 1986*

Histoplasmosis

Infectious mononucleosis (Epstein–Barr virus) – conjunctivitis, keratitis, uveitis, choroiditis, retinitis, papillitis *Clin Inf Dis 31:184–188, 2000*

Jellyfish envenomaton

Leishmaniasis – *Leishmania major* uveitis *Clin Inf Dis 34:1279–1280, 2002*

Leprosy – lepromatous with infiltration of corneal nerves leading to anesthesia, infection, blindness *Rook p.1225, 1998, Sixth Edition;* lepromatous leprosy deposits causing keratitis, iridocyclitis, iris atrophy *Rook p.1225, 1998, Sixth Edition;* erythema nodosum leprosum with uveitis, edema, and hyperemia resulting in painful red eye *JAAD 51:416–426, 2004; AD 138:1607–1612, 2002; Rook p.1227,1229, 1998, Sixth Edition*

Leptospirosis *J Clin Inf Dis 21:1–8, 1995*

Loiasis – *Loa loa*; *Chrysops* (deer fly, horse fly, mangrove fly) – adult worms in conjunctiva with unilateral palpebral edema *AD 108:835–836, 1973*

Lyme disease – conjunctivitis, episcleritis, keratitis, iridocyclitis *Adv Int Med 46:247–275, 2001; NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

Lymphogranuloma venereum *JAAD 41:511–529, 1999*

Measles

Meningococcal conjunctivitis and cellulitis *Pediatrics 60:104–106, 1977;* meningococcemia with orbital hemorrhage and DIC – periorbital edema and subconjunctival hemorrhage *Eye 16 (2):190–193, 2002;* meningococcemia – conjunctivitis, conjunctival petechiae; chronic meningococcemia – conjunctivitis, iritis, retinitis *BJD 153:669–671, 2005*

Microsporidial conjunctivitis in HIV *JAMA 275:1545, 1996*

Millipede secretions – red eyes and mahogany pigmentation *Cutis 67:452, 2001;* periorbital edema, periorbital mahogany hyperpigmentation, conjunctivitis, keratitis *JAAD 50:819–842, 2004*

Molluscum contagiosum – chronic conjunctivitis and superficial punctate keratitis *Cutis 60:29–34, 1997*

*Moraxella osloensis*

Murine typhus (*Rickettsia typhi*) – conjunctivitis *MMWR 52:1224–1226, 2003*

*Mycobacterium africanum* (*Mycobacterium tuberculosis* complex)

*Mycobacterium bovis* – conjunctivitis in milkmaids *JAAD 43:535–537, 2000*

*Mycobacterium kansasii* – red nodule of bulbar conjunctivum *BJD 152:727–734, 2005*

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; conjunctival involvement with friable nodules which ulcerate *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops; associated with phlyctenular conjunctivitis *Rook p.1199, 1998, Sixth Edition; Int J Dermatol 30:487–490, 1991;* phlyctenular conjunctivitis with lichen scrofulosorum *Ped Derm 17:373–376, 2000; AD Syphilol 29:398–407, 1934;* tuberculomas of conjunctiva; Parinaud's oculoglandular syndrome – granulomatous conjunctivitis with pre-auricular adenopathy *Rook p.2999, 1998, Sixth Edition*

Myiasis, ocular

North American blastomycosis

Onchocerciasis – corneal inflammation around dead microfilariae leads to punctate keratitis, then sclerosing keratitis or iridocyclitis and possible blindness *AD 140:1161–1166, 2004; Cutis 72:297–302, 2003; JAAD 45:435–437, 2001; Cutis 65:293–297, 2000; AD 133:381–386, 1997*

Orf *Am J Ophthalmol 97:601–604, 1984*

Pappataci fever

Paracoccidioidomycosis – conjunctival lesions *Rook p.1370, 1998, Sixth Edition*

Paragonimiasis – cold abscesses of conjunctivae *Rev Ecuator Hig Med Trop 36:69–82, 1979*

Parinaud's oculoglandular fever – leptospirosis, cat scratch disease, tuberculosis

Parvovirus B19 – erythema infectiosum

Phlebotomus sandfly fever

Pediculosis capitis – conjunctivitis *JAAD 50:1–12, 2004*

Pediculosis pubis *The Clinical Management of Itching; Parthenon; p.55, 2000*

Pinta

Red tide dermatitis with conjunctivitis – *Gymodinium breve* (dinoflagellate)

Relapsing fever (tick-borne relapsing fever) – Ornithodoros soft ticks transmitting *Borrelia hermsii*, *B.turicata*, or *B. parkeri*; 1–2 cm rose-colored macules, papules, petechiae, purpura, facial flushing; arthralgias, iritis, myalgia *JAAD 49:363–392, 2003;* diffuse macular rash *Tyring p.438, 2002*

Rhinosporidiosis – conjunctivitis and eversions of eyelid *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

Rocky Mountain spotted fever and other rickettsioses

Roseola infantum

Rubella – conjunctivitis *Tyring p.3,522–523, 2002; Rook p.998, 1998, Sixth Edition*

Rubeola *Tyring p.405, 2002; Rook p.2999, 1998, Sixth Edition*

*Salmonella typhimurium* – erythema nodosum and conjunctivitis *Scand J Infect Dis 20:221–223, 1988*

Schistosomal granuloma – ectopic granuloma of conjunctiva *Rook p.1398, Sixth Edition; Dermatol Clin 7:291–300, 1989*

Scrub typhus (*Rickettsia tsutsugamuchi*) (mites) – headache and conjunctivitis; eschar with black crust; generalized macular or morbilliform rash *JAAD 2:359–373, 1980*

Smallpox

Smallpox vaccination – vaccinia keratitis *Clin Inf Dis 37:251–271, 2003*

Sparganosis – *Spirometra mansonoides* – conjunctivitis *Derm Clinics 17:151–185, 1999*

Spiders – wolf spider (*Lycosa* species) spitting venom *JAAD 44:561–573, 2001*

Staphylococcal blepharitis with associated conjunctivitis *Arch Ophthalmol 95:812–816, 1977*

Staphylococcal scalded skin syndrome

Subacute bacterial endocarditis

Syphilis, secondary – iris roseata; congenital – interstitial keratitis, iridocyclitis, choroidoretinitis, uveitis; syphilitic iritis occurs in 5% of patients with syphilis *Rook p.1255,3007, 1998, Sixth Edition; Presse Med 19:369–371, 1990; JAAD 18:423–428, 1988;* posterior uveitis *Clin Inf Dis 32:1661–1673, 2001*

Tarantula hairs – New World tarantula flicks urticating hairs from the dorsal abdomen giving ophthalmia nodosa ('tarantula eyes') *Arch Ophthalmol 117:1096–1097, 1999; South Med J 91:565–567, 1998; Arch Dis Child 75:462–463, 1996*

TORCH syndrome – congenital glaucoma with conjunctival hyperemia *Textbook of Neonatal Dermatology, p.484, 2001*

Toxic shock syndrome, either streptococcal or staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema with conjuntival erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days *JAAD 39:383–398, 1998; Rev Infect Dis 11 (Suppl 1):S1–7, 1989; JAAD 8:343–347, 1983; Staphylococcus aureus MMWR 46:492, 1997*

Toxocariasis – (*Toxocara canis*, *T. cati*, *T. leonensis*) visceral larva migrans – ocular granuloma *Surv Ophthalmol 28:361–381, 1984*

Toxoplasmosis, congenital (iridocyclitis) *JAAD 12:697–706,1985*

Trichinosis – periorbital edema, chemosis (conjunctivitis) *NEJM 351:487, 2004;* transient morbilliform eruption, splinter hemorrhages *Can J Public Health 88:52–56, 1997; Postgrad Med 97:137–139, 143–144, 1995; South Med J 81:1056–1058, 1988*

Trypanosomiasis, American – Romana's sign

Tularemia, oculoglandular – conjunctivitis *Photodermatology 2:122–123, 1985*

Typhoid fever

Typhus (louse, flea, tick)

Vaccinia – conjunctival autoinoculation *MMWR 52:180–181, 191, 2003; Tyring p.47, 2002*

Varicella

Verruca vulgaris – conjunctivitis or keratitis *Tyring p.265, 2002; Arch Ophthalmol 42:365–372, 1949*

Viral hemorrhagic fevers – including Argentine hemorrhagic fever, Bolivian hemorrhagic fever, Lassa fever (arenavirus) – morbilliform or petechial rash with conjunctivitis *J Infect Dis 155:445–455, 1985;* Venezuelan hemorrhagic fever, hemorrhagic fever with renal syndrome (Hanta virus), Congo-Crimean-Congo hemorrhagic fever (conjunctival injection) *Tyring p.425,440, 2002;* Kyasanur Forest disease (Flavivirus) – conjunctival injection; hemorrhagic exanthem, papulovesicular palatine lesions *Tyring p.444,486, 2002;* Omsk hemorrhagic fever, Rift Valley fever – conjunctivae injected *Tyring p.444, 2002;* yellow fever, dengue fever, Ebola or Marburg virus infection *Dermatol Clinics 17:29–40, 1999*

Viral syndrome with conjunctivitis

Whipple's disease

Yaws

## INFILTRATIVE DISORDERS

Hypereosinophilic syndrome – palpebral conjunctival ulcers *AD 132:535–541, 1996*

Juvenile colloid milium – conjunctivitis *JAAD 49:1185–1188, 2003*

Juvenile xanthogranuloma – hemorrhage into anterior chamber, uveitis, iritis *Rook p.2324, 1998, Sixth Edition;* congenital glaucoma with conjunctival hyperemia *Textbook of Neonatal Dermatology, p.484, 2001;* hyphema of eye *JAAD 34:445–449, 1996; JAAD 36:355–367, 1997*

Langerhans cell histiocytosis

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – yellowish infiltrates with conjunctival injection *BJD 149:1085–1086, 2003; Clinic Exp Dermatol 27:277–279, 2002;* bilateral uveitis *JAAD 51:931–939, 2004;* uveitis, blepharoconjunctivitis *BJD 148:1060–1061, 2003; Ped Derm 17:377–380, 2000*

Cutaneous sinus histiocytosis – chronic uveitis *Ped Derm 17:377–380, 2000*

## INFLAMMATORY DISORDERS

Ankylosing spondylitis

Ciliary neuralgia – unilateral periorbital headache with lacrimation and conjunctival injection with unilateral flushing of the face *Rook p.2782, 1998, Sixth Edition*

Crohn's disease – uveitis, conjunctivitis *Arch Int Med 148:297–302, 1988*

Erythema multiforme major (Stevens–Johnson syndrome) *Rook p.2083, 1998, Sixth Edition; JAAD 25:69–79, 1991; Dermatologica 171:383–396, 1985; Am J Med 44:390–405, 1968*

Erythema nodosum – scleritis and phlyctenular conjunctivitis *JAAD 45:163–183, 2001*

Fuchs' heterochromic iridocyclitis *Cutis 43:49–51, 1989*

Polymyalgia rheumatica/temporal arteritis

Posterior scleritis presenting as red eye (VZV, sarcoidosis, choroidal tumors, melanoma, hemangioma, metastases)

Pyoderma gangrenosum – conjunctival involvement *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988;* peripheral ulcerative keratitis associated with neutrophilic disorders *JAAD 40:331–334, 1999; nodular scleritis Ophthalmology 109:1941–1943, 2002;* bullous pyoderma gangrenosum

Pyostomatitis vegetans

Sarcoid, including erythrodermic sarcoid – conjunctivitis, iridocyclitis, uveitis *Rook p.3007, 1998, Sixth Edition*; Lofgren's syndrome – erythema nodosum, bilateral hilar adenopathy, acute iridocyclitis; Heerfordt's syndrome – uveitis, parotid gland enlargement, fever, cranial nerve palsies (facial nerve); keratoconjunctivitis sicca with parotid and lacrimal gland enlargement *Clin Dermatol 4:129–135, 1986*

Toxic epidermal necrolysis *BJD 113:597–560, 1985*

## METABOLIC

Acrodermatitis enteropathica – conjunctivitis, photophobia *Ped Derm 19:426–431, 2002; Ped Derm 19:180–182, 2002; AD 116:562–564, 1980; Dermatologica 156:155–166, 1978;* acquired zinc deficiency

Addison's disease

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A; deficient lysosomal $\alpha$ *N*-acetylgalactosaminidase) – X-linked recessive *AD 129:460–465, 1993;* initially, telangiectatic macules; tortuous conjunctival vessels *NEJM 276:1163–1167, 1967*

Biotin deficiency *NEJM 304:820–823, 1981*

Biotinidase deficiency – keratoconjunctivitis *Ped Derm 21:231–235, 2004*

Cushing's disease

Cystic fibrosis

Fucosidosis type III – bulbar conjunctival telangiectasias

Gout – scleritis *Rook p.3006, 1998, Sixth Edition*

Hartnup's disease

Hyperthyroidism – Graves exophthalmos

Hyperviscosity syndrome

Hypothyroidism

Hypoparathyroidism (keratoconjunctivitis)

Nephrogenic fibrosing dermopathy *JAAD 48:42–47, 2003*

Porphyria – porphyria cutanea tarda – keratoconjunctivitis; congenital erythropoietic porphyria – keratoconjunctivitis *Ped Derm 20:498–501, 2003; Semin Liver Dis 2:154–63, 1982;* erythropoietic protoporphyria; variegate porphyria

Postmenopausal flushing

Prolidase deficiency – keratitis

Renal failure

Riboflavin deficiency – conjunctivitis and periorificial dermatitis (seborrheic dermatitis-like) *Ped Derm 16:95–102, 1999*

Scurvy – conjunctival hemorrhage *JAAD 41:895–906, 1999; NEJM 314:892–902, 1986*

Vitamin A deficiency with xerophthalmia *Clinics in Derm 17:457–461, 1999; NEJM 331:551, 1994*

Vitamin $B_2$ deficiency (riboflavin deficiency) – conjunctivitis and periorificial dermatitis (seborrheic dermatitis-like) *Ped Derm 16:95–102, 1999; Clinics in Derm 17:457–461, 1999*

Vitamin $B_6$ deficiency – conjunctivitis *Clinics in Derm 17:457–461, 1999*

Vitamin $B_{12}$ deficiency *JAAD 15:1263–1274, 1986*

Wilson's disease

## NEOPLASTIC

Bowen's disease

Epibulbar complex choristoma with nevus sebaceus *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.211, 1999*

Iris nevi in atypical mole syndrome *AD 129:198–201, 1993*

Kaposi's sarcoma *JAAD 28:371–395, 1993; AD 125:357–361, 1989; JAMA 275:1545, 1996*

Leukemia – congenital leukemia cutis *AD 129:1301–1306, 1993;* chronic lymphocytic leukemia

Lipoma

Lymphoma – HTLV I/II leukemia/lymphoma – conjunctivitis *JAAD 38:502, 1998;* cutaneous T-cell lymphoma – keratitis, uveitis *Arch Ophthalmol 99:272–274, 1981*

Melanoma – ciliary body melanoma *AD 139:1067–1073, 2003*

Metastatic carcinoma to the iris

Orbital tumors

Plasmacytoma – retrobulbar *NEJM 345:1917, 2001*

Polycythemia vera

Sebaceous gland carcinoma – may present as blepharoconjunctivitis *JAAD 33:1–15, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.43, 1999*

## PARANEOPLASTIC

Necrobiotic xanthogranuloma with paraproteinemia – episcleritis *Can J Ophthalmol 32:396–399, 1997;* conjunctivitis, keratitis, uveitis, iritis *AD 128:94–100, 1992*

Paraneoplastic pemphigus – conjunctivitis *AD 141:1285–1293, 2005; Cutis 61:94–96, 1998; Dermatol Clin 10:557–571, 1992; NEJM 323:1729–1735, 1990*

## PHOTOSENSITIVITY

Actinic prurigo – conjunctivitis *JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Ped Derm 3:384–389, 1986*

Chronic actinic dermatitis

Hydroa vacciniforme–keratoconjunctivitis *JAAD 42:208–213, 2000; Ped Derm 4:320–324, 1988*

Phototoxic drug eruption

## PRIMARY CUTANEOUS DISEASE

Acne rosacea – blepharitis, conjunctivitis, scleritis, telangiectasia, episcleritis, chalazion, hordeolum, punctate keratitis, iritis, iridocyclitis, meibomitis, corneal thinning, corneal neovascularization, corneal scarring, corneal perforation *Eur J Ophthalmol 10:11–14, 2000; Arch Ophthalmol 111:228–230. 1993; Am J Ophthalmol 88:618–622, 1979; Surv Ophthalmol*

*31:145–158, 1986; Am J Ophtalmol 88:618–622, 1979; BJD 65:458–463, 1953;* keratoconjunctivitis sicca *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998; JAAD 26:211–214, 1992*

Atopic dermatitis – atopic keratoconjunctivitis *Ophthalmology 98:150–158, 1991;* hay fever and atopic dermatitis *Arch Dis Child 81:225–230, 1999;* vernal catarrh (conjunctivitis) *Rook p.2998, 1998, Sixth Edition*

Congenital erosive and vesicular dermatitis with reticulate supple scarring – conjunctivitis *JAAD 45:946–948, 2001; Ped Derm 15:214–218, 1998; JAAD 32:873–877, 1995*

Epidermolysis bullosa, including dominant or recessive dystrophic – corneal erosions *BJD 146:267–274, 2002;* symblepharon *Epidermolysis Bullosa: Basic and Clinical Aspects. New York:Springer, 1992:135–151; J R Soc Med 81:576–578, 1988; AD 124:762–764, 1988;* epidermolysis bullosa atrophicans inversa *JAAD 13:252–278, 1985*

Erythrokeratoderma variabilis – chronic keratoconjunctivitis *Ophthalmolofy 105:1478–1484, 1998*

Erythroderma from a variety of causes

Hailey–Hailey disease *AD 39:679–685, 1939*

Harlequin fetus (ichthyosis congenital fetalis) – severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis – ectropion *JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Hydroa vacciniforme – conjunctivitis *Ped Derm 21:555–557, 2004; Ped Derm 4:320–324, 1987*

Keratosis follicularis spinulosa decalvans – keratitis, conjunctivitis, corneal scarring – X-linked dominant and autosomal dominant *Ped Derm 21:14–17, 2004*

Keratosis lichenoides chronica – scarring eye lesions; blepharitis, conjunctivitis, iridocyclitis, keratoconjunctivitis, anterior uveitis *JAAD 49:511–513, 2003; AD 131:609–614, 1995*

Lamellar ichthyosis – ectropion with exposure keratitis *Rook p.1500,3004, 1998, Sixth Edition*

Lichen planus – conjunctivitis *J Fr Ophthalmol 6:51–57, 1983*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive – ectropion *AD 121:477–488, 1985*

Palmoplantar pustulosis (pustulotic arthro-osteitis) – episcleritis *JAAD 41:845–846, 1999*

Pityriasis rubra pilaris *Ghatan p.173, 2002, Second Edition*

Psoriasis – pustular psoriasis *JAAD 13:828–829, 1985;* psoriasis with conjunctivitis, keratitis, symblepharon, trichiasis *Rook p.1605, 1998, Sixth Edition*; chronic uveitis with psoriatic arthritis *Acta DV (Stockh) 64:557–559, 1984*

Seborrheic dermatitis with blepharitis and conjunctivitis *The Clinical Management of Itching; Parthenon; p.35, 2000; Rook p.2990, 1998, Sixth Edition*

Vitiligo – uveitis *JAAD 4:528–536, 1981; JAAD 38:647–666, 1998*

## SYNDROMES

Albinism

Alport's syndrome

Ataxia telangiectasia – autosomal recessive; telangiectasias of face, extensor surfaces of arms and bulbar conjunctiva; immunodeficiency, increased risk of leukemia, lymphoma; cerebellar ataxia with eye movement signs, mental retardation, and other neurologic defects; café au lait macules *Rook p.2095,1998, Sixth Edition; Ann Intern Med 99:367–379, 1983*

Behçet's disease – relapsing iritis, conjunctivitis, episcleritis, keratitis *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

Blau syndrome – autosomal dominant; granulomatous arthritis, synovial cysts, iritis, rash; resembles childhood sarcoid – red papules, uveitis; chromosome 16p12–q21 *JAAD 49:299–302, 2003; Am J Hum Genet 76:217–221, 1998; Am J Hum Genet 59:1097–1107, 1996*

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; blisters of nose and cheeks; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Curr Prob Derm 14:41–70, 2002; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; AD 114:755–760, 1978; Clin Genet 12:85–96, 1977; Am J Hum Genet 21:196–227, 1969; Am J Dis Child 116:409–413, 1968; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Carcinoid syndrome *JAAD 46:161–183, 2002*

Chronic infantile neurological cutaneous articular syndrome (CINCA) (Neonatal onset multisystem inflammatory disorder (NOMID)) – urticarial rash at birth, arthropathy, uveitis, mental retardation, short stature *AD 136:431–433, 2000; J Pediatr 99:79–83, 1981; Eur J Ped 156:624–626, 1997*

Ciliary neuralgia (cluster headaches) – conjunctival injection and unilateral flushing

Cockayne's syndrome

Costello syndrome *JAAD 32:904–907, 1995*

Degos' disease

Dermochondrocorneal dystrophy (François syndrome) *AD 124:424–428, 1988*

Down's syndrome *Ghatan p.174, 2002, Second Edition*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Dyskeratosis congenita – lacrimal conjunctivitis

Ectrodactyly–ectodermal dysplasia–cleft lip/palate syndrome (EEC syndrome) – keratoconjunctivitis *Ped Derm 20:113–118, 2003; Am J Ophthalmol 78:211–216, 1974*

Ectodermal dysplasia – autosomal recessive ectodermal dysplasia with corkscrew hairs, pili torti, syndactyly, keratosis pilaris, onychodysplasia, dental abnormalities, conjunctival erythema, palmoplantar keratoderma, cleft lip or palate *JAAD 27:917–921, 1992*

Fabry's disease – tortuous blood vessels of bulbar conjunctiva; $\alpha$-galactosidase A deficiency *AD 140:1440–1446, 2004*

Familial histiocytic dermoarthritis – uveitis, arthritis

Floppy eyelid syndrome *BJD 151:706, 2004*

Granulomatous synovitis, uveitis and cranial neuropathies – JABS syndrome *J Pediatr 117:403–408, 1990*

Hereditary mucoepithelial dysplasia (dyskeratosis) (Gap junction disease, Witkop disease) (hereditary benign intra-epithelial dyskeratoses (Witkop–von Sallmann syndrome) – conjunctivitis; leukoplakia of buccal mucosa, lips, tongue in Haliwa–Saponi Native Americans of North Carolina) – dry rough skin; red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (hard palate, gingival, tongue) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform

dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; JAAD 45:634–636, 2001; Ped Derm 11:133–138, 1994; Am J Med Genet 39:338–341, 1991; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978; Arch Pathol 70:696–711, 1960*

Hyper-IgE syndrome *Ped Derm 9:410–413, 1992;* vernal conjunctivitis *Ophthalmology 91:1213–1216, 1984*

HID syndrome (hystrix-like ichthyosis with deafness) – autosomal dominant; shark-skin appearance, sensorineural deafness, spiky and cobblestoned hyperkeratosis, neonatal erythroderma, scarring alopecia, occasional punctate keratitis; probably variant of KID syndrome with mutation of connexin 26 (gap junction protein) *BJD 146:938–942, 2002*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis and corneal vascularization *BJD 142:157–162, 2000; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Incontinentia pigmenti – iritis, uveitis *JAAD 47:169–187, 2002; Curr Prob Derm VII:143–198, 1995; AD 112:535–542, 1976*

Job's syndrome – chronic keratoconjunctivitis

Kawasaki's disease – non-suppurative conjunctivitis; macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, pustular, erythema marginatum-like exanthems; strawberry tongue; cheilitis; edematous hands with lamellar desquamation; myocarditis and coronary artery thrombosis and aneurysms; arthralgia, arthritis *JAAD 39:383–398, 1998; Jpn J Allergol 16:178–222, 1967*

Keratosis–ichthyosis–deafness (KID) syndrome – reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Lipoid proteinosis *JAAD 14:367–371, 1986*

MAGIC syndrome – combination of relapsing polychondritis and Behçet's syndrome *AD 126:940–944, 1990*

Muckle–Wells syndrome – conjunctivitis, aching joints, deafness, amyloid neuropathy, cold air urticaria *BJD 151:99–104, 2004*

Mucoepithelial dysplasia (gap junction disease) – simulates candidal infection, dry rough skin, keratosis pilaris, thin scalp hair, perleche, keratoconjunctivitis

Multiple mucosal neuroma syndrome (MEN IIB) (Gorlin's syndrome) – keratitis due to decreased tear production *Can J Ophthalmol 11:290–294, 1976;* skin-colored papules and nodules of lips, tongue, oral mucosa *JAAD 36:296–300, 1997; Oral Surg 51:516–523, 1981; J Pediatr 86:77–83, 1975; Am J Med 31:163–166, 1961*

Mulvihill–Smith syndrome – short stature, microcephaly, unusual facies, multiple pigmented nevi, hypodontia, immunodeficiency with chronic infections, high pitched voice, progeroid, conjunctivitis, delayed puberty *J Med Genet 31:707–711, 1994*

Neurofibromatosis – congenital glaucoma with conjunctival hyperemia *Textbook of Neonatal Dermatology, p.484, 2001*

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; at birth collodion baby or ichthyosiform erythroderma; thereafter pattern resembles non-bullous ichthyosiform erythroderma; hypohidrosis; ectropion; palmoplantar hyperkeratosis, WBC vacuoles, myopathy, fatty liver, CNS disease, deafness *JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*

Oligodontia, keratitis, skin ulceration, and arthroosteolysis *Am J Med Genet 15:205–210, 1983*

Pseudoacromegaly – autosomal recessive; skin ulcers, arthro-osteolysis, keratitis, oligodontia *Am J Med Genet 15:205–210, 1983*

Rapp–Hodgkin ectodermal dysplasia – congenital, autosomal dominant, ectodermal dysplasia, distinctive craniofacial features, cleft lip or palate and hypospadias in males; scalp dermatitis *Ped Derm 7:126–131, 1990; Ped Derm 14:149–150, 1997*

Recalcitrant erythematous desquamating (RED) syndrome – diffuse macular erythema, ocular and mucosal erythema, strawberry tongue, delayed desquamation in the setting of AIDS *JAAD 39:383–398, 1998*

Reiter's syndrome – conjunctivitis, iritis, uveitis *Ophthalmology 93:350–356, 1986; Ann Rheum Dis 38 (Suppl.):8–11, 1979*

Relapsing polychondritis – scleritis *Rook p.3006, 1998, Sixth Edition;* iritis, conjunctivitis, episcleritis *Medicine 80:173–179, 2001; Eye and Skin Disease, pp.239–242, Lippincott, 1996; Medicine 55:193–216, 1976; Arch Gen Med 14:29–34, 1869*

Sjögren's syndrome – keratoconjunctivitis sicca *Rook p.2572, 1998, Sixth Edition*

Spangler–Tappeiner syndrome

Sturge–Weber syndrome – episcleral telangiectasia with facial nevus flammeus *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.117, 1999;* congenital glaucoma with conjunctival hyperemia *Textbook of Neonatal Dermatology, p.484, 2001*

Sweet's syndrome – conjunctivitis, episcleritis, and inflammatory glaucoma *JAAD 40:331–334, 1999; J Rheumatol 23:1995–1998, 1996; JAAD 31:835–836, 1994; JAAD 31:535–556, 1994; BJD 76:349–356, 1964*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55 kDa TNF receptor *AD 136:1487–1494, 2000*

Tyrosinemia type II (Richner–Hanhart syndrome) – herpetiform erosions and dendritic ulcers *JAAD 35:857–859, 1997*

Vogt–Koyanagi–Harada syndrome – granulomatous panuveitis *Eye and Skin Disease, pp.303–309, Lippincott, 1996*

Wells' syndrome – iritis *Int J Dermatol 31:672, 1992*

Wyburn–Mason syndrome (Bonnet–Duchaume–Blanc syndrome)

Xeroderma pigmentosum – conjunctivitis; acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *BJD 152:545–551, 2005; Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

### TOXINS

Alkali burn

Arsenic poisoning – acute; subconjunctival bleeding *BJD 149:757–762, 2003*

Mustard gas exposure *AD 128:775–780, 1992; JAAD 38:187–190, 1998; JAAD 19:529–536, 1988*

Radiation dermatitis

Scombroid fish poisoning

### TRAUMA

Burns – chemical, thermal, sunburn

Physical trauma

Radiation therapy – *Cancer Nurs 16:371–381, 1993*

Traumatic asphyxia with petechiae *JAAD 23:972–974, 1990*

Ultraviolet B radiation – conjunctivitis and photokeratitis *Dermatol Clin 10:483–504, 1992*

Valsalva maneuver – facial petechiae and conjunctival hemorrhage; subconjunctival hemorrhage from sneezing – viral exanthem

### VASCULAR

Antiphospholipid antibody syndrome

Carotid artery–cavernous sinus fistula

Churg–Strauss syndrome *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.319, 1999 Rook p.2999, 1998, Sixth Edition*

Degos' disease (malignant atrophic papulosis) – bulbar conjunctival involvement *JAAD 38:852–856, 1998; Sem Derm 14:99–105, 1995*

Fat emboli

Hemangioma

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Disseminated hemangiomatosis

Phakomatosis pigmentovascularis

Polyarteritis nodosa, systemic – keratitis and corneal ulcers *Arch Ophthalmol 48:1–11, 1952;* infantile – conjunctivitis *JAAD 53:724–728, 2005; JAMA 217:1666–1670, 1971, J Pediatr 120:206–209, 1992;* fibrinous iridocyclitis; scleritis *Rook p.3006, 1998, Sixth Edition*

Port wine stain of eyelid associated with dilated conjunctival vessels *Can J Ophthalmol 10:136–139, 1975*

Primary pulmonary hypertension

Sturge–Weber syndrome

Superior vena cava syndrome *AD 128:953–956, 1992*

Urticarial vasculitis – conjunctivitis, uveitis, episcleritis with urticarial vasculitis *JAAD 49:S283–285, 2003; JAAD 38:899–905, 1998; JAAD 26:441–448, 1992; Arthr Rheum 32:1119–1127, 1989;* hypocomplementemic vasculitis – iritis, uveitis, episcleritis *JAAD 48:311–340, 2003*

Vasculitis – peripheral ulcerative keratitis associated with neutrophilic disorders (pustular vasculitis) *JAAD 40:331–334, 1999*

Wegener's granulomatosis – keratoconjunctivitis, granulomatous scleritis or uveitis *NEJM 352:392, 2005; JAAD 49:335–337, 2003; Mayo Clin Proc 60:227–232, 1985;* scleritis *Rook p.3006, 1998, Sixth Edition*

## FACIAL DERMATITIS, SCALY

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – fragrances, preservatives, skin-care products, medications, occupational, cosmetics *JAAD 41:435–442, 1999;* airborne contact dermatitis *Clin Dermatol 16:27–31, 1998;* sunscreens *Contact Dermatitis 37:221–232, 1997;* Compositae dermatitis *Rook p.788, 1998, Sixth Edition;* woods *Rook p.794, 1998, Sixth Edition;* nail polish *Contact Dermatitis 34:140–141, 1996;* acrylic nails *Rook p.2867, 1998, Sixth Edition*

Amicrobial pustulosis associated with autoimmune disease treated with zinc *BJD 143:1306–1310, 2000*

Bullous pemphigoid – seborrheic pemphigoid *Clin Dermatol 5:6–12, 1987; Hautarzt 31:18–20, 1980*

Chronic granulomatous disease – seborrheic dermatitis-like *AD 130:105–110, 1994*

Cicatricial pemphigoid

Dermatomyositis *Curr Opin Rheum 11:475–482, 1999*

Dermatitis herpetiformis

Fogo selvagem – seborrheic dermatitis-like eruption *JAAD 20:657–659, 1989*

Hyper-IgE syndrome

Lupus erythematosus – systemic, subacute cutaneous

Pemphigus erythematosus (Senear–Usher syndrome) *Int J Derm 24:16–25, 1985; AD 13:761–781, 1926*

Pemphigus foliaceus – starts in seborrheic distribution *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961*

Severe combined immunodeficiency – seborrheic dermatitis-like eruption *Birth Defects 19:65–72, 1983*

### DRUG-INDUCED

Corticosteroids – inhaled corticosteroids (budesonide) *Clin Exp Allergy 23:232–233, 1993*

Drug hypersensitivity syndrome

Fixed drug eruption

5-fluorouracil

Hydantoin pseudolymphoma

Hydroxyurea – dermatomyosititis-like scaling eruption of face, hands and feet *AD 135:818–820, 1999*

Multiple drugs

Retinoids, topical

Retinoid dermatitis, topical or systemic *Rook p.1969, 1998, Sixth Edition*

Toxic epidermal necrolysis

Uracil–tegafur – DLE-like lesion *Eur J Dermatol 11:54–57, 2001*

### EXOGENOUS AGENTS

Airborne allergic contact dermatitis *JAAD 15:1–10, 1986*

Food allergy – seborrheic dermatitis-like eruption

Irritant contact dermatitis *Rook p.724, 1998, Sixth Edition*

Shiitake mushroom toxicoderma – seborrheic dermatitis-like eruption *JAAD 24:64–66, 1991*

Sorbic acid in cosmetics *Cutis 40:395–397, 1987*

## INFECTIONS AND INFESTATIONS

Demodicidosis, papulonodular

Diphtheria – crusts around nose and mouth with faucial diphtheria *Schweiz Rundsch Med Prax 87:1188–1190, 1998; Postgrad Med J 72:619–620, 1996; Am J Epidemiol 102:179–184, 1975*

Eczema herpeticum *Tyring p.79, 2002; Rook p.700, 1998, Sixth Edition; BJD 114:575–582, 1986*

Eczema vaccinatum *Tyring p.48, 2002*

Herpes simplex infection, chronic

Herpes zoster infection, chronic

HTLV-1 infective dermatitis *BJD 150:958–965, 2004*

Impetigo contagiosum

Infectious eczematoid dermatitis

Leishmaniasis – espundia (mucocutaneous leishmaniasis) – facial edema, erythema, verrucous plaques, dermatitis, edema of lips *Rook p.1418, 1998, Sixth Edition; Am J Trop Med Hyg 59:49–52, 1998*

Leprosy – autoaggressive Hansen's disease *JAAD 17:1042–1046, 1987*

Staphylococcal pyoderma

Tinea barbae – *Trichophyton verrucosum Clin Infect Dis 23:1308–1310, 1996*

Tinea faciei; generalized dermatophytosis

Tinea versicolor *Mycoses 34:345–347, 1991*

Toxic shock syndrome

## INFILTRATIVE DISEASES

Langerhans histiocytosis in adults – seborrheic dermatitis-like eruption

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis of infancy – dermatitis with or without pustules *Ped Derm 21:615–616, 2004*

Erythema multiforme

Sarcoid

Superficial granulomatous pyoderma

## METABOLIC

Acrodermatitis enteropathica *Textbook of Neonatal Dermatology, p.254, 2001; J Dermatol 24:135–136, 1997; BJD 121:773–778, 1989*

Pellagra

Kwashiokor – perinasal erosions *Cutis 67:321–327, 2001*

Nutritional deficiency associated with anorexia nervosa *AD 140:521–524, 2004*

Pyridoxine deficiency – seborrheic dermatitis-like eruption

Riboflavin deficiency – seborrheic dermatitis-like eruption *JAAD 21:1–30, 1989*

## NEOPLASTIC

HTLV-1 leukemia/lymphoma – hyperpigmented facial dermatitis and infective dermatitis around nose and ears HTLV; infective dermatitis of scalp, eyelid margins, axillae, groin; generalized papular dermatitis *AD 134:439–444, 1998; Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Lentigo maligna *Cutis 40:357–359, 1987*

Lymphoma – cutaneous T-cell lymphoma – including perioral scaly dermatitis *BJD 132:671–673, 1995*

## PARANEOPLASTIC DISORDERS

Bazex syndrome (acrokeratosis paraneoplastica) – scaly dermatitis of face and nose *Cutis 55:233–236, 1995*

## PHOTODERMATITIS

Actinic lichen planus *Ann DV 121:635–638, 1994* (*French*); *JAAD 20:226–231, 1989*

Actinic prurigo *Australas J Dermatol 42:192–195, 2001*

Chronic actinic dermatitis *JAAD 21:205–214, 1989*

Photoallergic contact dermatitis – sunscreens *Contact Dermatitis 37:221–232, 1997*

Phototoxic/allergic drug rash

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Atopic dermatitis *Textbook of Neonatal Dermatology, p.242, 2001; Rook p.695, 1998, Sixth Edition*

Darier's disease

Eosinophilic pustular folliculitis

Epidermolytic hyperkeratosis

Erythromelanosis follicularis faciei *JAAD 34:714, 1996*

Granuloma faciale

Granulosis rubra nasi

Ichthyosis, acquired

Impetigo herpetiformis

Keratosis lichenoides chronica – facial erythematosquamous lesions *JAAD 28:870–873, 1993; JAAD 2:217–220, 1980*

Lamellar ichthyosis

Lichen simplex chronicus

Periorbital dermatitis (variant of perioral dermatitis) – idiopathic or topical corticosterioid-associated *Rook p.2110–2111, 1998, Sixth Edition;* including facial Afro-Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Pityriasis alba

Pityriasis rosea

Pityriasis rubra pilaris – seborrheic dermatitis-like eruption *Ped Derm 3:446–451, 1986*

Psoriasis

Seborrheic dermatitis – petalloid, AIDS-associated

Seborrheic dermatitis-like eruptions
- Dermatomyositis
- Fogo selvagem *JAAD 20:657–659, 1989*
- Glucagonoma syndrome *JAAD 12:1032–1039, 1985*
- Hyper-IgE syndrome
- Langerhans histiocytosis in adults
- Pemphigus foliaceus
- Pityriasis rubra pilaris *Ped Derm 3:446–451, 1986*
- Pyridoxine deficiency
- Riboflavin deficiency *JAAD 21:1–30, 1989*
- Seborrheic pemphigoid *Clin Dermatol 5:6–12, 1987; Hautarzt 31:18–20, 1980*
- Severe combined immunodeficiency *Birth Defects 19:65–72, 1983*
- Shiitake mushroom toxicoderma *JAAD 24:64–66, 1991*
- Tinea facei *JAAD 29:119–120, 1993*

### PSYCHOCUTANEOUS

Anorexia nervosa – acquired zinc deficiency *Ped Derm 9:268–271, 1992*

Factitial dermatitis *Am J Ophthalmol 128:392–394, 1999*

### SYNDROMES

Cardio-facio-cutaneous syndrome (NS) – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse scalp hair and eyebrows and lashes, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990*

Dubowitz syndrome – autosomal recessive, erythema and scaling of face and extremities in infancy, sparse blond scalp and eyebrow hair, high pitched hoarse voice, delayed eruption of teeth, growth retardation, craniofacial abnormalities *Am J Med Genet 63:277–289, 1996*

Glucagonoma syndrome – seborrheic dermatitis-like eruption *JAAD 12:1032–1039, 1985*

Hyper-IgE syndrome *Ped Derm 9:410–413, 1992*

Netherton's syndrome

Olmstead's syndrome *Am J Dis Child 383:757, 1927*

Wiskott–Aldrich syndrome *Eur J Pediatr 152:998–1000, 1993*

### TOXINS

Acrodynia (pink disease) *AD 124:107–109, 1988*

### TRAUMA

Airbag dermatitis *J Dermatol 27:685–686, 2000*

Burn

Radiation dermatitis

### VASCULAR

Takayasu's arteritis – scaly erythema

## FACIAL EDEMA

***JAAD 37:346–348, 1997; NEJM 328:1625–1631, 1993***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – latex *Contact Dermatitis 36:229–230, 1997*; chronic facial edema due to palladium dental crowns

Contact *Dermatitis 40:226–227, 1999*

Angioedema *JAAD 25:155–161, 1991*

Dermatomyositis *Rook p.2558–2560, 1998, Sixth Edition; Otolaryngol Head Neck Surg 93:673–677, 1985*

Lupus erythematosus – systemic lupus erythematosus *BJD 135:355–362, 1996; Br J Oral Maxillofacial Surg 26:129–142, 1988; Ann DV 113:1249–1250, 1986*

### CONGENITAL

Apert's syndrome

Cystic hygroma (lymphatic malformation)

Facial hemihypertrophy

Hemangioma

Hurler's syndrome

Infantile cortical hyperostosis

McCune–Albright syndrome

Sturge–Weber syndrome

### DEGENERATIVE DISEASES

Syringomyelia – hemifacial edema *Clin Exp Dermatol 13:42–45, 1988*

### DRUGS

Angiotensin converting enzyme inhibitor-induced angioedema – face and oral mucosa *BJD 136:153–158, 1997*

Anticonvulsant hypersensitivity syndrome *Ped Derm 19:142–145, 2002;* phenytoin reaction *Cutis 61:101–102, 1998*

Corticosteroids

Drug eruptions, multiple drugs – including hypersensitivity syndromes, acute exanthematous pustular eruptions

### EXOGENOUS AGENTS

Iododerma in chronic renal failure – marked facial edema and edema of eyelids; pustulovesicular eruption, pustules, pseudovesicles, vegetative plaques *AD 140:1393–1398, 2004; JAAD 36:1014–1016, 1997; Clin Exp Dermatol 15:232–233, 1990; BJD 97:567–569, 1977*

Peanut allergy *Cutis 65:285–289, 2000*

Silicone granuloma

Sodium hypochlorite irrigation during root canal *AD 132:231–233, 1996*

### INFECTIONS AND INFESTATIONS

Actinomycosis

African trypanosomiasis

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Ped Derm 18:456–457, 2001; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Arenaviruses (hemorrhagic fevers) – Lassa fever (rats and mice) (West Africa), Junin virus (Argentine pampas), Machupo virus (Bolivian savannas), Guanarito virus (Venezuela), Sabia virus (Southeast Brazil), Whitewater virus (California, New Mexico), Tacaribe virus complex (mice) – swelling of face and neck, oral hemorrhagic bullae, red eyes *JAAD 49:979–1000, 2003*

Cowpox *Tyring p.52, 2002*

Crimean–Congo hemorrhagic fever – flushing and edema of face and neck *Tyring p.425,440, 2002*

Ebola virus *Tyring p.424, 2002*

Entomophthoromycosis

Herpes simplex – eczema herpeticum (Kaposi's varicelliform eruption) *Arch Dis Child 60:338–343, 1985*

Epstein–Barr virus – swollen erythema of face *BJD 143:1351–1353, 2000*

Erysipelas/cellulitis – primary or recurrent *Rook p.1114, 1998, Sixth Edition*

Glanders

Gnathostomiasis *Clin Inf Dis 16:33–50, 1993*

Herpes zoster

Infectious mononucleosis

Lassa fever *Tyring p.447, 2002; J Infect Dis 155:445–455, 1985*

Leishmaniasis – espundia (mucocutaneous leishmaniasis) – facial edema, erythema, verrucous plaques, dermatitis, edema of lips *Rook p.1418, 1998, Sixth Edition; Am J Trop Med Hyg 59:49–52, 1998*

Leprosy – lepromatous; type 1 or type 2 reaction in borderline *JAAD 51:417–426, 2004; Rook p.1227, 1998, Sixth Edition*

Mucormycosis, rhinocerebral *J Neurol Sci 143:19–30, 1996*

*Mycobacterium tuberculosis* – lupus vulgaris

Myiasis, nasal

Onchocerciasis, acute – coastal erysipelas (erysipelas de la costa); facial edema *AD 133:381–386, 1997*

Roseola infantum (exanthem subitum) – human herpesvirus 6 – periorbital edema *Pediatrics 93:104–108, 1994*

*Serratia marcescens*

Sinusitis, acute *Laryngoscope 82:1248–1263, 1972*

South American blastomycosis (paracoccidioidomycosis)

Staphylococcus aureus – palatal necrosis

Sycosis barbae

Trichinosis – due to ingestion of bear meat *MMWR 53:606–610, 2004*

Trypanosomiasis – African; edema of face *Rook p.1407–1408, 1998, Sixth Edition*

Varicella

Variola *Tyring p.42, 2002*

Zygomycosis, subcutaneous – Conidiobolus coronatus – lower facial edema *AD 124:1392–1396, 1988*; very disfiguring *JAAD 30:904–908, 1994*

## INFILTRATIVE DISEASES

Amyloidosis *Cutis 61:321–324, 1998*

Scleromyxedema *Cutis 61:321–324, 1998*

## INFLAMMATORY DISEASES

Crohn's disease *Rook p.3112, 1998, Sixth Edition*

Gingival swelling *J Oral Maxillofac Surg 56:760–764, 1998*

Granulomatous cheilitis

Nodular fasciitis – skin-colored nodules (tender or painful) on the head and neck, extremities, or trunk *AD 137:719–721, 2001*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Panniculitis

Sarcoidosis *JAAD 39:835–838, 1999;* Heerfordt's syndrome

## METABOLIC DISEASES

Hemophagocytic syndrome *AD 128:193–200, 1992*

Hypoalbuminemia of any cause

Hypothyroidism (myxedema) *Cutis 61:321–324, 1998*

Kwashiorkor – plump appearance of face *Ped Derm 16:95–102, 1999*

Nephrotic syndrome

Porphyria – adult congenital erythropoietic porphyria *BJD 148:160–164, 2003*

Pregnancy *JAAD 39:835–838, 1999*

## NEOPLASTIC DISEASES

Epstein–Barr virus associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Kaposi's sarcoma *Tyring p.377, 2002; Cutis 61:321–324, 1998; AIDS Clin Rev 261–280, 1992*

Keratoacanthoma, generalized eruptive, of Grzybowski *BJD 142:800–803, 2000*

Leukemia cutis *Cutis 61:321–324, 1998;* chronic lymphocytic leukemia

Lymphoma – chronic facial edema; angiocentric CTCL of childhood (hydroa-like lymphoma) of Latin America and Asia *JAAD 39:835–838, 1999; JAAD 38:574–579, 1998;* angiocentric lymphoma – edema of face and neck *Indian J Pathol Microbiol 34:293–295, 1991;* lymphomatoid granulomatosis *AD 127:1693–1698, 1991;* solid facial edema associated with orbital, periorbital or retro-orbital marginal B-cell lymphoma *JAAD 46:325–357, 2002; Tyring p.156, 2002; JAAD 42:872–874, 2000;* cutaneous T-cell lymphoma; subcutaneous panniculitic T-cell lymphoma *JAAD 50:S18–22, 2004*

Metastatic adenocarcinoma *JAAD 39:637–638, 1998*

Myeloma *AD 130:484, 1994*

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia

## PHOTOSENSITIVITY DISEASES

Hydroa vacciniforme – initial erythema and edema *Ped Derm 18:71–73, 2001*

Photoallergic drug eruption

Phytophotodermatitis

Polymorphic light eruption – papules, plaques, and vesicles with facial edema *Rook p.984, 1998, Sixth Edition*

## PRIMARY CUTANEOUS DISEASES

Acne vulgaris – central forehead, periorbital skin, cheeks *Cutis 61:215–216, 1998; JAAD 22:129–130, 1990; AD 121:87–90, 1985*

Contact urticaria with impaired lymphatic drainage (morbus morbihan) – facial edema and erythema of mid-third and upper face *JAAD 52:595–602, 2005*

Facial hemiatrophy

Fat pads

Kimura's disease *JAAD 38:143–175, 1998*

Rosacea lymphedema (solid facial edema) *J Dermatol 27:214–216, 2000; Cutis 61:321–324, 1998; AD 131:1069–1074, 1995*

Scleredema *J Pediatr 101:960–963, 1982*

## SYNDROMES

Antiphospholipid antibody syndrome – with superior vena cava syndrome *J Rheumatol 18:95–97, 1991*

Apert's syndrome *Cutis 61:321–324, 1998*

Ascher's syndrome

Carcinoid syndrome – foregut (stomach, lung, pancreas) – bright red geographic flush, sustained, with burning, lacrimation, wheezing, sweating; hindgut (ileal) – patchy, violaceous, intermixed with pallor, short duration *Rook p.2101, 1998, Sixth Edition;* edema, telangiectasia, cyanotic nose and face, rosacea *Acta DV* (*Stockh*) *41:264–276, 1961*

DRESS syndrome – drug reaction with eosinophilia and systemic symptoms – facial edema, exfoliative dermatitis, follicular eruptions; association with HHV-6; lymphadenopathy, circulating atypical lymphocytes, abnormal liver function tests *AD 137:301–304, 2001; Semin Cutan Med Surg 15:250–257, 1996*

Facial edema with eosinophilia

Facial hemihypertrophy *Ghatan p.59, 2002, Second Edition*

Hereditary angioneurotic edema *J Invest Allergol Clin Immunol 2:318–322, 1992*

Hurler's syndrome (mucopolysaccharidosis) *Cutis 61:321–324, 1998*

Infantile cortical hyperostosis *Cutis 61:321–324, 1998*

McCune–Albright syndrome *Cutis 61:321–324, 1998*

Melkersson–Rosenthal syndrome – orofacial edema; edema of cheeks, forehead, eyelids, scalp *BJD 143:860–863, 2000; Oral Surg Oral Med Oral Pathol 75:220–224, 1993; Oral Surg Oral Med Oral Pathol 74:610–619, 1992; JAAD 21:1263–1270, 1989*

Neurofibromatosis – plexiform neurofibroma *Textbook of Neonatal Dermatology, p.452, 2001*

Self-healing juvenile cutaneous mucinosis *AD 131:495–461, 1995*

Sphenopalatine syndrome – chronic and intermittent edema of face with unilateral lacrimation, rhinitis, erythema of the bridge of the nose *Rook p.2782, 1998, Sixth Edition*

Williams syndrome – malar puffiness *Ped 80:85–91, 1987*

### TOXINS

Arsenic poisoning – acute *BJD 149:757–762, 2003*

### TRAUMA

Cold urticaria *Anesthesiology 90:907–909, 1999*

Coma bullae – facial bullae with edema *Cutis 69:265–268, 2002*

Dental treatment – soft tissue cervicofacial emphysema after dental treatment *AD 141:1437–1440, 2005*

Post-surgical (face lift) *Plast Reconstr Surg 98:1–6, 1996*

Root canal surgery *AD 132:231–233, 1996*

Subcutaneous emphysema *AD 134:557–559, 1998*

### VASCULAR DISEASES

Anasarca

Angiolymphoid hyperplasia with eosinophilia *Ped Derm 15:91–96, 1998*

Angiosarcoma of face and scalp (facial edema at beginning of development) *JAAD 38:143–175, 1998; Cancer 59:1046–1057, 1987*

Capillary leak syndrome *Ann Intern Med 130:905–909, 1999*

Churg–Strauss syndrome *JAAD 47:209–216, 2002; JAAD 39:835–838, 1999; JAAD 37:199–203, 1997*

Constrictive pericarditis

Eosinophilic vasculitis syndrome (recurrent cutaneous necrotizing eosinophilic vasculitis) *BJD 149:901–902, 2003; Sem Derm 14:106–110, 1995*

Giant cell arteritis *Rev Rhum Engl Ed 63:145–147, 1996*

Henoch–Schönlein purpura – scalp and facial edema preceding HSP *Ped Derm 9:311, 1992;* eyelid and facial edema due to intracerebral hemorrhage *Brain and Development 24:115–117, 2002*

Lymphedema – congenital (Milroy's disease) *Rook p.2283,2289, 1998, Sixth Edition*

PHACES syndrome – large facial hemangioma with hemifacial enlargement *Curr Prob Dermatol 13:249–300, 2002*

Sturge–Weber syndrome *Cutis 61:321–324, 1998*

Superior vena cava syndrome *Pediatr Hematol Oncol 18:71–77, 2001*

Vasculitis – edematous scarring vasculitic panniculitis *JAAD 32:37–44, 1995*

Wegener's granulomatosis

## FACIAL PAPULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Adult Still's disease – palmoplantar vesiculopustular eruption with fixed facial papules *J Korean Med Sci 17:852–855, 2002*

Allergic contact dermatitis – granulomatous allergic contact dermatitis due to topical propolis *BJD 144:1277–1278, 2001*

Bowel-associated dermatitis-arthritis syndrome *AD 135:1409–1414, 1999*

Chronic granulomatous disease – translucent facial papules around eyes, nose, lips, cheeks; mimics lupus vulgaris *NEJM 317:687–694, 1987*

Dermatitis herpetiformis *Dermatologica 155:350–354, 1977*

Hyper-IgE syndrome – papulopustules of face and scalp in first year of life *J Pediatr 141:572–575, 2003; Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983*

Lupus erythematosus – arteritis, lupus profundus *JAAD 16:839–844, 1987,* discoid lupus, systemic lupus; chilblain lupus – red papules of face, nose *Cutis 69:183–184,190, 2002;* tumid lupus

Urticaria

### CONGENITAL

Accessory tragus – facial, glabellar papule – isolated *Textbook of Neonatal Dermatology, p.118, 2001;* Goldenhaar syndrome
Accessory tragi *JAAD 50:S11–13, 2004*
- Delleman syndrome – autosomal dominant with variable penetrance, orbital cysts (exophthalmia or microthalmia), cerebral malformations, periorbital or postauricular appendages, focal dermal hypoplasia and aplasia, rib defects, psychomotor retardation, seizures, skull defects
- Goldenhaar syndrome – (oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies),
- Hurson syndrome
- Nagers syndrome
- Treacher Collins syndrome (mandibulofacial dysostosis – autosomal dominant; auricular defects, malar hypoplasia, down-slanting palpebral fissures, lower eyelid defects
- Townes–Brocks syndrome – autosomal dominant; external ear malformations, polydactyly, renal and anal malformations *Am J Med Genet 18:147–152, 1984*

VACTERL syndrome (vertebral anomalies, anorectal malformations, cardiac defects, tracheo-esophageal fistulae, renal or radial anomalies, limb malformations) – sporadic *J Pediatr 93:270–273, 1978*

Wolf–Hirschhorn (4p deletion) syndrome (oculocerebrocutaneous syndrome) – growth and mental retardation with seizures, microcephaly, hypospadius, cryptorchidism, facial and ear abnormalities, down-turned mouth with cleft lip and/or palate and short philtrum *Ped Derm 17:391–394, 2000*

Differential diagnosis of accessory tragus includes:
- Acrochordon
- Adnexal tumor
- Auricular fistula
- Branchial cleft cyst and/or fistula
- Cartilaginous remnants
- Congenital midline hamartoma
- Epidermoid cyst
- Hair follicle nevus
- Lipoma
- Skin tags
- Thyroglossal duct cyst
- Wattle

Angiomatous nevus

Blueberry muffin baby

Branchial cleft cyst – first branchial remnants; mass or sinus tract anterior and inferior to ear or parotid *Ped Clin North Am 6:1151–1160, 1993*

Bronchogenic cyst – skin-colored nodule of chin *BJD 143:1353–1355, 2000*

Congenital midline hamartoma – polypoid nodule of chin *Ped Derm 7:199–201, 1990*

Congenital vellus hamartoma (hair follicle nevus) – skin-colored papule of face *Int J Dermatol 31:578–581, 1992*

Dermoid cyst (midline) *Pediatr Rev 11 (9):262–267, 1990*

Encephalocoele – blue nodule *Pediatr Rev 11 (9):262–267, 1990;* anterior encephalocele – facial nodule *JAAD 51:577–579, 2004*

Lacrimal duct cyst

Meningocoele

Nasal glioma – blue or red nodule *J Neurosurg 64:516–519. 1986; Pediatr Rev 11 (9):262–267, 1990;* papule of nose *AD 137:1095–1100, 2001*

Neuroblastoma

Rhabdomyosarcoma

Sebaceous hyperplasias of the nose *Eichenfeld, 2001, p.91*

Striated muscle hamartoma (rhabdomyomatous mesenchymal hamartoma) – skin-colored papules of central face; may be single or multiple, dome-shaped, pedunculated or filiform *Ped Derm 16:65–67, 1999*

Systemic hyalinosis

## DRUG-INDUCED

BCG vaccination, disseminated – umbilicated facial papules *Ped Derm 18:205–209, 2001; Ped Derm 13:451–454, 1996*

Bromoderma

Collagen implants – granulomatous reaction *Cutis 51:95–98, 1993*

Corticosteroids – steroid acne; steroid perioral dermatitis

Cyclosporine – lymphocytic infiltrate *JAAD 23:1137–1141, 1990;* cyclosporine-induced folliculodystrophy (viral associated trichodysplasia? *JAAD 50:318–322, 2004*) – cobblestoned follicular facial papules *JAAD 50:310–315, 2004;* sebaceous gland hyperplasia *BJD 149:198–200, 2003; Dermatologica 172:24–30, 1986;* papules of chin – lymphocytic infiltrate *AD 129:794–795, 1993*

Drug rash

Erbitux (cetuximab) (epidermal growth factor receptor inhibitor)

5-fluorouracil, systemic – inflamed actinic keratoses

Iododerma

Pseudolymphoma, drug induced – anticonvulsants *Rook p.2401–2402, 1998, Sixth Edition*; captopril, enalapril *J Clin Pathol 39:902–907, 1986;* atenolol *Clin Exp Dermatol 115:119–120, 1990;* ACE-inhibitors, amitryptiline *Curr Probl Dermatol 19:176–182, 1990*

## EXOGENOUS AGENTS

Foreign body granuloma (to bindi) *AD 127:424, 1991*

Iododerma *Australas J Dermatol 29:179–180, 1988*

Irritant contact dermatitis

Ochronosis – exogenous ochronosis *JAAD 39:527–544, 1998*

Silicone – silicone granulomas with facial nodules at crow's feet *BJD 152:1064–1065, 2005;* metastatic silicone granuloma *AD 138:537–538, 2002*

Tooth – extruding tooth; white papule *Cutis 54:253–254, 1994*

## INFECTIOUS

Acremonium sepsis *JAAD 37:1006–1008, 1997*

Actinomycosis, cervicofacial *Laryngoscope 94:1198–1217, 1984*

African histoplasmosis

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Bacillary angiomatosis – *Bartonella henselae Tyring p.324, 2002; BJD 143:609–611, 2000; AD 131:933–936, 1995*

Bartonellosis (*Bartonella bacilliformis*) – mular lesions; 1–4 mm pruritic red papules *Tyring p.229, 2002; Clin Inf Dis 33:772–779, 2001*; Oroya fever with verruga peruana; red papules in crops become nodular, hemangiomatous or pedunculated; face, neck , extremities, mucosal lesions *JAAD 47:641–655, 2002; Ann Rev Microbiol 35:325–338, 1981*

Bejel

Candidal sepsis

Chromomycosis – feet, legs, arms, face, and neck *AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis *Rook p.1368, 1998, Sixth Edition*

Coxsackie A16 – Gianotti–Crosti-like rash *JAAD 6:862–866, 1982*

Cryptococcosis – papules, umbilicated papules, pseudofolliculitis-like lesions *Cutis 66:337–340, 2000*

Demodicidosis – rosacea-like papules – cheeks, periorally, nose *Ped Derm 20:28–30, 2003; BJD 144:139–142, 2001*

Dental sinus *Cutis 70:264–267, 2002*

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Fusarium sepsis *JAAD 37:1006–1008, 1997*

Gianotti–Crosti syndrome – papular acrodermatitis of childhood; papules of buttocks and thighs, then extensor arms, then face *JAAD 26:207–210, 1992; AD 124:1705–1710, 1988; AD 120:891–896, 1984*

Histoplasmosis in HIV disease *Cutis 72:439–445, 2003*

Leishmaniasis *AD 134:193–198, 1998;* L. tropica – ulcerated nodule of face *JAAD 53:810–815, 2005;* post-kala-azar dermal leishmaniasis *Bolognia p.1299, 2003; BJD 143:136–143, 2000; JAAD 34:257, 1996*

Leprosy, including erythema nodosum leprosum; histoid leprosy *AD 140:751–756, 2004; Int J Lepr Other Mycobact Dis 68:272–276,2000; Int J Lepr 31:608–609, 1963; Int J Lepr 28:469, 1960*

Molluscum contagiosum *Tyring p.63, 2002; BJD 115:131–138, 1987*

Mycetoma – facial nodule (nocardia) *JAAD 49:S170–173, 2003*

*Mycobacterium haemophilum AD 138:229–230, 2002*

*Mycobacterium marinum*, disseminated *Cutis 36:405–408, 1985;* facial *J Pediatr 130:324–326, 1997; AD 122:698–703, 1986*

*Mycobacterium tuberculosis* – papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops on elbows, hands, feet, knees, legs; also ears, face, buttock, and penis *Ped Derm 15:450–455, 1998; Int J Dermatol 30:487–490, 1991; Ped Derm 7:191–195, 1990;* lupus vulgaris; miliary tuberculosis *JAAD 50:S110–113, 2004*

Myiasis

North American blastomycosis

Papular dermatitis of AIDS

Paracoccidioidomycosis – oral and perioral lesions *Rook p.1370, 1998, Sixth Edition*

*Penicillium marneffei NEJM 344:1763, 2001; Clin Inf Dis 18:246–247, 1994*

Rat bite fever

Rhinosporidiosis

Rickettsial pox

Scabies – crusted papules *BJD 126:523–524, 1990*

Schistosomiasis *BJD 119:793–8, 1988*

Sporotrichosis

Sycosis barbae

Sycosis vulgaris

Syphilis – secondary – morbilliform or papular (copper red) *Rook p.1246–1247, 1998, Sixth Edition; J Clin Inf Dis 21:1361–1371, 1995*; tertiary *AD 123:1707–1712, 1987*

Tinea barbae – solitary papule or nodule

Tinea faciei *AD 114:250–252, 1978*

Toxoplasmosis in AIDS *AD 124:1446–1447, 1988*

Trichodysplasia spinulosa – papovaviral infection of immunocompromised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

Vegetating pyoderma

Verruca vulgaris – single or multiple; flat warts *Tyring p.260, 2002*

Yaws – perioral and perinasal papules

## INFILTRATIVE DISEASES

Amyloidosis – nodular amyloidoisis *AD 139:1157–1159, 2003*

Benign cephalic histiocytosis – cheeks, forehead, earlobes, neck *JAAD 47:908–913, 2002; AD 135:1267–1272, 1999; Ped Derm 11:265–267, 1994; Ped Derm 6:198–201, 1989; AD 122:1038–43, 1986; JAAD 13:383–404, 1985*

Colloid milium

Congenital self-healing histiocytosis *Ped Derm 17:364–368, 2000*

Focal mucinosis – eyelid papule

Generalized eruptive histiocytosis *BJD 150:171–173, 2004*

Hashimoto–Pritzker disease (congenital self-healing reticulohistiocytosis) – red facial nodule *JAAD 53:838–844, 2005*

Indeterminate cell histiocytosis *Ped Derm 17:364–368, 2000*

IgM storage papule – pink or skin-colored *BJD 106:217–222, 1982*

Jessner's lymphocytic infiltrate *Rook p.2401, 1998, Sixth Edition; AD 124:1091–1093, 1988*

Juvenile xanthogranulomas – single or multiple *Pediatr Rev 11 (9):262–267, 1990; AD 125:1703–1708, 1989; AD 121:1531–1541, 1985;* generalized lichenoid juvenile xanthogranuloma – face, neck, scalp, upper trunk *BJD 126:66–70, 1992; AD 112:43–44, 1976;* eruptive JXGs

Langerhans cell histiocytosis *Jr Soc Med 75:279–81, 1982;* urticating histiocytosis X *JAAD 14:867, 873, 1986*

Lichen myxedematosis (papular mucinosis) *Rook p.2626–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995*; discrete papular lichen myxedematosus *Cutis 75:105–112, 2005; Acta DV 81:67–68, 2001; J Derm Surg Oncol 15:862–865, 1989*

Mastocytoma – urticaria pigmentosa – single (mastocytoma) or multiple papules *Pediatr Rev 11 (9):262–267, 1990*

Non-X histiocytosis *JAAD 13:645–469, 1985*

Papular xanthoma *Ped Derm 15:65–67, 1998; JAAD 22:1052–1056, 1990*

Progressive mucinous histiocytosis *BJD 142:133–137, 2000*

Progressive nodular histiocytosis *BJD 143:628–631, 2000*

Self-healing (papular) juvenile cutaneous mucinosis – arthralgias *Ped Derm 20:35–39, 2003; JAAD 44:273–281, 2001; Ped Derm 14:460–462, 1997; AD 131:459–461, 1995; JAAD 11:327–332, 1984; Ann DV 107:51–57, 1980;* of adult *JAAD 50:121–123, 2004; BJD 143:650–651, 2000; Dermatology 192:268–270, 1996*

Xanthoma disseminatum – multiple papules *JAAD 23:341–346, 1990*

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis, sterile papules, pustules, and plaques of face, trunk, arms, palms, soles *JAAD 23:1012–1014, 1990; JAAD 14:469–474, 1986;* eosinophilic folliculitis -of AIDS *J Dermatol 25:178–184, 1998; Ann DV 123:456–459, 1996;* eosinophilic pustular folliculitis of infancy *Ped Derm 21:615–616, 2004*

Erythema nodosum *Rook p.2200, 1998, Sixth Edition*

Fatal bacterial granuloma after trauma – Chinese patients *BJD 147:985–993, 2002*

Idiopathic facial aseptic granuloma – facial papulonodule *AD 137:1253–1255, 2001*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Tyring p.160, 2002; Ped Derm 18:403–405, 2001; JAAD 36:342–346, 1996; Am J Surg Pathol 14:872–876, 1990*

Lupus miliaris disseminata facei – affects central part of face, particularly the eyelid; it termintates spontaneously with scarring; histologically the papules show scattered epithelioid cell granulomas with caseation – mycobacteria are not recovered *AD 130:369, 1994*

Lymphadenoma – cutaneous lymphadenoma – red papules or nodules of face, head and neck *JAAD 49:1115–1116, 2003; BJD 128:339–341, 1993*

Lymphocytoma cutis – skin-colored to plum-red dermal or subcutaneous nodules of cheek or nose; idiopathic or due to insect bites, Borrelia burgdorferi, trauma, vaccinations, injected drugs or antigens for hyposensitization, injection of arthropod venom, acupuncture, gold pierced earrings, tattoos, post-zoster scars *JAAD 38:877–905, 1998; Rook p.2400, 1998, Sixth Edition; Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982; Cancer 24:487–502, 1969*

Necrotizing folliculitis of AIDS

Necrotizing infundibular crystalline folliculitis – follicular papules with waxy keratotic plugs *BJD 145:165–168, 2001*

Nodular fasciitis – subcutaneous facial nodule *AD 137:719–721, 2001; Ped Derm 17:487–489, 2000*

Pseudofolliculitis barbae

Pseudolymphomatous folliculitis – nodule *AD 124:1271–1276, 1988*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – facial papules and nodules, purple plaques *JAAD 51:931–939, 2004; BJD 148:1060–1061, 2003; Semin Diagn Pathol 7:19–73, 1990*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

Subcutaneous fat necrosis of the newborn – facial nodule *AD 134:425–426, 1998*

## METABOLIC

Aspartylglucosaminuria – facial angiofibromas *J Med Genet 36:398–404, 1999*

Calcinosis cutis – cutaneous calculus *BJD 75:1–11, 1963*; subepidermal calcified nodule – skin-colored *Ped Derm 13:253–254, 1996;* milia-like calcinosis cutis in Down's syndrome *Ped Derm 19:271–273, 2002*

Kanzaki's disease (α-*N*-acetylgalactosidase) – angiokeratoma corporis diffusum with lesions on face and extremities *AD 129:460–465, 1993*

Ossifying fasciitis – red nodule of the nose *JAAD 37:357–361, 1997*

Osteoma cutis (miliary osteoma cutis) – most commonly in young women as a sequela of severe acne vulgaris; blue-brown discoloration has been described in patients treated with tetracycline or minocycline *Cutis 69:383–386, 2002; JAAD 44:96–99, 2001; AD 134:641–643, 1998; JAAD 38:906–910, 1998; AD 130:370, 373–374, 1994; JAAD 24:878–881, 1991*

Porphyria – variegate porphyria – central facial papules – lymphangiectasias *JAAD 36:493–495, 1997*

Primary hyperoxalosis *AD 131:821–3, 1995*

Xanthomas – Alagille syndrome *Ped Derm 15:199–202, 1998;* eruptive xanthomas *Rook p.2605, 1998, Sixth Edition;* xanthelasma

Zinc deficiency

## NEOPLASTIC

Acrochordon

Actinic keratosis *Rook p.1671, 1998, Sixth Edition*

Adenoid cystic carcinoma – forehead papules *JAAD 40:640–642, 1999*

Adenoma sebaceum

Apocrine carcinoma *Cancer 71:375–381, 1993*

Apocrine hidrocystomas – blue cystic papule *AD 134:1627–1632, 1998; AD 115:194–200, 1979*; multiple papules *AD 141:1365, 2005*

Atypical fibroxanthoma *Cutis 51:47–48, 1993; Cancer 31:1541–1552, 1973;* subcutaneous facial nodule *AD 137:719–721, 2001*

Basal cell carcinoma – single or multiple *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980;* multiple hereditary infundibulocystic basal cell carcinomas *AD 135:1227–1235, 1999*

Basaloid follicular hamartoma (mimics trichoepithelioma) *JAAD 27:237–240, 1992*

Blue nevus *Rook p.1731, 1998, Sixth Edition*

$CD34^+$ fibrous papule of the nose *JAAD 35:342–345, 1996*

Chondroid syringoma – solitary papule *AD 125:1127–1132, 1989;* of nose, cheek, forehead, chin *Cutis 71:49–55, 2003*

Clear cell acanthoma – pink papule *Ann Dermatol Syphilol 89:361–371, 1962*

Cutaneous horn

Cylindroma – red nodule *AD 129:495–500, 1993*

Dermal dendrocytoma *AD 126:689–690, 1990*

Dermatosis papulosa nigra *Cutis 32:385–392, 1983; AD 89:655–658, 1964*

Desmoplastic trichilemmoma *J Cutan Pathol 17:45–52, 1990*

Desmoplastic trichoepithelioma – single papule; multiple familial *JAAD 39:853–857, 1998*

Eccrine hidroadenoma – dermal nodule with or without ulceration; face, scalp, anterior trunk *AD 97:651–661, 1968*

Eccrine hidrocystomas *JAAD 26:780–782, 1992*

Eccrine porocarcinoma *JAAD 27:306–311, 1992*

Eccrine poroma – solitary papule; nodule of nose *JAAD 50:124–126, 2004;* skin-colored papule of chin *Ped Derm 22:279–280, 2005*

Eccrine spiradenomas of forehead – Brooke–Spiegler syndrome (familial multiple eccrine spiradenomas with trichoepitheliomas) *Cutis 46:46–50, 1990*

Epidermal nevus

Epidermoid cyst – single or multiple *Rook p.1667, 1998, Sixth Edition*

Epidermolytic acanthoma – keratotic papule *AD 101:220–223, 1970*

Epithelioid sarcoma – nose *J Cutan Pathol 27:186–190, 2000*

Fibrofolliculoma *JAAD 11:361–363, 1984; JAAD 17:493–496, 1987*

Fibrous papule of the face (nose) (angiofibroma) *JAAD 10:670–671, 1984*

Folliculosebaceous cystic hamartoma *AD 139:803–808, 2003; JAAD 34:77–81, 1996;* nodule of nose *AD 136:259–264, 2000*

Generalized eruptive histiocytoma – hundreds of skin-colored, brown, blue–red papules; resolve with macular pigmentation; face, trunk, proximal extremities *JAAD 31:322–326, 1994; JAAD 20:958–964, 1989; JAAD 17:499–454, 1987; AD 117:216–221, 1981; AD 116:565–567, 1980; AD 96:11–17, 1967*

Hair follicle nevus – skin-colored papules; Blaschko *JAAD 46:S125–127, 2002*

Hamartoma moniliformis – linear array of skin-colored papules of face and neck *AD 101:191–205, 1970*

Hidradenoma papilliferum *JAAD 41:115–118, 1999*

Hidrocystomas

Inverted follicular keratosis *J Clin Pathol 28:465–471, 1975*

Kaposi's sarcoma *JAAD 41:860–862, 1999; JAAD 40:312–314, 1999; Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Keloid

Keratoacanthoma – generalized eruptive keratoacanthoma of Grzybowski – facial and/or periorbital papules *JAAD 37:478–480, 1997; JAAD 29:299, 1993;* multiple self-healing keratoacanthomas of Ferguson–Smith – cluster around ears, nose, scalp *JAAD 49:741–746, 2003; BJD 46:267–272, 1934;* red nodule becomes ulcerated, resolve with crenellated scar; develop singly or in crops *Cancer 5:539–550, 1952;* one reported unilateral case *AD 97:615–623, 1968*

Kimura's disease – periauricular or submandibular subcutaneous nodule *BJD 143:1338–1340, 2000; JAAD 38:143–175, 1998; JAAD 37:887–920, 1997*

Leiomyomas *JAAD 38:272–273, 1998*

Leukemia cutis *BJD 143:773–779, 2000;* congenital acute lymphocytic leukemia *Textbook of Neonatal Dermatology, p.437, 2001;* cutaneous sarcoid-like lesions of B-cell CLL *JAAD 49:S180–181, 2003*

Lichen planus-like keratosis

Lipoma, facial

Lymphoepithelioma-like carcinoma *Mod Pathol 1:359–365, 1988*

Lymphoma – B-cell lymphoma – nodule *Ped Derm 21:525–533, 2004; JAAD 44:124–128, 2001; Am J Surg Pathol 10:454–463, 1986;* primary cutaneous B-cell lymphoma *BJD 153:167–173, 2005;* cutaneous T-cell lymphoma – mimicking perioral dermatitis *Clin Exp Dermatol 17:132–134, 1992;* $CD30^+$ lymphoma; anaplastic large cell T-cell lymphoma; HTLV-1 lymphoma, hydroa vacciniforme-like papulovesicular eruption of angiocentric lymphoma associated with Epstein–Barr virus *AD 133:1081–1086, 1997;* Hodgkin's disease *AD 127:405,408, 1991*; lymphomatoid granulomatosis *AD 139:803–808, 2003*

Lymphomatoid papulosis

Malignant fibrous histiocytoma *Ghatan p.54, 2002, Second Edition*

Malignant histiocytosis – skin-colored, red, violaceous papules or nodule (s) *Hum Pathol 15:368–377, 1984*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma – nodular melanoma; metastatic melanoma *Semin Oncol 2:5–118, 1975;* amelanotic melanoma – pink papule *AD 139:1209–1214, 2003*

Merkel cell carcinoma – pink to violaceous papule or nodule *Sem Cut Med Surg 21:159–165, 2002; JAAD 43:755–767, 2000*

Metastases, including testicular choriocarcinoma *Cutis 67:117–120, 2001;* sarcomatoid hepatocellular carcinoma *BJD 148:1069–1071, 2003*

Microcystic adnexal carcinoma – skin-colored papule of the centro-facial region *JAAD 45:283–285, 2001; Dermatol Surg 27:401–408, 2001; JAAD 41:225–231, 1999; JAAD 41:225–231, 1999*

Milia, including multiple eruptive milia – face, earlobe *Rook p.1669, 1998, Sixth Edition; JAAD 37:353–356, 1997; Cutis 60:183–184, 1997; Clin Exp Dermatol 21:58–60, 1996*

Mixed tumor of the face *J Dermatol 23:369–371, 1996*

Moniliform hamartoma – papules of forehead and temples *Rook p.2812, 1998, Sixth Edition*

Mucinous eccrine carcinoma (mucinous carcinoma of skin) – gray nodule *AD 136:1409–1414, 2000; Dermatol Surg 25:566–568, 1999; JAAD 36:323–326, 1997*

Multinucleate cell angiohistiocytoma *BJD 133:308–310, 1995*

Multiple eruptive tumors of the follicular epithelium – hypopigmented facial papules *AD 1356:463–468, 1999*

Multiple myeloma

Nasal glioma

Neurilemmomas – linear array on forehead *Clin Exp Dermatol 16:247–249, 1991*

Neurofibromas – single or multiple

Neuromas, including palisaded encapsulated neuromas *AD 140:1003–1008, 2004; AD 175:386–389, 1989*

Nevus sebaceous

Osteosarcoma – primary cutaneous osteosarcoma *JAAD 51:S94–96, 2004*

Parotid tumor – subcutaneous facial nodule *AD 137:719–721, 2001*

Perifollicular fibroma *AD 100:66–69, 1969*

Pilar sheath acanthoma – umbilicated skin-colored papule with central keratinous plug of moustache area *AD 114:1495–1497, 1978*

Pilar tumor of nose *Cutis 36:251–252, 1985*

Pilomatrixoma *Curr Prob Derm 14:41–70, 2002; Pediatr Rev 11 (9):262–267, 1990; Cancer 45:2368–2373, 1980*

Porokeratotic eccrine ostial and dermal duct nevus (linear eccrine nevus with comedones) – lesions of forehead *AD 138:1309–1314, 2002*

Rhabdomyosarcoma *Curr Prob Derm 14:41–70, 2002; JAAD 30:243–249, 1994*

Schwannomatosis *AD 125:390–393, 1989*

Sebaceous adenoma *J Cutan Pathol 11:396–414, 1984*

Sebaceous carcinoma *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.40–41, 1999;* morpheic plaque, blepharitis *JAAD 14:668–673, 1986*

Sebaceous hyperplasia

Sebocystomatosis *Int J Derm 35:734–735, 1996*

Seborrheic keratosis *Rook p.1659–1660, 1998, Sixth Edition*

Solitary fibrous tumor of the skin – facial nodule *JAAD 46:S37–40, 2002*

Spitz nevus – single or multiple *Pediatr Rev 11 (9):262–267, 1990*

Squamous cell carcinoma

Striated muscle hamartoma *AD 136:1263–1268, 2000; Ped Derm 16:65–67, 1999; Ped Derm 3:153–157, 1986*

Syringocystadenoma papilliferum – solitary papule *Rook p.1704, 1998, Sixth Edition*

Syringomas – periorbital papules; forehead *J Dermatol 23:61–63, 1996*; milia-like syringomas

Trichilemmal carcinoma *JAAD 36:1021–1023, 1997*

Trichilemmoma – single or multiple

Trichoblastic fibroma – solitary papule *AD 131:198–201, 1995*

Trichodiscoma – hypopigmented papules *AD 126:1093,1096, 1990;* flat-topped papules of central face *JAAD 15:603–607, 1986*

Trichoepitheliomas (Brooke's tumor) – single or multiple skin-colored dome-shaped papules and nodules; multiple – cheeks, eyelids, nasolabial folds; upper trunk and arms; yellow to pink, bluish, telangiectasias on surface *Am J Dermatopathol 24:402–405, 2002; AD 126:953,956, 1990; J Cutan Pathol 13:111–117, 1986;* giant facial nodules *BJD 149:674–675, 2003*

Trichofolliculoma (on vermilion border) *AD 86:619–625, 1962;* tuft of hairs protruding centrally from dome-shaped papule *AD 121:262–264, 1985;*

Tumor of follicular infundibulum – facial irregular nodules resemble basal cell carcinoma or keratosis *JAAD 33:979–984, 1995*

Verrucous acanthoma – single or multiple

Waldenström's macroglobulinemia with lymphoplasmacytoid B-cells – chest, earlobes, facial papules *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Lymphoma – cutaneous granulomas associated with systemic lymphoma *JAAD 51:600–605, 2004*

Necrobiotic xanthogranuloma with paraproteinemia – facial nodule *JAAD 52:729–731, 2005*

Sterile suppurative folliculitis associated with acute myelogenous leukemia *BJD 146:904–907, 2002*

## PHOTOSENSITIVITY DISEASES

Actinic superficial folliculitis *BJD 139:359–360, 1998; BJD 138:1070–1074, 1998; Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

Colloid milium *AD 12:712, 715, 1986*

Hydroa vacciniforme – red macules progress to tender papules, hemorrhagic vesicles or bullae, umbilication and crusting; pock-like scars *JAAD 42:208–213, 2000; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; JAAD 25:401–403, 1991; BJD 118:101–108, 1988; BJD 118:101–108, 1988; AD 118:588–591, 1982;* familial *BJD 140:124–126, 1999; AD 114:1193–1196, 1978; AD 103:223–224, 1971;* late onset *BJD 144:874–877, 2001*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acne rosacea (lupus miliaris disseminata facei) *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998; Clin Exp Dermatol 16:295–296, 1991; Int J Derm 23:542–544, 1984;* acne agminata (granulomatous rosacea) – monomorphic brown papules of chin, cheeks, eyelids *BJD 134:1098–1100, 1996*

Acne vulgaris – inflammatory papules; multiple miliary osteoma cutis *AD 110:113–114, 1974*

Alopecia mucinosa

Angiolymphoid hyperplasia with eosinophilia – angiofibroma-like *JAAD 12:781–796, 1985*

Chronic acquired dyskeratotic papulosis *Cutis 69:469–471, 2002*

Facial Afro-Caribbean childhood eruption – resembles perioral dermatitis *Clin Exp Dermatol 15:163–166, 1990; BJD 91:435–438, 1976*

Granuloma annulare *Pediatr Rev 11* (*9*):*262–267, 1990;* photo-induced granuloma annulare of AIDS

Granuloma faciale *JAAD 51:269–273, 2004*

Granulomatous periorificial dermatitis – extrafacial and generalized periorificial dermatitis *AD 138:1354–1358, 2002*; facial granulomatous perioral dermatitis in children *AD 125:369–373, 1989*

Granulosis rubra nasi *G Ital Dermatol Venereol 125:275–276, 1990*

Infantile nodulocystic acne *AD 123:432–433, 1987*

Keratosis lichenoides chronica *Clin Exp Dermatol 27:283–285, 2002; BJD 144:422–424, 2001*

Keratosis pilaris, including scarring keratosis pilaris

Lichen nitidus

Lichen striatus

Pityriasis rosea *Cutis 32:352–360, 1983*

Pseudofolliculitis barbae *Dermatol Clin 6:387–395, 1988*

Steatocystoma multiplex *AD 122:205–207, 1986; Cutis 51:449–452, 1993; AD 129:35–37, 1993*

Trichostasis spinulosa *AD 133:1579,1582, 1997*

## SYNDROMES

Anhidrotic ectodermal dysplasia – carrier state for X-linked anhidrotic ectodermal dysplasia

Atrichia with keratin cysts – face, neck, scalp; then trunk and extremities *Ann DV 121:802–804, 1994*

Atrichia with papular lesions – autosomal recessive; follicular cysts *AD 139:1591–1596, 2003; JAAD 47:519–523, 2002*

Bannayan–Riley–Ruvalcaba syndrome (macrocephaly and subcutaneous hamartomas) (lipomas and hemangiomas) – autosomal dominant*;* multiple verrucous facial papules (trichilemmomas and warts) *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996; AD 128:1378–1386, 1992; Eur J Ped 148:122–125, 1988;* lipoangiomas (perigenital pigmented macules, macrocephaly) *AD 128:1378–1386, 1992;* lipomas in Ruvalcaba–Myhre–Smith syndrome *Ped Derm 5:28–32, 1988*

Basaloid follicular hamartoma syndrome (generalized basaloid follicular hamartoma syndrome) – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 49:698–705, 2003; BJD 146:1068–1070, 2002; JAAD 43:189–206, 2000*

Behçet's syndrome – erythema nodosum; nodule *AD 138:467–471, 2002*

Birt–Hogg–Dube syndrome – fibrofolliculomas – autosomal dominant; white or yellow facial and nose papules *JAAD 50:810–812, 2004; JAAD 49:698–705, 2003; Australas J Dermatol 44:52–56, 2003; JAAD 48:111–114, 2003; AD 135:1195–1202, 1999; JAAD 16:452–457, 1987; AD 133:1161–1166, 1997; AD 113:1674–1677, 1977*; renal and colonic neoplasms *Cancer Epidemiol Biomarkers Prev 11:393–400, 2002; AD 135:1195–1202, 1999*; facial angiofibromas *JAAD 53:S108–111, 2005*

Blue rubber bleb nevus syndrome

Brooke–Spiegler syndrome – trichoepitheliomas and cylindromas *JAAD 49:698–705, 2003; Dermatol Surg 26:877–882, 2000;* also eccrine spiradenomas of forehead *Am J Dermatopathol 20:56–60, 1998; Cutis 46:46–50, 1990*

Carney complex – myxoma

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Aust Paediat J 13:114–118, 1977*

Cowden's syndrome – trichilemmomas (wart-like papules), especially periorificial facial papules *JAAD 49:698–705, 2003; Curr Prob Derm 14:41–70, 2002; Nat Genet 13:114–116, 1996; Dermatol Clin 13:27–31, 1995; AD 122:821, 824–825, 1986*

Cri du chat syndrome (chromosome 5, short arm deletion syndrome) – premature graying of the hair, pre-auricular skin tag with low-set malformed ears *J Pediatr 102:528–533, 1983*

Deletion of short arm of chromosome 4 (4p- syndrome) – ACC of scalp with hypertelorism, beaked or broad nose, microcephaly, low-set ears, pre-auricular tags or pits, mental retardation *Am J Dis Child 122:421–425, 1971*

Delleman–Oorthuys syndrome – oculocerebrocutaneous syndrome – eyelid tag, periorbital tags, pre-auricular, post-auricular skin tags; facial tags, orbital cysts, focal punched-out skin defects of the ala nasi, microphthalmia, eyelid coloboma, cerebral abnormalities, seizures, developmental delay *Clin Dysmorphol 7:279–283, 1998; Am J Ophthalmol 99:142–148, 1985*

Dermochondrocorneal dystrophy *AD 124:424–428, 1988*

Down's syndrome – milia-like idiopathic calcinosis cutis *BJD 134:143–146, 1996*

EEC syndrome – perioral papillomatosis *Ped Derm 19:330–332, 2002*

Encephalocraniocutaneous lipomatosis – lipomas, lipofibromas, connective tissue nevi – facial papules and/or nodules *JAAD 37:102–104, 1998; Ped Derm 10:164–168, 1993*

Epidermodysplasia verruciformis

Facial and neck papillomas, acanthosis nigricans, macrocephaly, mental retardation, cerebral angiomatosis *AD 128:1378–1386, 1992*

Familial sea-blue histiocytosis – autosomal recessive; patchy gray pigmentation of face, upper chest, shoulders; eyelid edema, facial nodules *Dermatologica 174:39–44, 1987*

Farber's disease (lipogranulomatosis) *Pediatr Rev 11 (9):262–267, 1990*

Fibrodysplasia ossificans progressive

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose, and ears *AD 124:424–428, 1988; Ann DV 104:475–478, 1977*

Goldenhaar's syndrome – oculoauriculovertebral syndrome – accessory tragi (preauricular tags); ocular lipodermoids, epibulbar dermoids; multiple vertebral anomalies, gastrointestinal anomalies, microphthalmia, anophthalmia, colobomata, genital anomalies, micrognathia, microtia, cleft lip/palate, hemifacial microsomia, urologic anomalies, cardiac anomalies, pulmonary anomalies *JAAD 50:S11–13, 2004*

Goltz's syndrome – wart-like lesions on face and groin

Haber's syndrome – rosacea-like acneform eruption with erythema, telangiectasia, prominent follicles, comedones, small papules, atrophic pitted scars; with keratotic plaques of the trunk and extremities *AD 103:452–455, 1971; BJD 77:1–8, 1965*

Hemifacial microsomia syndrome – preauricular tags

Hereditary progressive mucinous histiocytosis – yellow dome-shaped papules of face, gingiva, hard palate *BJD 141:1101–1105, 1999*

Infantile systemic hyalinosis – autosomal recessive; red facial papules, synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections *JAAD 50:S61–64, 2004*

Juvenile hyaline fibromatosis (Murray–Puretic syndrome) – autosomal recessive; translucent pearly white papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, larger papules and nodules around nose, behind ears, on fingertips, multiple subcutaneous nodules of scalp, trunk, and extremities, flexion contractures of large and small joints papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth, sclerodermiform atrophy; CMG2 (capillaray morphogenesis gene 2) gene *Ped Derm 21:154–159, 2004; Textbook of Neonatal Dermatology, p.444–445, 2001; Arch Ped 4:1200–1204, 1997; JAAD 16:881–883, 1987;* perinasal and fold of chin *Ped Derm 6:68–75, 1989*

Lipoid proteinosis – yellow–brown nodules of face *Int J Derm 39:203–204, 2000; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992;* crusted red papules of face heal with scarring *Ped Derm 22:266–267, 2005; Arch Pathol Anat 273:286–319, 1929*

Muir–Torre syndrome – autosomal dominant; sebaceous adenomas, sebaceous carcinomas, keratoacanthomas *Cutis 75:149–155, 2005*; Curr *Prob Derm 14:41–70, 2002; BJD 136:913–917, 1997; JAAD 33:90–104, 1995; JAAD 10:803–817, 1984; AD 98:549–551, 1968; Br J Surg 54:191–195, 1967*

Multicentric reticulohistiocytosis *AD 126:251–252, 1990*

Multiple endocrine neoplasia syndrome (MEN I) (Wermer's syndrome) – angiofibromas of face and nose *JAAD 42:939–969, 2000; JAAD 41:890–892, 1999; AD 133:853–857, 1997*

Multiple eccrine-pilar hamartomas with basal cell carcinomas – multiple follicular hamartomas, vermiculate atrophoderma, milia, hypotrichosis, and basal cell carcinomas *JAAD 39:853–857, 1998*

Multiple hereditary infundibulocystic basal cell carcinomas *JAAD 51:989–995, 2004*

Neurofibromatosis

Nevoid basal cell carcinoma syndrome (Gorlin's syndrome) – autosomal dominant; papules of the face, neck, and trunk, calcifications of the brain, palmoplantar pits, mandibular keratocysts, skeletal anomalies, basal cell carcinomas; also medulloblastomas, ovarian tumors, astrocytomas, meningiomas, craniopharyngiomas, fibrosarcomas, ameloblastomas *Int J Oral Maxillofac Surg 33:117–124, 2004; Am J Med Genet 69:299–308, 1997; JAAD 39:853–857, 1998; Dermatol Clin 13:113–125, 1995; JAAD 11:98–104, 1984; AD 114:95–97, 1978; Birth Defects 8:140–148, 1971*

Pfeiffer syndrome – pre-auricular tag, syndactyly, craniosynostosis, broad great toes, gingival hypertrophy *Z Kinderheilkd 90:301–320, 1964*

Proteus syndrome – facial nodule

Reticular erythematous mucinosis (REM) syndrome

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, hypotrichosis, trichoepitheliomas, peripheral vasodilatation with cyanosis *JAAD 39:853–857, 1998*

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Schnitzler's syndrome – urticaria and IgM monoclonal paraprotein

Steatocystoma multiplex – facial papular variant *AD 131:835,838, 1995*

Townes–Brocks syndrome – lop ears, preauricular tags *Dysmorphol Clin Genet 2:104–108, 1988*

Treacher Collins syndrome – facial skin tags

Tuberous sclerosis – adenoma sebaceum (angiofibromas) *JAAD 49:698–705, 2003; BJD 147:337–342, 2002; JAAD 45:731–735, 2001; Derm Surg 27:486–488, 2001; J Child Neurol 13:624–628, 1998; BJD 135:1–5, 1996; JAAD*

*32:915–935, 1995; J Clin Neurol 7:221–224, 1992; Ped Clin North Am 38:991–1017, 1991; S Med J 75:227–228, 1982*

Winchester syndrome – hyalinosis, joint contractures, hirsutism, corneal opacity

Wells' syndrome – facial nodules *Ped Derm 14:312–315, 1997; AD 125:1625–1626, 1989*

Wolf–Hirschhorn syndrome – del (4p) syndrome – preauricular tag or dimple, craniofacial asymmetry, mental and growth retardation, eye lesions, cleft lip and palate, cardiac defects *Eur J Hum Genet 8:519–526, 2000*

Xeroderma pigmentosum

### TRAUMA

Acanthoma (granuloma) fissuratum

### VASCULAR

Acral arteriovenous hemangioma *Dermatologica 113:129–141, 1956*

Aneurysm of superficial temporal artery

Angiofibroma *JAAD 38:143–175, 1998*

Angioleiomyoma *JAAD 38:143–175, 1998*

Angiolymphoid hyperplasia with eosinophilia – disseminated papules over entire face *Cutis 72:323–326, 2003;* papules and/or nodules along hairline *AD 136:837–839, 2000;* angiofibroma-like *JAAD 12:781–796, 1985*

Eosinophilic vasculitis syndrome *Sem Derm 14:106–110, 1995*

Eruptive pseudoangiomatosis – red papules *Ped Derm 19:243–245, 2002; BJD 143:435–438, 2000*

Hemangioma – focal hemangioma *AD 139:869–875, 2003*

Hemangiopericytoma

Hobnail hemangioma – vascular papules of the nose *BJD 146:162–164, 2002*

Microscopic polyangiitis *AD 133:474–477, 1997*

Multiple progressive angioma – blue compressible nodules on face of children or teenagers; may be distributed along vein *Acta DV* (*Stockh*) *31:304–307, 1951*

Neonatal hemangiomatosis

Polyarteritis nodosa, systemic; cutaneous (livedo with nodules) – painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *Ped Derm 15:103–107, 1998*; *AD 130:884–889, 1994; JAAD 31:561–566, 1994; JAAD 31:493–495, 1994*

Pyogenic granuloma *Pediatr Rev 11 (9):262–267, 1990*

Spindle cell hemangioendothelioma – pink papule of nose *AD 138:259–264, 2002*

Temporal arteritis – nodules over temporal or facial arteries *BJD 76:299–308, 1964*

### MIDLINE FACIAL NODULES OF CHILDREN

Abscess

Angioma

Dermoid cyst

Encephalocoele

Epidermoid cyst

Facial trauma (hematoma, edema)

Fibrous dysplasia

Hemangioma

Histiocytosis

Infiltrative tumor (rhabdomyosarcoma)

Lymphoma

Meningioma

Metastatic tumor

Nasal glioma

Nasolacrimal duct cyst

Neurofibroma

Olfactory neuroblastoma

Teratoma

## FACIAL PAPULES AND PLAQUES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – dermal contact dermatitis to bovine collagen

Chronic granulomatous disease – DLE-like plaque *AD 126:1656–1658, 1990;* X-linked chronic granulomatous disease – DLE-like lesions and stomatitis in female carriers *BJD 104:495–505, 1981*

Chronic urticaria

Still's disease *Rook p.2570, 1998, Sixth Edition*

Systemic lupus erythematosus – photosensitivity, chilblain lupus of fingertips and toes, rosacea-like lesions of face, lupus profundus, red plaques, stomatitis *Ped Derm 3:376–379, 1986*

### CONGENITAL LESIONS

Preauricular tags and fistulae
- Cat eye syndrome
- Chromosome 4p- syndrome
- Chromosome 5p- syndrome
- Trisomy 9

### DRUG-INDUCED

Angiofibroma-like papules of the chin induced by cyclosporine *AD 129:794–795, 1993*

Chlorpromazine lupus-like rash *JAAD 13:109–115, 1985*

Collagen, injectable – granulomatous reaction to injectable collagen *Cutis 51:95–98, 1993*

Corticosteroid acne

Internal/external drug reaction – Kanamycin

MESNA drug reaction mimicking worsening SLE *AD 128:80–82, 1992*

Pseudolymphoma, drug induced – anticonvulsants *Rook p.2401–2402, 1998, Sixth Edition*; captopril, enalapril *J Clin Pathol 39:902–907, 1986;* atenolol *Clin Exp Dermatol 115:119–120, 1990;* ACE-inhibitors, amitryptiline *Curr Probl Dermatol 19:176–182, 1990*

Systemic 5-fluorouracil inflaming actinic keratoses

### EXOGENOUS AGENTS

Bromoderma – single or multiple papillomatous nodules and/or plaques studded with pustules on face or extremities *Ped Derm 18:336–338, 2001; AD 115:1334–1335, 1979*

## INFECTIONS AND INFESTATIONS

Alternariosis *AD 124:1822–1825, 1988*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Chromomycosis *JAAD 44:585–592, 2001*

Coccidioidomycosis *AD 123:937–942, 1987*

Demodicidosis in childhood ALL – perioral, annular, serpiginous papules

Epidermodysplasia verruciformis

Leishmaniasis recidivans *Cutis 37:177–179, 1986;* chronic lupoid leishmaniasis; *Leishmania aethiopica Rook p.1414, 1998, Sixth Edition;* post-kala-azar leishmaniasis

Leprosy, including erythema nodosum leprosum; histoid leprosy *AD 140:751–756, 2004; Int J Lepr Other Mycobact Dis 68:272–276,2000; Int J Lepr 31:608–609, 1963; Int J Lepr 28:469, 1960*

Lupoid sycosis

*Mycobacterium africanum* (TB) *Clin Inf Dis 21:653–655, 1995*

*Mycobacterium marinum* – disseminated infection *Cutis 36:405–408, 1985*

*Mycobacterium tuberculosis* – lupus vulgaris *JAAD 26:404–407, 1992*

Paracoccidioidomycosis *Cutis 40:214–216, 1987*

Sporotrichosis

Syphilis – secondary syphilis, malignant syphilis *AD 123:1707–1712, 1987*

Toxoplasmosis in AIDS *AD 124:1446–1447, 1988*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic amyloidosis

Colloid milium

Jessner's lymphocytic infiltrate *Rook p.2401, 1998, Sixth Edition; AD 124:1091–1093, 1988*

Juvenile xanthogranulomas, multiple *AD 125:1703–1708, 1989*

Lymphocytoma cutis *Rook p.2400, 1998, Sixth Edition; Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982*

Mucinosis

Non-X histiocytosis *JAAD 13:645–649, 1985*

Scleromyxedema

Self-healing juvenile cutaneous mucinosis – papules, plaques, and nodules of head and trunk *JAAD 31:815–816, 1994*

Urticating Langerhans cell histiocytosis *JAAD 14:867–873, 1986*

Xanthoma disseminatum *JAAD 23:63–67, 1990*

## INFLAMMATORY DERMATOSES

Crohn's disease – metastatic Crohn's disease *AD 129:1348–1351, 1993*

Eosinophilic pustular folliculitis *JAAD 29:259–260, 1993;* Ofuji's disease *JAAD 37:259–261, 1999*

Kikuchi's histiocytic necrotizing lymphadenitis with cutaneous involvement – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Tyring, p.160, 2002; BJD 144:885–889, 2001; Ped Derm 18:403–405, 2001; JAAD 36:342–346, 1996; Am J Surg Pathol 14:872–876, 1990*

Neutrophilic eccrine hidradenitis – red/purple papules and plaques *AD 139:531–536, 2003*

Neutrophilic sebaceous adenitis *AD 129:910–911, 1993*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – facial papules and nodules, purple plaques *JAAD 51:931–939, 2004; Semin Diagn Pathol 7:19–73, 1990*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

## METABOLIC

Acromegaly

Erythropoietic protoporphyria

Farber's disease (ceramidase deficiency)

Pruritic urticarial papules and plaques of pregnancy (PUPPP) *JAAD 17:302, 1987*

## NEOPLASTIC

Basaloid follicular hamartoma (yellow plaque with milia) *AD 129:915–917, 1993*

Benign cephalic histiocytosis *AD 122:1038–1043, 1986; JAAD 13:383–404, 1985*

Eccrine angiomatous nevus *JAAD 29:274–275, 1993*

Epidermal nevus

Familial multiple eccrine spiradenomas with trichoepitheliomas *Cutis 46:46–50, 1990*

Follicular hamartoma *JAAD 39:853–857, 1998; Clin Exp Dermatol 6:283–289, 1981*

Generalized eruptive histiocytomas

Hair follicle nevus (hair follicle hamartoma) – pedunculated papule or nodule *Ped Derm 13:135–138, 1996*

Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Derm 36:735–740, 1997; Dermatology 190:324–326, 1995*

Keloids

Leiomyomas *Cutis 73:335–337, 2004*

Lentigo maligna melanoma

Leukemia cutis, including chloroma (granulocytic sarcoma) *Cutis 34:285–287, 1984;* neonatal aleukemic leukemia cutis

Lymphoma – Hodgkin's disease – ulcerated papules, plaques, and nodules of the faces and scalp and face *AD 127:405, 408, 1991; Cutis 32:79–82, 1983;* cutaneous T-cell lymphoma; lymphomatoid granulomatosis (angiocentric lymphoma) *JAAD 27:872–876, 1992;* $CD56^+$ lymphoma *BJD 147:1017–1020, 2000*; primary cutaneous B-cell lymphoma *JAAD 53:479–484, 2005*

Lymphomatoid papulosis

Melanoma *Semin Oncol 2:5–118, 1975*

Merkel cell carcinoma

Microcystic adnexal carcinoma *JAAD 29:840–845, 1993*

Multiple myeloma *AD 139:475–486, 2003*

Nevus sebaceus

Palisaded encapsulated neuromas *AD 125:386–389, 1989*

Rhabdomyosarcoma in neonates and children (nodules) – facial nodules with plaques *Dermatol Therapy 18:104–116, 2005; JAAD 30:243–249, 1994*

Schwannomatosis *AD 125:390–393, 1989*

Syringomas

Trichoblastic fibroma *AD 131:198, 1995*

Trichoepithelioma, desmoplastic

Tufted angioma – violaceous nodule

### PARANEOPLASTIC

Platelet plugging with associated myeloproliferative disease – red papules and plaques *JAAD 43:355–357, 2000*

### PHOTODERMATITIS

Actinic reticuloid *JAAD 21:205–214, 1989*

Polymorphic light eruption

### PRIMARY CUTANEOUS DISEASES

Alopecia mucinosa

Angiolymphoid hyperplasia with eosinophilia *JAAD 12:781–796, 1985*

Darier's disease

Eosinophilic pustular folliculitis – sterile papules, pustules, and plaques of face, trunk, arms, palms, soles *JAAD 23:1012–1014, 1990*; *JAAD 14:469–474, 1986*

Erythema elevatum diutinum *Cutis 53:124–126, 1994*

Granuloma annulare, disseminated

Granuloma faciale *JAAD 51:269–273, 2004*

Granulomatous perioral dermatitis

Keratosis lichenoides chronica *JAAD 28:870–873, 1993; Ped Derm 11:46–48, 1994*

Mid-dermal elastolysis (plaque resembling eosinophilic pustular folliculitis) *JAAD 28:938–942, 1993*

Ofuji's disease – red plaque with papules and pustules *JAAD 46:827–833, 2002*

Parapsoriasis – large plaque parapsoriasis

Perioral dermatitis

Pityriasis rosea

Transient acantholytic acanthosis *Cutis 38:48–49, 1986*

X-linked ectoderma dysplasia *Hautarzt 42:645–647, 1991*

### PSYCHOCUTANEOUS DISEASE

Factitial dermatitis

### SYNDROMES

Anhidrotic ectodermal dysplasia

Bannayan–Riley–Ruvalcaba syndrome – trichilemmomas and verrucae *AD 132:1214–1218, 1996*

Bazex syndrome

Cowden's syndrome

Dermochondrocorneal dystrophy *AD 124:424–428, 1988*

Goltz's syndrome

Lipoid proteinosis *Ped Derm 9:264–267, 1992*

Multicentric reticulohistiocytosis – yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple mucosal neuroma syndrome (MEN II)

Neurofibromatosis

Pachydermoperiostosis

Rombo syndrome

Rosai–Dorfman syndrome *BJD 148:1060–1061, 2003*

Sweet's syndrome *JAAD 49:132–138, 2003*

Wallenberg syndrome

Wells' syndrome *AD 125:1625–1626, 1989*

### TOXINS

Foreign body granuloma

Ragweed contact dermatitis

### TRAUMA

Scar

### VASCULAR

Acute hemorrhagic edema of infancy

Angiosarcoma

Glomangioma – hemi-facial *JAAD 45:239–245, 2001*

Henoch–Schönlein purpura

Microscopic polyarteritis nodosa

Takayasu's arteritis – LE-like rash *Circulation 35:1141–1155, 1967*

Vasculitis

## FACIAL PLAQUES, SCARRING AND NON-SCARRING

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – to injected bovine collagen

Brunsting–Perry pemphigoid simulating basal cell carcinoma *JAAD 21:331–334, 1989*

Chronic granulomatous disease – DLE-like plaque *AD 126:1656–1658, 1990;* X-linked chronic granulomatous disease – discoid lupus-like lesions of face and hands in female carriers of X-linked chronic granulomatous disease *BJD 104:495–505, 1981*

Combined immunodeficiency – cutaneous granuloma *JAAD 25:761–766, 1991*

Common variable immunodeficiency – red plaque with scale and atrophy *Ped Derm 12:170–173, 1995*

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; lupus panniculitis, including patients with partial C2 or C4 deficiencies *AD 122:576–582, 1986;* tumid LE *AD 136:1033–1041, 2000;* discoid lupus with annular atrophic plaques of face, neck, behind ears *AD 112:1143–1145, 1976;* systemic, subacute cutaneous; lupus profundus

Morphea, linear (en coup de sabre) *Rook p.2505–2506, 1998, Sixth Edition;* generalized morphea *Rook p.2511, 1998, Sixth Edition*

Pemphigus foliaceus

Pemphigus vulgaris

Scleroderma

Sjögren's syndrome – annular erythema *JAAD 20:596–601, 1989*

Still's disease *Rook p.2570, 1998, Sixth Edition*

Urticaria

## DRUG

Bromoderma

Chlorambucil – butterfly cellulitis-like plaque *AD 122:1358–1360, 1986*

Chlorpromazine-induced lupus-like disease *JAAD 13:109–115, 1985*

Cyclosporine – plaques *JAAD 23:1137–1141, 1990*

Fixed drug eruption

Iododerma

MESNA drug reaction mimicking worsening of SLE *AD 128:80–82, 1992*

Piroxicam photodermatitis

Post-steroid panniculitis *Ped Derm 5:92–93, 1988*

Pseudolymphoma, drug induced – anticonvulsants *Rook p.2401–2402, 1998, Sixth Edition*; captopril, enalapril *J Clin Pathol 39:902–907, 1986;* atenolol *Clin Exp Dermatol 115:119–120, 1990;* ACE-inhibitors, amitryptiline *Curr Probl Dermatol 19:176–182, 1990*

## EXOGENOUS AGENTS

Calcinosis cutis due to EEG paste – annular forehead plaque *AD 138:405–410, 2002*

Silica granuloma – red plaques *JAAD 52:S53–56, 2005; Ped Derm 20:40–43, 2003*

## INFECTIONS OR INFESTATIONS

Alternariosis, dermal *AD 124:1822–1825, 1988*

*Candida*

Cellulitis/erysipelas – streptococcal; Groups A, B (infants under 3 months *Am J Dis Child 136:631–633, 1982;* C, and G *AD 130:1150–1158, 1994; Hemophilus influenzae* – facial cellulitis in children; *Streptococcus pneumoniae Clin Inf Dis 14:247–250, 1992; Pseudomonas aeruginosa JAMA 248:2156–2157, 1982; Campylobacter jejuni Eur J Clin Microbiol Infect Dis 11:842–847, 1988;* congenital neutropenia *Blood Rev 2:178–185, 1988; Am J Med 61:849–861, 1976;* in leukocyte adhesion deficiency ($\beta_2$-integrin deficiency) – abscesses, cellulitis, skin ulcerations, ulcerative stomatitis *BJD 139:1064–1067, 1998; J Pediatr 119:343–354, 1991; Annu Rev Med 38:175–194, 1987; J Infect Dis 152:668–689, 1985*

Chromomycosis *BJD 146:704, 2002; AD 133:1027–1032, 1997*

Coccidioidomycosis *AD 123:937–942, 1987*

Coelenterates – delayed reaction *JAAD 10:462–466, 1984*

Demodicidosis *JAAD 52:S59–61, 2005*

Erysipelas

*Fusarium solanae* – hyperkeratotic facial plaque *Ped Derm 9:62–65, 1992*; *AD 101:598–600, 1970; Fusarium solanae* – target-like lesions with central necrosis *Rook p.1375, 1998, Sixth Edition; Eur J Clin Microbiol Infect Dis 13:152–161, 1994*

Gianotti–Crosti syndrome

Histoplasmosis

Insect bite

Leishmaniasis – red plaque *JAAD 50:812–813, 2004;* crusted plaques *Rook p.1413, 1998, Sixth Edition;* annular plaque of recurrent leishmaniasis (lupoid leishmaniasis) *Conn Med 65:333–337, 2001; Cutis 37:177–179, 1986*

Leprosy – tuberculoid – well-defined edge, red, copper or purple colored plaque with hypopigmented center; hairless *Rook p.1223, 1998, Sixth Edition;* Lucio's phenomenon – firm subcutaneous plaque *AD 114:1023–1028, 1978;* borderline *Rook p.1225, 1998, Sixth Edition;* type 1 reaction in borderline *Rook p.1227, 1998, Sixth Edition;* lepromatous leprosy – skin-colored plaques

Lyme disease – acute or recurrent, including acrodermatitis chronica atrophicans *Dermatology 189:430–431, 1994*

*Mycobacterium avium intracellulare* complex – resembling lupus vulgaris *BJD 136:264–266, 1997*

Mycobacterium bovis – lupus vulgaris *BJD 153:220–222, 2005*

*Mycobacterium tuberculosis* – lupus vulgaris – ulcerated plaque of buttocks *BJD 146:525–527, 2002; JAAD 26:404–407, 1992*; *Medicine 60:95–109, 1980;* starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; plaque form – psoriasiform, irregular scarring, serpiginous margins; ulcerative and mutilating forms, vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; myxomatous form with large tumors of the earlobes; lymphedema prominent; papular and nodular forms; nasal, buccal, and conjunctival involvement with friable nodules which ulcerate; vegetative and ulcerative lesions of buccal mucosa, palate, gingiva, oropharynx; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39* (*Suppl 49*):*1–137, 1960; M. africanum* (*M. tuberculosis* complex) – circinate and annular facial plaques, around nose *J Clin Inf Dis 21:653–655, 1995*

Necrotizing fasciitis *Rook p.2993, 1998, Sixth Edition*

North American blastomycosis – red plaque with pustules *JAAD 53:740–741, 2005*

*Paecilomyces lilacinus* – red scaly plaques of the face *JAAD 39:401–409, 1998; JAAD 35:779–781, 1996*

Paracoccidioidomycosis *Cutis 40:214–216, 1987*

Pott's puffy tumor – non-tender bogginess of forehead – underlying osteomyelitis

Protothecosis *BJD 146:688–693, 2002*

*Pseudomonas* sepsis

Rhinoscleroma

Schistosomiasis *Derm Clinics 17:151–185, 1999; S. mansoni BJD 103:205–208, 1980*

*Scopulariopsis brevicaulis JAAD 39:365–367, 1998*

Spider bite

Sporotrichosis

Sycosis barbae – deep staphylococcal folliculitis; red plaque studded with pustules *Dermatol Wochenschr 152:153–167, 1966*

Syphilis, tertiary (nodular, tubercular) – annular, circinate nodules and plaques of face *Rook p.1250, 1998, Sixth Edition*

Tinea barbae – *Trichophyton verrucosum Clin Infect Dis 23:1308–1310, 1996; Trichophyton rubrum JAAD 18:403–406, 1988*

Tinea faciei *Textbook of Neonatal Dermatology, p.230, 2001; AD 114:250–252, 1978; JAMA 215:2091–2094, 1971;* invasive dermatophytosis; tinea incognito

Yaws, early

## INFILTRATIVE DISEASES

Alopecia mucinosa *AD 141:897–902, 2005*

Amyloidosis – nose plaque; nodular localized primary cutaneous amyloidosis *BJD 145:105–109, 2001*

Colloid milium *South Med J 89:1004–1007, 1996;* juvenile colloid milium – yellow facial plaques *JAAD 49:1185–1188, 2003*

Jessner's lymphocytic infiltrate *Rook p.2401, 1998, Sixth Edition; JAAD 23:63–67, 1990; AD 124:1091–1093, 1988; Arch Dermatol Syphil 68:447–449, 1953*

Langerhans cell histiocytosis

Reticulohistiocytosis – diffuse cutaneous reticulohistiocytosis

Rosai–Dorfman disease (sinus histiocytosis) *Acta DV 79:363–365, 1999*

Self-healing juvenile cutaneous mucinosis *JAAD 11:327–332, 1984*

Xanthoma disseminatum *JAAD 23:341–346, 1990*

## INFLAMMATORY DISEASE

Crohn's disease – metastatic Crohn's disease *AD 129:1348–1351, 1993*; *JAAD 36:986–988, 1996*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *BJD 144:885–889, 2001; Am J Surg Pathol 14:872–876, 1990*

Lymphocytoma cutis *Rook p.2400, 1998, Sixth Edition; Cancer 69:717–724, 1992; Acta DV (Stockh)62:119–124, 1982; Cancer 24:487–502, 1969*

Malakoplakia *Dermatology 194:358–360, 1997*

Neutrophilic eccrine hidradenitis *AD 139:531–536, 2003*

Neutrophilic sebaceous adenitis – red/purple plaques *AD 129:910–911, 1993*

Pyoderma gangrenosum

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

## METABOLIC

Calcinosis cutis

Cryoglobulinemia – monoclonal cryoglobulins

Hepatoerythropoietic porphyria – annular plaques of nose and face *BJD 151:920–923, 2004*

IgM storage papule *BJD 106:217–222, 1982*

Necrobiosis lipoidica diabeticorum *AD 130:1433, 1436, 1994; Acta DV 58:276–277, 1978; BJD 89 (Suppl 9):100–101, 1973*

## NEOPLASTIC

Angiosarcoma of face and scalp (Wilson–Jones angiosarcoma) *JAAD 38:143–175, 1998; Cancer 77:2400–2406, 1996;* congenital fatal angiosarcoma *Soc Ped Derm Annual Meeting, July 2005*

Basal cell carcinoma, including basal cell carcinoma mimicking rhinophyma *AD 124:1077–1079, 1988*

Basaloid follicular hamartoma (yellow plaque with milia) *AD 129:915–917, 1993*

Blue nevus – plaque-type blue nevus *Ann Plast Surg 35:326–329, 1995*

Bowen's disease

Dermatofibrosarcoma protuberans

Desmoplastic trichoepithelioma *AD 131:211–216, 1995;* annular facial plaque *AD 132:1239–1240, 1996*

Eccrine angiomatous nevus *JAAD 29:274–275, 1993*

Eccrine porocarcinoma *JAAD 27:306–311, 1992*

Elastoma – bilateral, thickened furrowed plaques of the cheeks *Aust J Dermatol 19:118–120, 1978*

Epidermal nevus

Epidermoid cyst, ruptured

Follicular hamartoma (associated with myasthenia gravis) *Clin Exp Dermatol 6:283–289, 1981*

Hyperkeratotic lichen planus-like reactions combined with infundibulocystic hyperplasia *AD 140:1262–1267, 2004*

Inflammatory linear verrucous epidermal nevus (ILVEN)

Kaposi's sarcoma

Leiomyomatosis

Lentigo maligna melanoma

Leukemia cutis – acute lymphocytic leukemia – red plaque *Cutis 75:54–56, 2005;* granulocytic sarcoma (chloroma) *Cutis 34:285–287, 1984;* acute myelogenous leukemia

Lichen planus-like keratosis

Lymphoma – cutaneous T-cell lymphoma; pilotropic (follicular) CTCL *AD 138:191–198, 2002;* lymphomatoid granulomatosis *JAAD 27:872–876, 1992;* B-cell lymphoma; blastic natural killer cell lymphoma *BJD 148:507–515, 2003*

Lymphocytoma cutis

Melanocytic nevus – congenital melanocytic nevus *Rook p.1733–1735, 1998, Sixth Edition*

Melanoma *Semin Oncol 2:5–118, 1975;* desmoplastic melanoma *JAAD 26:704–609, 1992*

Metastatic carcinoma – prostate *JAAD 53:744–745, 2005*; gastric adenocarcinoma *Cutis 76:194–196, 2005*

Microcystic adnexal tumor – yellow plaque *Sem Cut Med Surg 21:159–165, 2002; Derm Surg 27:979–984, 2001; South Med J 87:259–262, 1994; JAAD 29:840–845, 1993*

Milia en plaque – face, eyelid, ears and ear lobes *J Eur Acad Dermatol Venereol 14:47–49, 2000; Ped Derm 15:282–284, 1998*

Neurilemmomas – linear array on forehead *Clin Exp Dermatol 16:247–249, 1991*

Nevus sebaceus – yellow, skin-colored, or red plaque *AD 135:637–640, 1999*

Plasmacytosis – red plaques of face *JAAD 49:1195–1196, 2003*

Porokeratosis, including destructive facial porokeratosis *JAAD 33:1045–1050, 1995*

Seborrheic keratosis

Squamous cell carcinoma

Syringocystadenoma papilliferum *AD 71:361–372, 1955*

Trichoblastoma (trichoblastic fibroma) *AD 137:219–224, 2001; AD 131:198–201, 1995*

Trichoepithelioma *JAAD 37:881–883, 1997*

## PARANEOPLASTIC

Bazex syndrome

Necrobiotic xanthogranuloma with paraproteinemia – yellow eyelid papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins, 1999, p.143; Hautarzt 46:330–334, 1995; JAAD 3:257–270, 1980*

## PHOTOSENSIVITY DISORDERS

Actinic elastotic plaque *Australas J Dermatol 30:15–22, 1989*

Actinic granuloma (annular elastolytic giant cell granuloma, Miescher's granuloma) *Eur J Dermatol 9:647–649, 1999; Cutis 62:181–187, 1998; JAAD 1:413–421, 1979; AD 111:460–466, 1975*

Actinic lichen planus *AD 135:1543,1546, 1999*

Actinic prurigo

Actinic reticuloid *JAAD 21:205–214, 1989*

Chronic actinic dermatitis *JAAD:21:205–214, 1989*

Favre–Racouchot syndrome *Cutis 60:145–146, 1997; AD 128:615–616, 1992*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASE

Acne rosacea (granulomatous)

Alopecia mucinosa (follicular mucinosis) *AD 138:182–189, 2002; Ped Derm 19:33–35, 2002; Derm 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*

Annular atrophic plaques of the face *AD 100:703–716, 1969*

Atopic dermatitis

Dowling–Degos disease

Eosinophilic angiocentric fibrosis (variant of granuloma faciale) – red facial plaque with saddle nose deformity *BJD 152:574–576, 2005; Histopathology 9:1217–1225, 1985*

Granuloma annulare

Granuloma faciale *Int J Dermatol 36:548–551, 1997; AD 129:634–635, 637, 1993*

Keratosis lichenoides chronica *JAAD 28:870–873, 1993*

Kimura's disease *Cutis 66:201–204, 2000*

Lichen planus, hypertrophic

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Mid-dermal elastolysis (resembles eosinophilic pustular folliculitis) *JAAD 28:938–942, 1993*

Miescher's granuloma

Normolipemic eruptive cutaneous xanthomatosis (red–yellow plaques) *AD 122:1294–1297, 1986*

Ofuji's disease (eosinophilic pustular folliculitis) – red plaque with papules and pustules *JAAD 46:827–833, 2002*; *Ann DV 124:540–543, 1997; JAAD 29:259–260, 1993;* sterile papules, pustules, and plaques of face, trunk, arms, palms, soles *JAAD 23:1012–1014, 1990*; *JAAD 14:469–474, 1986*

Pityriasis rosea

Psoriasis

Rhinophyma

Scleredema

Seborrheic dermatitis

Transient acantholytic dermatosis *Cutis 38:48–49, 1986*

## PSYCHOCUTANEOUS DISEASE

Factitial dermatitis

## SYNDROMES

Anhidrotic ectodermal dysplasia

Ataxia telangiectasia – cutaneous granuloma of ataxia telangiectasia *BJD 153:194–199, 2005; AD 134:1145–1150, 1998*

Haber's syndrome – rosacea-like

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Melkersson–Rosenthal syndrome (facial edema)

Rombo syndrome

Sweet's syndrome with or without pustules *Cutis 71:469–472, 2003; JAAD 40:838–841, 1999; AD 134:625–630, 1998; JAAD 31:535–536, 1994; BJD 76:349–356, 1964;* granulomatous plaque *BJD 80:8906–810, 1968*

Tuberous sclerosis – forehead plaque *JAAD 49:698–705, 2003; JAAD 45:731–735, 2001; Derm Surg 27:486–488, 2001; BJD 147:337–342, 2002; J Child Neurol 13:624–628, 1998; BJD 135:1–5, 1996; AD 132:1107,1110, 1996; JAAD 32:915–935, 1995; J Clin Neurol 7:221–224, 1992; Ped Clin North Am 38:991–1017, 1991; Arch Dis Child 62:292–293, 1987; S Med J 75:227–228, 1982*

Wallenberg's syndrome

Wells' syndrome *AD 125:1625–1626, 1989*

## TRAUMA

Fat necrosis of the newborn – due to forceps injury *Textbook of Neonatal Dermatology, p.421, 2001*

Cold panniculitis (neonatal) (Haxthausen's disease) *Textbook of Neonatal Dermatology, p.423, 2001; JAAD 33:383–385, 1995; Burns Incl Therm Inj 14:51–52, 1988; AD 94:720–721, 1966; BJD 53:83–89, 1941;* popsicle panniculitis

Prayer nodules – on foreheads of Shi'ite Muslims *Int J Dermatol 20:133, 1981*

Scarring *JAAD 25:761–766, 1991*

## VASCULAR

Acute hemorrhagic edema of infancy *AD 139:531–536, 2003*

Arteriovenous hemangioma (cirsoid aneurysm or acral arterivenous tumor) – associated with chronic liver disease *BJD 144:604–609, 2001*

Arteriovenous malformation

Hemangioma, including hemangioma of lower lateral cheek associated with airway obstruction *JAAD 48:477–493, 2003;* large facial hemangiomas of PHACES syndrome *JAAD 48:477–493, 2003*

Lymphedema, chronic

Malignant angioendotheliomatosis

Takayasu's arteritis – LE-like *Circulation 35:1141–1155, 1967*

Tufted angioma *Textbook of Neonatal Dermatology, p.347, 2001*

Wegener's granulomatosis

# FACIAL SCARS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* lupus profundus *Acta DV 80:373–375, 2000;* discoid lupus with annular atrophic plaques of face, neck, behind ears *AD 112:1143–1145, 1976;* lupus profundus

Mixed connective tissue disease

## DRUG REACTIONS

Acneform – drug-induced acne

Naproxen – photosensitivity in children leading to linear scars from minor trauma *J Pediatr 125:819–822, 1994*

## INFECTIONS AND INFESTATIONS

Actinomycosis, cervicofacial – nodule of cheek or submaxillary area; board-like induration; multiple sinuses with puckered scarring; sulfur granules discharged *Cutis 60:191–193, 1997; Arch Int Med 135:1562–1568, 1975*

Anthrax *Ped Derm 19:36–38, 2002*

Botryomycosis – granulomatous reaction to bacteria with granule formation; single or multiple abscesses of skin and subcutaneous tissue break down to yield multiple sinus tracts; small papule; heals with atrophic scars; extremities, perianal sinus tracts, face *Int J Dermatol 22:455–459, 1983; AD 115:609–610, 1979*

Brown recluse spider bite

Cowpox *Br J Plast Surg 3:348–350, 2000*

Cryptococcosis – mimicking a keloid *Dermatology 202:78–79, 2001*

Herpes simplex; intrauterine infection *Textbook of Neonatal Dermatology, p.202, 2001; J Pediatr 110:97–101, 1987;* recurrent herpes simplex infection

Herpes zoster *Tyring p.129, 2002*

Leishmaniasis – chronic lupoid leishmaniasis *AD 132:198–202, 1996*

Rhinoscleroma

Smallpox (variola) *Int J Epidemiol 9:335–340, 1980*

Sycosis barbae – deep staphylococcal folliculitis *Dermatol Wochenschr 152:153–167, 1966*

Syphilis, congenital – linear scar *Actas Dermosifiliogr 56:203–206, 1965 (Spanish);* tertiary nodular syphilide with central scarring *Rook p.1250–1251, 1998, Sixth Edition*

Varicella *Br J Plast Surg 26:344–345, 1973*

## INFLAMMATORY

Edematous scarring vasculitic panniculitis – hydroa vacciniforme-like lesions with vesicles, deep ulcers, varicelliform scars *JAAD 32:37–44, 1995*

Hidradenitis suppurativa

Pyoderma gangrenosum *BMJ 316:52–53, 1998*

Sarcoid – scar sarcoidosis in pseudofolliculitis barbae *Mil Med 156:369–371, 1991*

## METABOLIC DISEASES

Porphyria – congenital erythropoietic porphyria – scarring mutilation of nasal tip, ears, eyelids, and facial scarring *AD 128:1243–1248, 1992;* erythropoietic protoporphyria – linear facial scars; porphyria cutanea tarda *Ped Derm 45:320–324, 1987; JAAD 27:896–900, 1992;* familial porphyria cutanea tarda; variegate porphyria *Rook p.2586–2587, 1998, Sixth Edition*

## NEOPLASTIC

Basal cell carcinoma – keloidal basal cell carcinoma *BJD 134:953–957, 1996*

Desmoplastic trichoepithelioma – scar-like appearance

Keloids *Arch Otolaryngol Head Neck Surg 123:397–400, 1997*

Multiple keratoacanthomas

Lymphoma – angiocentric cutaneous T-cell lymphoma of childhood (hydroa-like lymphoma) of Latin America and Asia *BJD 140:715–721, 1999; JAAD 38:574–579, 1998*

Melanoma, desmoplastic

Porokeratosis – destructive facial porokeratosis *JAAD 33:1049–1050, 1995*

## PHOTODERMATOSES

Actinic prurigo (polymorphic light eruption of Native Americans) – linear and pitted facial scars *JAAD 44:952–956, 2001; Australas J Dermatol 42:192–195, 2001; Photodermatol Photoimmunol Photomed 15:183–187, 1999; Int J Dermatol 34:380–384, 1995; JAAD 26:683–692, 1992; JAAD 5:183–190, 1981; Clin Exp Dermatol 2:365–372, 1977;* familial, in North American Native Americans *Int J Dermatol 10:107–114, 1971;* in Caucasians *BJD 144:194–196, 2001;* occurrence in non-Indians *JAAD 34:612–617, 1996;* Southeast Asian *Photodermatol Photoimmunol Photomed 9:225–228, 1992*

Hydroa vacciniforme *BJD 144:874–877, 2001; BJD 144:874–877, 2001; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; AD 114:1193–1196, 1978*

## PRIMARY CUTANEOUS DISEASES

Acne excoriée des jeunes filles *Int J Derm 33:846–848, 1994; Clin Exp Dermatol 8:65–68, 1983*

Acne necrotica varioliformis (necrotizing lymphocytic folliculitis) *AD 132:1367, 1370, 1996; JAAD 16:1007–1014, 1987*

Acne, neonatal

Acne vulgaris

Anetoderma

Atrophia maculosa varioliformis cutis – linear, varioliform scars *BJD 153:821–824, 2005; Ped Derm 18:230–233, 2001; Acta DV 75:252, 1995; JAAD 30:837–840, 1994; JAAD 21:309, 1989; BJD 115:105–109, 1986; AD 64:59–61, 1951; J Cutan Dis 36:285–288, 1918*

Atrophoderma vermiculata *Cutis 59:337–340, 1997*

Epidermolysis bullosa – dominant and recessive dystrophic

Focal facial dermal dysplasia – scar-like depressions of face *JAAD 27:575–582, 1992*

Giant pore of Winer

Keratosis pilaris rubra atrophicans facei

Pili multigemini – along jawline; with inflammatory nodules; scars *Rook p.2958, 1998, Sixth Edition*

Pityriasis lichenoides et varioliformis acuta

Reactive perforating collagenosis

Ulerythema oophryogenes

### PSYCHOCUTANEOUS DISEASE

Delusions of parasitosis

Factitial dermatitis – linear lesions and linear scars *Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979*

Neurotic excoriations

### SYNDROMES

Anhidrotic ectodermal dysplasia – carrier – X-linked recessive

Congenital insensitivity to pain with anhidrosis *Cutis 60:188–190, 1997*

Dowling–Degos syndrome – pitted perioral scars *AD 114:1150–1157, 1978*

Ehlers–Danlos syndrome types I, II, and III – linear scars *Rook p.2034, 1998, Sixth Edition*

Facial focal dermal dysplasias *BJD 135:607–608, 1996*
- Autosomal dominant focal facial dermal dysplasia without other facial anomalies – oval symmetrical scarred areas on temples, cheeks, rim of fine lanugo hairs *BJD 84:410–416, 1971*
- Autosomal recessive focal facial dermal dysplasia without other facial anomalies *JAAD 27:575–58, 1992*
- Focal facial dermal dysplasia with other facial anomalies (Setleis syndrome) – leonine aged facies with absent eyelashes, eyebrows, puckered periorbital skin, scar-like defects of temples *Clin Dysmorph 5:249–253, 1996; JAAD 27:575–582, 1992; AD 110:615–618, 1974*

Goltz's syndrome (focal dermal hypoplasia) – icepick facial scars *NY State Dent J 67:30–32, 2001*

Haber's syndrome *JAAD 40:462–467, 1999*

Lipoid proteinosis – crusted red papules of face heal with scarring *Ped Derm 22:266–267, 2005; BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998; Arch Pathol Anat 273:286–319, 1929*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Tricho-odonto-onychial ectodermal dysplasia – perioral atrophic scars *AD 122:1047–1053, 1986*

Xeroderma pigmentosum

### TOXINS

Dioxin – varioliform scarring due to dioxin exposure *JAAD 19:812–819, 1988*

### TRAUMA

Bites – animal and human

Burns – thermal, electrical

Facial scarification and tattoing *Cutis 60:197–198, 1997*

Laser therapy

Mechanical trauma

Radiation dermatitis

Trapshooter's marks

### VASCULITIS

Granulomatous vasculitis in rheumatoid disease – facial rash with scarring *Ann Rheum Dis 45:75–77, 1986*

## FACIAL ULCERS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Brunsting–Perry cicatricial pemphigoid *AD 131:580–585, 1995*

Chronic granulomatous disease – including perioral ulcers *AD 103:351–357, 1971*

Cicatricial pemphigoid of childhood

Lupus erythematosus – discoid lupus erythematosus *JAAD 48:S89–91, 2003;* lupus profundus *Lupus 10:514–516, 2001*

Pemphigus vulgaris – facial erosions *Rook p.1856–1857, 1998, Sixth Edition; AD 110:862–865, 1974*

Scleroderma – CREST syndrome

### CONGENITAL LESIONS

Reticulolinear aplasia cutis congenita of the face and neck – syndromes linked to Xp22 *BJD 138:1046–1052, 1998*

### DEGENERATIVE DISEASES

Trigeminal trophic syndrome (Wallenberg's syndrome) – diabetes mellitus, posterior inferior cerebellar artery stroke, amyloidosis, sarcoidosis, sickle cell disease, vasculitis, demyelinating disease, syringobulbia, idiopathic *AD 141:796–798, 2005; Cancer 70:877–881, 1992; Oral Surg 69:153–156, 1990*; ulcer of nose *AD 141:897–902, 2005; Mayo Clin Proc 72:543–545, 1997*

### EXOGENOUS AGENTS

Cocaine abuse – *Cutis 65:73–76, 2000*; mimicking midline granuloma *Eur Arch Otorhinolaryngol 255:446–447, 1998; JAAD 32:286–287, 1995*

Nasal alloplastic implant – infection and extrusion – nasal tip ulceration *JAAD 44:362–364, 2001*

Silicone injection, subcutaneous *JAAD 34:849–852, 1996*

### INFECTIONS AND INFESTATIONS

Acanthamoeba in AIDS *JAAD 42:351–354, 2000; AD 131:1291–1296, 1995; JAAD 26:352–355, 1992*

AIDS – facial eschar

Anthrax – eschar of the fingers, face, or neck *Cutis 67:488–492, 2001; Ped Derm 18:456–457, 2001; Clin Inf Dis 19:1009–1014, 1994; Cutis 48:113–114, 1991; Cutis 40:117–118, 1987*

Aspergillosis

Bejel – destructive midline lesions of face *Ghatan p.58, 2002, Second Edition*

Blastomycosis *Clin Inf Dis 33:1706,1770–1771, 2001*

Chancriform pyoderma (*Staphylococcus aureus*) – ulcer with indurated base; eyelid, near mouth, genital *AD 87:736–739, 1963*

Coccidioidomycosis *SMJ 77:1464–1465, 1984*

Cowpox *Br J Plast Surg 53:348–350, 2000*

Cryptococcosis

Cytomegalovirus *Tyring p.186, 2002*

Dental sinus

Ecthyma gangrenosum *JAAD 29:104–116, 1993; AD 126:529,532, 1990; Am J Med 80:729–734, 1986*

Frontal sinusitis with forehead abscess

*Fusarium solanae*, disseminated; of sinuses; eschar of bridge of nose *JAAD 47:659–666, 2002*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Herpes simplex, chronic; eczema herpeticum

Herpes zoster

Histoplasmosis in AIDS or with Hyper-IgM syndrome *Tyring p.341, 2002; BJD 133:472–474, 1995; Ped Derm 12:235–238, 1995*

Impetigo

Leishmaniasis, desert sore (veldt sore) *Int J Derm 33:260–265, 1994*

Leprosy *Int J Lepr Other Mycobact Dis 59:479–480, 1991*

Mucormycosis *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.169, 1999; AD 133:249–251, 1997*

*Mycobacterium tuberculosis* – tuberculous chancre – facial ulcer; ragged undermined ulcer with granular hemorrhagic base; face; paronychia; surrounded by lupoid nodules; traumatic wounds, surgical wounds *Rev Bras Oftel 23:183–192, 1964;* mouth to mouth respiration *NEJM 273:1035–1036, 1965;* tuberculous abscess*;* ulcer of the nose *Ann DV 110:731–732, 1983;* lupus vulgaris – destructive midline lesion of face *Ghatan p.58, 2002, Second Edition*

Myiasis – destructive midline lesions of face *Ghatan p.58, 2002, Second Edition*

Nasopharyngeal mutilation

Necrotizing fasciitis – destructive midline lesions of face *Ghatan p.58, 2002, Second Edition*

Noma (cancrum oris) – Fusobacterium necrophorum, Prevotella intermedium *Am J Trop Med Hyg 60:150–156, 1999; Cutis 39:501–502, 1987; J Maxillofac Surg 7:293–298, 1979*

Paracoccidioidomycosis (disseminated) (South American blastomycosis) in AIDS *JAAD 20:854–855, 1989;* destructive midline lesions of face

*Pseudomonas* sepsis, including noma neonatorum (*Pseudomonas* of oronasal area and eyelids in infants) *Lancet 2:289–291, 1978*

Rhinoscleroma – destructive midline lesions of face *Ghatan p.59, 2002, Second Edition*

Rhinosporidiosis – destructive midline lesions of face

Sporotrichosis *Cutis 69:439–442, 2002;* in AIDS *JAAD 21:1145–1147, 1987*

Syphilis, primary, secondary – noduloulcerative *AD 113:1027–1032, 1997; Clin Inf Dis 25:1343, 1447, 1997;* tertiary *AD 123:1707–1712, 1987;* gumma *Rook p.1251, 1998, Sixth Edition*

Yaws – destructive midline lesions of face *Ghatan p.59, 2002, Second Edition*

Zygomycosis (phycomycosis) – destructive midline lesions of face *Ghatan p.58, 2002, Second Edition*

## INFLAMMATORY DISORDERS

Eosinophilic ulcer

Erythema multiforme, minor, major (Stevens–Johnson syndrome)

Lethal midline granuloma – tip of nose ulcer (Stewart type) *AD 118:52–4, 1982*

Malignant pyoderma of the head and neck *AD 123:371–375, 1987; JAAD 15:1051–1052, 1986*

Pyoderma gangrenosum *Cutis 69:427–430, 2002; Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988*

Sarcoidosis *AD 133:215–219, 1997*

Superficial granulomatous pyoderma *JAAD 48:456–460, 2003*

## METABOLIC DISEASES

Cryoglobulinemia *JAAD 25:21–27, 1991*

Necrobiosis lipoidica diabeticorum – ulcerated facial plaque *AD 130:1433–1436, 1994; Acta DV 58:276–277, 1978*

Pellagra – facial crusting *JAAD 21:1–30, 1989*

Porphyria cutanea tarda with calcinosis cutis

## NEOPLASTIC

Basal cell carcinoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins, 1999, p.27; Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Intranasal carcinoma

Lymphoma – including angiocentric CTCL of childhood (hydroa-like lymphoma) of Latin America and Asia *JAAD 38:574–579, 1998;* lymphomatoid granulomatosis *JAAD 23:334–337, 1990;* lethal midline granuloma; subcutaneous panniculitis-like T-cell lymphoma *BJD 148:516–525, 2003;* pyogenic lymphoma – primary cutaneous neutrophil-rich $CD30^+$ anaplastic large-cell lymphoma *BJD 148:580–586, 2003*

Lymphomatoid papulosis

Melanoma *Semin Oncol 2:5–118, 1975*

Metastasis – oral squamous cell carcinoma spreading onto face *JAAD 22:19–26, 1990*

Merkel cell tumor

Squamous cell carcinoma *Derm Surg 28:268–273, 2002*

## PARANEOPLASTIC DISORDERS

Necrotbiotic xanthogranuloma with paraproteinemia *Bolognia, p.1439, 2003*

## PRIMARY CUTANEOUS DISEASES

Acne excoriée des jeunes filles *Int J Derm 33:846–848, 1994; Clin Exp Dermatol 8:65–68, 1983*

Acne fulminans *AD 121:91–93, 1985*

Acute parapsoriasis

Ectodermal dysplasia

Epidermolysis bullosa, junctional – facial erosions – *JAAD 17:246–50, 1987*

Kyrle's disease

## PSYCHOCUTANEOUS DISEASES

Delusions of parasitosis *Hautarzt 39:675–676, 1988*

Factitial dermatitis *JAAD 40:802–804, 1999;* paraoral ulcers *Oral Surg Oral Med Oral Pathol 64:259–263, 1987*

Neurotic excoriations

### SELF-MUTILATION

Hereditary sensory neuropathy – five types *Ped Derm 11:231–236, 1994*
- Congenital indifference to pain
- Congenital sensory neuropathy with anhidrosis
- Congenital sensory radicular neuropathy
- Familial dysautonomia
- Hereditary sensory radicular neuropathy

### SYNDROMES

Amniotic band syndrome

Ectodermal dysplasias with mid-facial clefting *JAAD 27:249–256, 1992*
- AEC syndrome
- EEC syndrome
- Rapp–Hodgkin ectodermal dysplasia

Dysplasia epiphysealis hemimelica (Trevor disease, tarsomegaly)

Laryngo–onycho–cutaneous syndrome (Shabbir's syndrome, LOGIC syndrome) – facial ulcers, hoarseness, nail dystrophy *Clin Dysmorphol 1:3–15, 1992; Biomedica 2:15–25, 1986*

Prader–Willi syndrome

Wallenberg's syndrome (trigeminal trophic syndrome) – occlusions of posterior inferior cerebellar artery; ulcer of ala nasi which expands to involve cheek and upper lip *Mayo Clin Proc 72:543–545, 1997; Clin Exp Dermatol 10:485–490, 1985*

### TRAUMA

Bullet entry/exit wound

Coma bullae

Post-surgical

Radiation necrosis

### VASCULAR

Cutaneous polyarteritis nodosa

Wegener's granulomatosis *AD 136:171–172, 2000; Cutis 64:183–186, 1999; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999*

## FIBROMATOSES OF CHILDREN

***AD 138:1245–1250, 2002; Ped Derm 8:306–309, 1991; AD 122:89–94, 1986; JAAD 10:365–371, 1984***

### CONGENITAL AND JUVENILE

Fibrous tumors of infants
- Calcifying aponeurotic fibroma
- Digital fibromatosis
- Fibromatosis colli
- Fibrous hamartoma of infancy
- Hyaline fibromatosis
- Infantile myofibromatosis *AD 134:625–630, 1998*
- Intravascular fasciitis

Congenital generalized fibromatosis

Congenital multiple fibromatosis

Juvenile hyaline fibromatosis

### SOLITARY LESIONS

Aggressive infantile fibromatosis

Calcifying aponeurotic fibroma

Congenital solitary fibromatosis

Dermatofibrosarcoma protuberans – in infants and children *J Cutan Pathol 18:241–246, 1991*

Diffuse infantile fibromatosis

Digital fibromatosis (recurrent infantile digital fibromatosis)

Fibromatosis colli

Fibrous hamartoma of infancy

Infantile desmoid-type fibromatosis

Juvenile hyaline fibromatosis *Ped Derm 6:68–75, 1989*

Infantile myofibromatosis – solitary or multicentric

Infantile digital fibromatosis *Ped Derm 8:137–139, 1991*

Intravascular fasciitis

### JUVENILE AND ADULT

Abdominal and extra-abdominal desmoid

Aggressive polyfibromatosis *Australas J Dermatol 37:205–207, 1996*

Aponeurotic fibromatosis

Atypical cutaneous fibrous histiocytoma *Am J Dermatopathol 8:467–471, 1986*

Atypical fibroxanthoma *Cancer 15:368–376, 1986; Cutis 51:47–48, 1993*

Atypical polypoid dermatofibroma *JAAD 24:561–565, 1991*

Buschke–Ollendorff syndrome – dermatofibrosis lenticularis disseminata *AD 118:44–46, 1982*

Cowden's disease – multiple sclerotic fibromas of the skin *J Cutan Pathol 19:346–351, 1992*

Cutaneous sclerotic fibroma *Am J Dermatopathol 21:571–574, 1999*

Dermatofibrosarcoma protuberans

Dermatomyofibroma *J Cutan Pathol 19:85–93, 1992*

Desmoplastic fibroblastoma *J Cutan Pathol 25:450–454, 1998*

Desmoplastic melanoma *AD 111:753–754, 1975*

Fibromyxoma *J Cutan Pathol 7:335–341, 1980*

Hyaline fibromatosis

Myxoid fibroblastoma *Am J Dermatopathol 14:536–541, 1992*

Solitary cutaneous myofibromas *J Cutan Pathol 23:437–444, 1996*

Palmo-plantar fibromatosis (Dupuytren's contracture)

Penile (Peyronie's disease)

Pleomorphic sclerotic fibroma *Dermatology 198:69–72, 1999*

## FIGURATE ERYTHEMAS

Bullous pemphigoid *Clin Exp Derm 24:446–448, 1999; BJD 117:385–388, 1987; Clin Exp Derm 7:401–406, 1982*

Erythema annulare centrifugum *Arch Int Med 144:2090–2092, 1984*

Erythema chronicum migrans

Erythema gyratum repens *Cutis 34:351–353, 355, 1984*

Erythema gyratum repens-like psoriasis *Int J Derm 39:695–697, 2000*

Erythema marginatum

Familial annular erythema

Glucagonoma syndrome

Infantile epidermodysplastic erythema gyratum *AD 120:1601–1603, 1984*

Keratolytic winter erythema

Leprosy – macular lepromatous *AD 113:1027–1032, 1997*

Lupus erythematosus – subacute cutaneous lupus erythematosus

Lymphoma – panniculitis-like B-cell lymphoma

Neutrophilic figurate erythema of infancy *Am J Dermatopathol 19:403–406, 1997*

Persistent annular erythema of infancy *Ped Derm 10:46–48, 1993*

Pityriasis rubra pilaris

Psoriasis

Tinea corporis

Tinea imbricata

# FINGERTIP LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – occupational (chromate), medications, latex, tulip or garlic fingers (hyperkeratotic dermatitis with fissures and subungual hyperkeratosis) *Cutis 67:328–330, 2001*; vesicular fingertip dermatitis from food proteins in milkers, veterinarians *Contact Dermatitis 6:27–29, 1980*, slaughterhouse workers *Contact Dermatitis 21:221–224, 1989;* chefs and sandwich makers *Contact Dermatitis 2:28–42, 1976s;* acrylic fingernails ('tips')

Chronic granulomatous disease – chilblains *JAAD 36:899–907, 1997;* X-linked chronic granulomatous disease – photosensitivity, chilblain lupus of fingertips and toes *Ped Derm 3:376–379, 1986*

Dermatomyositis

Lupus erythematosus – systemic, discoid; chilblain lupus – fingers, toes, elbows, knees, calves, knuckles, nose, ears *BJD 143:1050–1054, 2000; Lupus 6:122–131, 1997; BJD 98:497–506, 1978*

Rheumatoid vasculitis *JAAD 17:355–359, 1987*

Scleroderma (progressive systemic sclerosis) – CREST syndrome; acral pits; round fingerpad sign *JAAD 24:67–69, 1991*

## CONGENITAL LESIONS

Congenital insensitivity to pain *Cutis 513:373–374, 1993*

## DEGENERATIVE DISEASES

Acquired subungual exostoses – papule *JAAD 26:295–298, 1992*

Carpal tunnel syndrome – chilblain-like lesions with necrosis

## DRUGS

Acral dysesthesia syndrome

## EXOGENOUS AGENTS

Foreign body granuloma – digital papule; cactus spine (Opuntia cactus) granulomas *Cutis 65:290–292, 2000;* sea urchin granulomas

## INFECTIONS

Acute bacterial endocarditis

Bacillary angiomatosis

Blistering distal dactylitis *JAAD 17:310–311, 1987*

Cat scratch disease, inoculation papule *Ped Derm 5:1–9, 1988;* multiple leg papules *Cutis 49:318–320, 1992*

Erysipeloid – *Erysipelothrix insidiosa* (*rhusiopathiae*) – seal finger, blubber finger *AD 130:1311–1316, 1994; Clin Microbiol Rev 2:354–359, 1989; JAAD 9:116–123, 1983*

Felon *Hand Clin 14:547–555, 1998*

*Fusarium solanae* – digital cellulitis *Rook p.1375, 1998, Sixth Edition*

Gonococcemia

Herpes simplex virus – paronychia (herpetic whitlow); chronic HSV of HIV disease

Lepromatous leprosy

Milker's nodules *JAAD 49:910–911, 2003; Tyring p.57, 2002;* digital papule *Rook p.998, 1998, Sixth Edition*

Orf *AD 126:235–240, 1990*

Osler's node (subacute bacterial endocarditis) – small, red papules on distal finger and toe pads *Clin Inf Dis 32:63,149, 2001; NEJM 295:1500–1505, 1976*

Osteomyelitis secondary to nail biting – fingertip swelling *Ped Derm 7:189–90, 1990*

Paronychia, acute or chronic *Hand Clin 14:547–555, 1998*

Rat bite fever

Rocky Mountain spotted fever

Septic emboli *JAAD 47:S263–265, 2002*

Sporotrichosis *Caputo p.150, 2000*

Syphilis – primary chancre; secondary *Caputo p.146, 2000*

Tularemia

Tungiasis (*Tunga penetrans*) (toe-tip or subungual nodule) – crusted or ulcerated *Caputo p.164, 2000; Acta Dermatovenerol (Stockh) 76:495, 1996; JAAD 20:941–944, 1989; AD 124:429–434, 1988*

Verruca vulgaris *Derm Surg 27:591–593, 2001*

## INFILTRATIVE LESIONS

Amyloidosis – primary systemic amyloidosis associated with myeloma *BJD 147:602, 2002*

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

## INFLAMMATORY LESIONS

Erythema multiforme

Pyoderma gangrenosum *JAAD 16:141–142, 1987; JAAD 18:1084–1088, 1988*

Sarcoid – fingertip nodules *JAAD 44:725–743, 2001; Rook p.2689, 1998, Sixth Edition; JAAD 11:713–723, 1984*; on palmar aspects of fingers *AD 132:459–464, 1996;* lupus pernio *JAAD 16:534–540, 1987; BJD 112:315–322, 1985*

## METABOLIC DISEASES

Bullous dermatosis of hemodialysis *JAAD 21:1049–1051, 1989*

Calcinosis cutis – digital papules *Cutis 66:465–467, 2000;* CREST – acral pits; calcinosis cutis in children *Cutis 66:465–467, 2000*

Calcium oxalate *Am J Kid Dis 25:492–497, 1995;* secondary oxalosis – papules on palmar skin of fingers *JAAD 31:368–372, 1994;* oxalate granuloma – fingertip papule *JAAD 22:316–318, 1990*

Cryoglobulinemia

Erythropoietic porphyria – mutilation of fingertips

Gout – tophus – digital papule (s) *Cutis 64:233–236, 1999; AD 134:499–504, 1998*

Tyrosinemia type II – fingertip erosions *Ped Derm 1:25–34, 1983*

Xanthomas

## NEOPLASTIC DISEASES

Acquired digital fibrokeratoma – digital papule *AD 124:1559–1564, 1988; JAAD 12:816–821, 1985*

Aggressive digital papillary adenocarcinoma – occur on fingers and toes *Dermatol Surg 26:580–583, 2000; JAAD 23:331–334, 1990;* aggressive digital papillary adenoma *Cutis 69:179–182, 2002; AD 120:1612, 1984*

Atrial myxoma – acral red papules with claudication *JAAD 32:881–883, 1995*; tender red fingertip papule *JAAD 21:1080–1084, 1989*

Chondroblastoma, subungual – toe tip *Ped Derm 21:452–453, 2004*

Clear cell syringofibroadenoma of Mascaro – subungual papule *BJD 144:625–627, 2001*

Digital fibrous tumor of childhood – toe nodule *AD 131:1195, 1198, 1995*

Digital myxoid cyst *Derm Surg 27:591–593, 2001*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997*

Enchondromas, subungual *Derm Surg 27:591–593, 2001; J Bone Joint Surg Am 79:898–900, 1997*

Epidermoid cyst

Epithelioid sarcoma *JAAD 14:893–898, 1986*

Exostosis, subungual *Derm Surg 27:591–593, 2001; JAAD 19:132, 1988*

Fibroma, subungual *Derm Surg 27:591–593, 2001*

Fibrokeratoma, periungual – resembles accessory fingernail *Cutis 35:451–454, 1985*

Giant cell tumor of the tendon sheath – single or multiple *BJD 147:403–405, 2002; JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996*

Granular cell tumor – digital papule, paronychial nodule *Cutis 35:355–356, 1985; Cutis 62:147–148, 1998*

Kaposi's sarcoma – digital papules *JAAD 47:641–655, 2002*

Leukemia cutis – digital papule; preleukemic state of monocytosis and neutropenia – perniotic lesions *BJD 81:327–332, 1969;* chronic myelomonocytic leukemia – chilblain-like lesions *BJD 115:607–609, 1986; AD 121:1048–1052, 1985;* chronic myelomonocytic leukemia – chilblain-like lesions *JAAD 50:S42–44, 2004*

Lymphoma – CTCL

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma, subungual *Derm Surg 27:591–593, 2001*

Metastasis *Hosp Med 59:819, 1998;* bronchogenic carcinoma resembling felon *J Hand Surg 8:325–328, 1983*

Myxoma *JAAD 22:343–345, 1990*

Osteosarcoma, subungual *Derm Surg 27:591–593, 2001*

Recurrent infantile digital fibromatosis *AD 138:1246–1251, 2002*

Squamous cell carcinoma *Caputo p.77, 2000; Derm Surg 27:591–593, 2001;* subungual squamous cell carcinoma *JAAD 11:291–298, 1984*

## PRIMARY CUTANEOUS DISEASES

Erythema elevatum diutinum *BJD 143:415–420, 2000*

Granuloma annulare *JAAD 3:217–230, 1980*

Juvenile plantar dermatosis – toe tips *Clin Exp Dermatol 11:529–534, 1986; Semin Dermatol 1:67–75, 1982; Clin Exp Dermatol 1:253–260, 1976*

Lichen planus

Lichen striatus

Pustular psoriasis

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Blue rubber bleb nevus syndrome

Carney complex – non-blanching annular and serpiginous macules of digital pads *JAAD 46:161–183, 2002*

CHILD syndrome – fingertip nodules (verruciform xanthomas) *JAAD 50:S31–33, 2004*

Ectodermal dysplasia

Familial multiple acral mucinous fibrokeratomas – verrucous papules of the fingers *JAAD 38:999–1001, 1998*

Fetal hydantoin syndrome – hypertrichosis, broad depressed nasal bridge, large lips, wide mouth, short webbed neck, short stature, hypoplastic distal phalanges *JAAD 46:161–183, 2002*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Hypereosinophilic syndrome – digital ulcers *Semin Dermatol 14:122–128, 1995*

Incontinentia pigmenti – painful subungual keratotic tumors *JAAD 13:913–918, 1985*

Infantile digital fibromatosis *JAAD 49:974–975, 2003*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, knuckle pads; multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001; Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*

Laband syndrome (hereditary gingival fibromatosis) – soft, large floppy ears; bulbous soft nose, gingival fibromatosis; absent nails; atrophic distal phalanges, hyperextensible joints, hepatosplenomegaly, hypertrichosis, mental retardation *Ped Derm 10:263–266, 1993; J Otol Pathol Med 19:385–387, 1990; Oral Surg Oral Med Oral Pathol 17:339–351, 1964*

Lipoid proteinosis – acral papules *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002;* digital papule *AD 132:1239–1244, 1996*

Maffucci's syndrome – enchondromas, angiomas, cartilaginous nodules *Rook p.2847, 1998, Sixth Edition; Dermatologic Clinics 13:73–78, 1995; JAAD 29:894–899, 1993*

Multicentric reticulohistiocytosis – digital papules *AD 140:919–921, 2004; JAAD 49:1125–1127, 2003; Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Neurofibromatosis – digital papule

No fingerprint syndromes – Naegeli–Franceschetti–Jadassohn syndrome, X-linked hypohidrotic ectodermal dysplasia, Rapp–Hodgkin syndrome, AEC syndrome Jorgenson's syndrome, Basan's syndrome, dermatopathia pigmentosa reticularis *JAAD 50:782, 2004*

Pachydermodactyly – benign fibromatosis of fingers of young men *AD 129:247–248, 1993; JAAD 27:303–305, 1992; AD 111:524, 1975*

Peutz–Jegher syndrome

Proteus syndrome *Ped Derm 5:14–21, 1988*

Reiter's syndrome

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Tuberous sclerosis – digital papules *J Clin Neurol 7:221–224, 1992*

### TOXINS

Silica-associated systemic sclerosis *BJD 123:725–734, 1990*

### TRAUMA

Calluses

Chilblains (perniosis) – tender, pruritic red or purple digital papules *JAAD 45:924–929, 2001; Rook p.960–961, 1998, Sixth Edition;* plantar nodule *Ped Derm 15:97–102, 1998*

Friction blister

Guitarist's fingers

Harpists' fingers – paronychia with calluses of the sides and tips of fingers with onycholysis and subungual hemorrhage *Rook p.903, 1998, Sixth Edition*

Trauma – crush injuries *Injury 29:447–450, 1998*

### VASCULAR DISEASES

Angiokeratoma of Mibelli – acral vascular papules *Caputo p.61, 2000; JAAD 45:764–766, 2001*

Arteriosclerotic peripheral vascular disease – acral livedo, cyanosis, necrosis

Arteriovenous malformation, digital – red papule, subungual blue papule *BJD 147:1007–1011, 2002; BJD 136:472–473, 1997*

Cholesterol emboli *AD 122:1194–1198, 1986*

Emboli – atrial myxoma – acral papule *BJD 147:379–382, 2002*

Glomus tumor, subungual *Derm Surg 27:591–593, 2001; J Hand Surg 22:508–510, 1997*

Hemangiomas *Caputo p.58, 2000*

Hypersensitivity vasculitis

Microscopic polyarteritis – digital ulcer *AD 128:1223–1228, 1992*

Neonatal hemangiomatosis – digital papule

Pigmented purpuric eruptions

Polyarteritis nodosa – cutaneous infarcts presenting as tender nodules *Rook p.2212, 1998, Sixth Edition*

Pyogenic granuloma *Derm Surg 27:591–593, 2001*

Recurrent cutaneous eosinophilic vasculitis – pruritic violaceous swelling of fingertips *BJD 149:901–902, 2003*

Wegener's granulomatosis – digital ulcer

### ACRO-OSTEOLYSIS

*JAMA 255:2058, 1986; Am J Med 65:632, 1978*

Biliary cirrhosis with arthritis

Burns

Diabetes mellitus

Electrical injuries

Epidermolysis bullosa

Ergot toxicity

Frostbite

Gout

Hyperparathyroidism

Juvenile rheumatoid arthritis

Leprosy

Lipodermatoarthritis

Lipogranulomatosis, disseminated

Lupus erythematosus, systemic

Mixed connective tissue disease

Mucopolysaccharidoses

Neurogenic ulcerative acropathy

Neuropathic arthritis

Occlusive vascular disease

Osteoarthritis

Osteomalacia

Polymyositis

Porphyria cutanea tarda

Progeria

Psoriasis

Pycnodysostosis

Raynaud's disease

Reiter's disease

Rheumatoid arthritis

Sarcoidosis

Scleroderma

Sézary syndrome

Sjögren's syndrome

Syphilis

Vinyl chloride toxicity

Werner's syndrome

## FINGERTIP NECROSIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Connective tissue disease – eosinophilic vasculitis in connective tissue diseases; digital microinfarcts *JAAD 35:173–182, 1996*

Hypersensitivity angiitis *AD 138:1296–1298, 2002*

Lupus erythematosus – systemic; vasculitis with infarcts of fingertips *JAAD 48:311–340, 2003; Rook p.2474, 1998, Sixth Edition; JAMA 181:366–374, 1962;* toe tips *Caputo p.33, 2000*

Mixed connective tissue disease – vasculitis *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Rheumatoid vasculitis – purpuric infarcts of paronychial areas and digital pads (Bywater's lesions) *JAAD 53:191–209, 2005; Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* digital infarcts *JAAD 48:311–340, 2003*

Scleroderma, including CREST syndrome *Rook p.2527–2529, 1998, Sixth Edition*

Sjögren's syndrome *Rook p.2572, 1998, Sixth Edition*

## CONGENITAL LESIONS

Umbilical artery catheterization – acrocyanosis, necrosis, livedo reticularis *Textbook of Neonatal Dermatology p.108,150, 2001*

## DRUG-INDUCED

Beta blockers – acral finger/toe-tip arteritis *BJD 152:166–169, 2005*

Bleomycin, intralesional treatment of warts; sclerodermatous changes of hands with digital gangrene *Clin Rheumatol 18:422–424, 1999; JAAD 33:851–852, 1995; AD 107:553–555, 1973;* Raynaud's phenomenon

Bleomycin, vincristine, and methotrexate *BJD 134:378–379, 1996*

Buprenorphine – intra-arterial injection *AD 138:1296–1298, 2002*

Calcium channel blockers – acral finger/toe-tip arteritis *BJD 152:166–169, 2005*

Cisplatin *BJD 142:833–834, 2000*

Coumarin necrosis

Cyclosporine vasculopathy

Ergotamine alkaloids – acral finger/toe-tip arteritis *BJD 152:166–169, 2005*

Levophed – ischemic necrosis

Oxymetazoline – intra-arterial injection *AD 138:1296–1298, 2002*

Quinine sulfate *Hautarzt 51:332–335, 2000*

Vasculitis, drug-induced *AD 138:1296–1298, 2002*

Vasoconstrictors (vasopressors) infusion

## EXOGENOUS AGENTS

Cannabis arteritis – acral toe-tip necrosis *BJD 152:166–169, 2005; Arch Mal Coeur 53:143–147, 1960*

Radial or ulnar artery catherization *Hand Surg 4:151–157, 1999*

Mitten thread *JAMA 248:924–925, 1982*

Silica-associated systemic sclerosis *BJD 123:725–734, 1990*

## INFECTIONS AND INFESTATIONS

Acute bacterial endocarditis

Anthrax – eschar of the fingers, face, or neck *Cutis 67:488–492, 2001; Clin Inf Dis 19:1009–1014, 1994; Cutis 48:113–114, 1991; Cutis 40:117–118, 1987*

Aspergillosis – primary cutaneous *JAAD 31:344–347, 1994*

Cowpox *Tyring p.52, 2002*

Eikenella corrodens – felon with fingertip necrosis *Diabetes Care 19:1011–1013, 1996*

Epidemic typhus *(Rickettsia prowazeki)* – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

Felon with fingertip necrosis *Diabetes Care 19:1011–1013, 1996*

Hepatitis C – with cryoglobulins; thrombotic vasculitis *AD 131:1185–1193, 1995*

Herpes simplex virus in AIDS

HIV *AD 131:357–358, 1995;* polyarteritis nodosa-like lesions *J Clin Inf Dis 23:659–661, 1996*

Meningococcemia *Curr Prob Dermatol 14:183–220, 2002*

Mucormycosis

Osteomyelitis

*Pasteurella canis* due to dog bite *JAAD 46:S151–152, 2002*

Rocky Mountain spotted fever *(Rickettsia rickettsii)* – initially blanching pink macules, or morbilliform eruption of wrists and ankles; soon spreads to face, trunk, and extremities; palms and soles involved; becomes purpuric with acral gangrene *JAAD 2:359–373, 1980*

Septic emboli

Snakebite – African puff adder *J Emerg Med 15:827–831, 1997*

## METABOLIC

Anti-thrombin III deficiency

Calcinosis cutis – metastatic calcification; calciphylaxis *JAAD 45:35–361, 2001; Arch Int Med 136:1273–1280, 1976*

Cryofibrinogenemia

Cryoglobulinemia *Arthritis Rheum 42:1051–1955, 1999*

Diabetes mellitus – micrangiopathy; neuropathic ulcers; pseudoainhum in diabetics *Caputo p.189, 2000*

Factor V Leiden deficiency, heterozygous *BJD 143:1302–1305, 2000*

Functionally abnormal plasminogen

Hyperhomocysteinemia – distal cutaneous necrosis *Ann DV 126:822–825, 1999*

Hyperviscosity – acral finger/toe-tip necrosis *BJD 152:166–169, 2005*

Oxalosis, primary – alanine glyoxalate aminotransferase deficiency *JAAD 46:S16–18, 2002; AD 136:1272–1273, 2000; JAAD 22:952–956, 1990; AD 131:821–823, 1995*

Polycythemia vera

Protein C or S deficiency

Thrombocythemia *Leuk Lymphoma 22 Suppl 1:47–56, 1996*

Waldenström's macroglobulinemia

## NEOPLASTIC

Gamma heavy chain disease *JAAD 23:988–990, 1990*

Lymphoma – cutaneous T-cell lymphoma with gangrene *JAAD 23:1169–1170, 1990;* angiocentric lymphoma *BJD 142:1013–1016, 2000*

Metastatic carcinoma – gastric, breast lung, kidney, colon *JAAD 27:117–118, 1992*

Myeloid metaplasia *Ann Surg 193:453–461, 1981*

Polycythemia vera

Thrombocythemia

### PARANEOPLASTIC DISORDERS

Paraneoplastic acral vascular syndrome – acral cyanosis and gangrene *JAAD 47:47–52, 2002; AD 138:1296–1298, 2002; Br Med J iii:208–212, 1967*

### SYNDROMES

Antiphospholipid antibody syndrome – petechiae, purpura, ecchymoses, splinter hemorrhages *Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989*

Behçet's disease with vasculitis *JAAD 21:576–579, 1989*

Carpal tunnel syndrome *JAAD 29:287–290, 1993*

Compartment syndrome – crush injury of thorax *AD 138:1296–1298, 2002*

Hypereosinophilic syndrome – arterial occlusion *BJD 144:1087–1090, 2001; BJD 143:641–644, 2000*

Pseudoxanthoma elasticum – acral finger/toe-tip arteritis *BJD 152:166–169, 2005*

Thoracic outlet obstruction *AD 138:1296–1298, 2002*

### TOXINS

Alcoholic motor and sensory neuropathy

### TRAUMA

Blunt trauma – repetitive blunt trauma *AD 138:1296–1298, 2002*

Carpal tunnel syndrome *AD 120:517–519, 1984*

Chilblains – with necrosis on fingers, toes, nose, and ears in patients with monocytic leukemia *AD 121:1048,1052, 1985*

Crush injury *AD 138:1296–1298, 2002*

Crutch pressure arteritis

Electric shock *AD 138:1296–1298, 2002*

Frostbite

Hypothenar hammer syndrome *JAAD 34:880–883, 1996*

Radial or ulnar artery cannulation *AD 138:1296–1298, 2002; N Y State J Med 90:375–376, 1990*

Vibration syndrome *Arch Derm 121:1544–1547,1985*

### VASCULAR

Arterial fibromuscular dysplasia *AD 138:1296–1298, 2002*

Arteriosclerosis – peripheral vascular disease *AD 138:1296–1298, 2002; Rook p.2231, 1998, Sixth Edition*

Arteriovenous fistulae – vascular steal syndrome in hemodialysis patients with arteriovenous fistulae *AD 138:1296–1298, 2002; Rook p.2731, 1998, Sixth Edition*

Atrial fibrillation with emboli

Cardiogenic shock

Churg–Strauss disease *BJD 150:598–600, 2004*

DIC, purpura fulminans, symmetric peripheral gangrene

Emboli – septic, cholesterol, fat, tumor, paradoxical, mural thrombus, atrial myxoma *Caputo p.197, 2000*

Erythromelalgia – associated with thrombocythemia – may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990*

Peripheral digital ischemia – thrombotic microangiopathy (thrombotic thrombocytopenic purpura, hemolytic uremic syndrome) *J Invest Med 50:201–206, 2002*

Polyarteritis nodosa (systemic or cutaneous PAN) – digital infarction *JAAD 48:311–340, 2003; Ann Rheum Dis 54:134–136, 1995; Cutis 46:53–55, 1990*

Radial artery removal for coronary bypass grafting *AD 138:1296–1298, 2002*

Raynaud's phenomenon/disease *J Rheumatol 19:1286–1288, 1992*

Thoracic outlet syndrome

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thromboembolic phenomena – cardiac source, arterial source, aneurysm (subclavian or axillary arteries), infection, hypercoagulable state *AD 138:1296–1298, 2002*

Thrombotic thrombocytopenic purpura

Ulnar artery occlusion

Vascular trap syndrome – acral finger/toe-tip necrosis *BJD 152:166–169, 2005*

Vasculitis – multiple types; acral finger/toe-tip necrosis *BJD 152:166–169, 2005*

Vasospasm from arterial puncture

Venous gangrene

Venous limb gangrene – during warfarin treatment of cancer-associated deep venous thrombosis; necrosis of of toes and foot; due to severe depletion of protein C and failure to reduce thrombin generation *Ann Intern Med 135:589–593, 2001*

Wegener's granulomatosis *AD 130:861–867, 1994*

## FINGERTIP ULCERS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Hypersensitivity angiitis *AD 138:1296–1298, 2002*

Rheumatoid vasculitis *JAAD 17:355–359, 1987; Clin Rheumatol 2:3210330, 1983*

Scleroderma *J Hand Surg 9:320–327, 1984*

### CONGENITAL LESIONS

Congenital insensitivity to pain *Cutis 51:373–374, 1993*

### DEGENERATIVE DISEASES

Alcoholic neuropathy

Syringomyelia – fingertip ulcers with resorption of phalanges *Rook p.2777, 1998, Sixth Edition*

### DRUGS

Buprenorphine – intra-arterial injection *AD 138:1296–1298, 2002*

Diphenhydramine injected periungually *JAAD 21:1318–1319, 1989*

Ergotamine abuse

Oxymetazoline – intra-arterial injection *AD 138:1296–1298, 2002*

Vasculitis, drug-induced *AD 138:1296–1298, 2002*

### INFECTIONS

Blistering distal dactylitis *JAAD 14:310–311, 1987*

*Fusarium JAAD 47:659–666, 2002*

Herpes simplex infection, chronic in HIV disease

Leprosy

*Mycobacterium terrae* – hyperkeratotic plaque and osteomyelitis following metal staple puncture *BJD 152:727–734, 2005*

Sporotrichosis – finger ulcer *Cutis 69:371–374, 2002*

Syphilis – primary chancre *AD 141:1303–1310, 2005; Rook p.1244, 1998, Sixth Edition*

Tularemia – *Francisella tularensis MMWR 51:181–184, 2002*

### INFLAMMATORY DISEASES

Pyoderma gangrenosum *JAAD 18:1084–1088, 1988; JAAD 16:141–142, 1987*

### METABOLIC DISEASES

Bullous dermatosis of hemodialysis *JAAD 21:1049–1051, 1989*

Calcinosis cutis – CREST/dystrophic/chronic renal failure *J Rheumatol 20:1233–1235, 1993*

Diabetic neuropathic ulcers

Gamma heavy chain disease *JAAD 23:988–990, 1990*

Oxalate granuloma *JAAD 22:316–318, 1990*

Tyrosinemia type II – erosions *Ped Derm 1:25–34, 1983*

### NEOPLASTIC DISEASES

Acquired subungual exostoses *JAAD 26:295–298, 1992*

Basal cell carcinoma *JAAD 23:318–319, 1990*

Epithelioid sarcoma *JAAD 14:893–898, 1986*

Lymphoma – cutaneous T-cell lymphoma with gangrene *JAAD 23:1169–1170, 1990;* angiocentric lymphoma *BJD 142:1013–1016, 2000*

Metastatic gastric carcinoma

Mucoepidermoid carcinoma *BJD 149:1091–1092, 2003*

Myxoma *JAAD 22:343–345, 1990*

Polycythemia vera

Squamous cell carcinoma – subungual *Rook p.1689–1690, 1998, Sixth Edition; Dermatologica 150:186–190, 1975*

### PARANEOPLASTIC DISORDERS

Paraneoplastic acral vascular syndrome – acral cyanosis and gangrene *JAAD 47:47–52, 2002; AD 138:1296–1298, 2002*

### PRIMARY CUTANEOUS DISEASES

Lichen planus, erosive *JAAD 21:1076–1080, 1989*

### SYNDROMES

Behçet's diseases with vasculitis *JAAD 21:576–579, 1989*

Carpal tunnel syndrome – acral ulcers and acro-osteolysis *BJD 150:166–167, 2004; JAAD 29:284–290, 1993*

Compartment syndrome – crush injury of thorax *AD 138:1296–1298, 2002*

Hereditary sensory and autonomic neuropathy type II – acral whitlows and ulcers of fingers with mutilation *Rook p.2780, 1998, Sixth Edition*

Hereditary sensory and autonomic neuropathy with phospholipid excretion *JAAD 21:736–739, 1989*

Hypereosinophilic syndrome – jigital ulcers *Semin Dermatol 14:122–128, 1995*

Incontinentia pigmenti – painful subungual keratotoic tumors *JAAD 13:913–918, 1985*

Reflex sympathetic dystrophy

Thoracic outlet obstruction *AD 138:1296–1298, 2002*

### TOXINS

Acute dioxin exposure *JAAD 19:812–819, 1988*

### TRAUMA

Blunt trauma – repetitive blunt trauma *AD 138:1296–1298, 2002*

Crush injury *AD 138:1296–1298, 2002*

Electric shock *AD 138:1296–1298, 2002*

Hypothenar hammer syndrome *AD 138:1296–1298, 2002*

Radial or ulnar artery cannulation *AD 138:1296–1298, 2002; N Y State J Med 90:375–376, 1990*

Vibratory tool overuse

### VASCULAR DISEASES

Arterial fibromuscular dysplasia *AD 138:1296–1298, 2002*

Arteriosclerosis *AD 138:1296–1298, 2002; Rook p.2231, 1998, Sixth Edition*

Arteriovenous fistulae – vascular steal syndrome in hemodialysis patients with arteriovenous fistulae *AD 138:1296–1298, 2002; Rook p.2731, 1998, Sixth Edition*

Emboli – from cardiac myxomas *BJD 147:379–382, 2002*

Erythromelalgia – associated with thrombocythemia – may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990*

Essential thrombocythemia *JAAD 24:59–63, 1991*

Histiocytoid hemangioma *JAAD 21:404–409, 1989*

Hypersensitivity vasculitis

Microscopic polyarteritis nodosa *AD 128:1223–1228, 1992*

Polyarteritis nodosa

Radial artery removal for coronary bypass grafting *AD 138:1296–1298, 2002*

Raynaud's disease/phenomenon

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thromboembolic phenomena – cardiac source, arterial source, aneurysm (subclavian or axillary arteries), infection, hypercoagulable state *AD 138:1296–1298, 2002*

Wegener's granulomatosis *Cutis 32:41–51, 1993*

## FLUSHING DISORDERS

### AUTONOMIC NERVE-MEDIATED FLUSHING (THERMOREGULATORY)

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A)) – X-linked recessive; autonomic flushing of the extremities *Rook p.2638, 1998, Sixth Edition; NEJM 276:1163–1167, 1967*

Auriculotemporal flushing (von Frey's syndrome) *Ped Derm 17:126–128, 2000; Ann Plast Surg 29:217–222, 1992*

Blushing (physiologic flushing) – emotional

Central nervous system lesions
- Autonomic hyperreflexia – spinal cord lesions
- Ciliary neuralgia (cluster headaches) – unilateral periorbital headache with lacrimation and conjunctival injection with unilateral flushing of the face *Rook p.2782, 1998, Sixth Edition*
- Destruction of the Gasserian ganglion *J Neurol Neurosurg Psychiatry 46:611–616, 1983*
- Diencephalic autonomic epilepsy
- Horner's syndrome, including congenital Horner's syndrome – unilateral facial flushing *J Neurol Neurosurg Psiachiatry 53:85–86*
- Hypertensive diencephalic syndrome – hyperhidrosis and blotchy erythema of face and neck with salivation, tachycardia, and sustained hypertension *Rook p.2782, 1998, Sixth Edition; Rook p.2782, 1998, Sixth Edition*
- Organic psychosis *Ann Intern Med 98:30–34, 1983*
- Lesions of pons, medulla, cortex
- Tumors compressing the third ventricle
- Increased intracranial pressure *J Neurosurg 92:1040–1044, 2000*

Cholinergic urticaria *BJD 110:587–910, 1984*

Flushing after breaking of a fever

Gustatory flushing, including congenital gustatory flushing *Otolaryngol Head Neck Surg 104:878–880, 1991*

Hyperthermia from exercise; from exogenous heat

Physiologic flushing – exercise, emotions, hot drinks

Physiologic gustatory sweating

Spinal cord injuries – facial flushing accompanying profuse sweating of face, neck, upper trunk with lesions at or above T6 *JAAD 20:713–726, 1989*

## ANTIDROMIC SENSORINEURAL FLUSHING

Auriculotemporal syndrome (Frey syndrome) *AD 133:1143–1145, 1997*

Brainstem and trigeminal nerve involvement

Diabetic autonomic neuropathy

Facial migraine

Familial dysautonomia (Riley–Day syndrome)

Hyperthermia in infants

Interalia tumors of the posterior fossa

Parkinson's disease

Spinal cord lesions

## CIRCULATING VASODILATOR FLUSHING

IV contrast media (iohexol)

Adenosine 3′5′ monophosphate

Aminophylline *Ghatan p.245, 2002, Second Edition*

Amyl and butyl nitrite

Anti-emetics – alizapride, metoclopramide

Bromocriptine in parkinsonism

Caffeine withdrawal syndrome

Calcium channel blockers – felodipine, nifedipine, amlodipine, diltiazem *JAAD 45:323–324, 2001; BJD 136:974–975, 1997*

Carbon monoxide poisoning

Carcinoid syndrome – face, neck, upper trunk associated withs diarrhea, breathlessness, and wheeze; foregut (stomach, lung, pancreas, biliary tract) – bright red or pink geographic flush, sustained, with burning, lacrimation, wheezing, sweating; hindgut (appendix and ileum) – patchy, violaceous (cyanotic) flush, intermixed with pallor, short duration *BJD 152:71–75, 2005; Rook p.2101, 1998, Sixth Edition; AD 77:86–90, 1958;* edema, telangiectasia, cyanotic nose and face, rosacea *Acta DV (Stockh) 41:264–276, 1961*

Chlorpropamide flush *Ann Intern Med 95:468–476, 1981*

Cholinergic drugs (metrifonate)

Chylomicronemia syndrome – flushing with ingestion of alcohol

Combination anesthesia with isoflurane and fentanyl

Corticosteroids – high dose pulse methylprednisolone; oral triamcinolone

Cyclosporine

Cyproterone

Diazoxide *Ghatan p.246, 2002, Second Edition*

Etretinate

Glutamate *Ghatan p.246, 2002, Second Edition*

Gonadotropin-releasing hormone therapy in patients with prostatic cancer *J North Am Menopause Soc 2:159–161, 1995*

Human corticotropin-releasing hormone *Clin Investig 72:331–336, 1994*

Hydralazine *Ghatan p.246, 2002, Second Edition*

Hyperbradykininism (Streeten's syndrome)

Hyperthyroidism

IL-2 reaction *JAMA 258:1624–1629, 1987*

Iohexol – radiographic contrast medium

Isosorbide dinitrate *Ghatan p.246, 2002, Second Edition*

Isotretinoin

Metronidazole with or without alcohol

Mithramycin

Morphine

Nicotinamide

Nicotinic acid (high dose) (prostaglandin $D_2$ release) *Clin Pharmacol Ther 50:66–70, 1991*

Nifedipine *Rook p.2100, 1998, Sixth Edition*

Nitrate *Ghatan p.246, 2002, Second Edition*

Nitroglycerin *Rook p.2100, 1998, Sixth Edition*

Opiates

Organic solvents

Papaverine *Ghatan p.246, 2002, Second Edition*

Persantin *Ghatan p.246, 2002, Second Edition*

Pharmacologic menopause – 4-hydroxy androsterone, danazol, doxorubicin *AD 128:1408, 1992*, tamoxifen, clomiphene citrate, decapeptyl, leuprolide; cancer chemotherapy – doxorubicin, alpha interferon, methramycin, cacarbazine, cisplatin

Phenolic flavanoids

Phentolamine *Rook p.2100, 1998, Sixth Edition*

Pheochromocytoma *JAAD 46:161–183, 2002*

Prostacycline *Circulation 106:1477–1482, 2002; Rook p.2100, 1998, Sixth Edition; NEJM 334:296–302, 1996*

Prostaglandin E *Rook p.2100, 1998, Sixth Edition*

Renal cell carcinoma – carcinoid-like syndrome caused by a prostaglandin secreting renal cell carcinoma *Arch Int Med 140:1095–1096, 1980*

Reserpine *Ghatan p.246, 2002, Second Edition*

Rifampin

Tamoxifen

Thyroid releasing hormone

Thyrotropin releasing hormone

Tricyclic antidepressants

Vancomycin – red man syndrome; flushing of upper body *NEJM 312:245, 1985*

Zollinger–Ellison syndrome *Ghatan p.246, 2002, Second Edition*

## RESTAURANT FLUSHING REACTIONS

Capsaicin in spicy foods

Food poisoning
- *Bacillus subtilis*
- Ciguatera fish poisoning – flushing, diarrhea, vomiting, abdominal pain, pruritus, temperature reversal, dysesthesia, diffuse tingling pain, burning tongue, gingiva, teeth, myalgia, weakness, and ataxia; ciguatoxin produced by coral reef dinoflagellate plankton species ingested by herbivorous fish; incubation period is 15 minutes to 3 hours
- Scombroid fish poisoning – incubation period is 10 to 30 minutes; fish tastes tangy, hot, bitter, spicy, peppery; headache, nausea, sweating, oral burning, abdominal pain, diarrhea, vomiting, and urticaria; scombroid mackerel-like fish include tuna, skipjack, bonito, albacore, and mackerel; non-scombroid fish include herring, sardine, pilchard, anchovy, mahimahi, bluefish, marlin, amberjack, yellowtail, kahala, kahawai, mahimahi *AD 115:963–965, 1979;* and Japanese saury, Western Australian salmon *Med J Aust 157:748–751, 1992*
- Herbal tea poisoning – anticholinergic – plant – ilex paraguariensis *MMWR 44:193–195, 1995*
- Monosodium glutamate – very rare *Rook p.2101, 1998, Sixth Edition*
- Sodium nitrite
- Sulfites
- Tartrazine in aspirin-sensitive individuals

Sour foods *Rook p.2100–2101, 1998, Sixth Edition*

Spicy foods *Rook p.2100–2101, 1998, Sixth Edition*

## ALCOHOL-PROVOKED FLUSHING REACTIONS

***Pharmacol Biochem Behav 10:303–311, 1979***

Carcinoid syndrome

Chlorpropamide *Clin Sci 67:375–381, 1984*

Climacteric

Diabetics taking chlorpropamide *BMJ 281:620–621, 1980*

Disulfiram *Rook p.2100, 1998, Sixth Edition*

Ethanol-induced flushing is increased in Asians and North American Native Americans *Science 175:449–450, 1972;* tyramine in red wines

Metronidazole *Rook p.2100, 1998, Sixth Edition*

Pimecrolimus – flushing after alcohol ingestion *AD 140:1014–1015, 2004*

Rosacea

Tacrolimus – facial flushing after alcohol ingestion *NEJM 351:2740, 2004; AD 140:1542–1544, 2004; AD 140:1014–1015, 2004; JAAD 38:69–76, 1998*

## ENDOGENOUS CIRCULATING AGENTS

Autoimmunity to estrogen or progesterone

Basophilic granulocytic leukemia

Bronchogenic carcinoma

Dengue hemorrhagic fever *JAAD 49:979–1000, 2003*

Diabetes mellitus

Dumping syndrome

Graves' disease *JAAD 48:641–659, 2003*

Hantavirus hemorrhagic fever – Sin nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Hantaan virus, Seoul virus, Puumala virus, Dobrava virus, Khabarovsk virus – petechial axillary rash, facial flushing, generalized purpura *JAAD 49:979–1000, 2003; Tyring p.425, 2002*

Homocystinuria – malar flush

Horseshoe kidneys – flushing, nausea, pain (Rovsing syndrome)

Insulinoma *Mayo Clin Proc 42:547–550, 1967*

Male climacteric flushing

Mastocytosis – solitary mastocytoma with generalized flushing *Ped Derm 21:262–264, 2004; Hematol Oncol Clin North Am 14:537–555, 2000; Dermatology 197:101–108, 1998; JID 96:32S-38S, 1991;* diffuse cutaneous mastocytosis; resembles foregut carcinoid flush *Ann Intern Med 59:194–206, 1963;* systemic mastocytosis *Leuk Res 25:519–528, 2001;* urticaria pigmentosa, mast cell leukemia

Medullary carcinoma of the thyroid – secreting calcitonin *Lancet ii:63–66, 1968*

MEN II syndrome

Neuroblastoma

Pheochromocytoma – flushing follows attack of hypertension, pallor, tachycardia, palpitations, and sweating.

Renal cell carcinoma *Bolognia p.1657, 2003*

Urticaria

Verner–Morrison syndrome (watery diarrhea syndrome) – pancreatic cholera

VIPomas

## OTHER CAUSES

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998*

Anxiety reactions

Arsenic poisoning – acute *BJD 149:757–762, 2003*

Betel nut chewing – autonomic and psychoneurologic effects; flushing, tachycardia, warmth, euphoria, alertness, hypotension, hyperhidrosis, myocardial infarction *Clin Toxicol 39:355–360, 2001*

Cholinergic urticaria

Cold urticaria – immediate cold-contact urticaria *JAAD 13:636–644, 1985*

Congo Crimean hemorrhagic fever (Bunyavirus) – sunburn flush

Constrictive pericarditis *NEJM 333:45–48, 1995*

Cyclosporine *BJD 142:832–833,2000*

Emboli – from cardiac myxomas; red–violet malar flush *BJD 147:379–382, 2002*

Epidural steroid injection *Anesth Analg 80:617–619, 1995*

Ganglioneuroma

Haber's syndrome – prominent flush of face

Hodgkin's disease

HIV-associated flush of childhood *JAAD 18:1089–1102, 1988*

Hypotension – idiopathic orthostatic hypotension

Industrial agents – trichlorethylene, n-dimethylformamide, n-butyl aldoxime, isocyanate from polyurethane

Lupus erythematosus, systemic *Ghatan p.246, 2002, Second Edition*

Malignant histiocytoma

Medullary carcinoma of the thyroid gland *Bolognia p.1657, 2003*

Menopause *Rook p.3277, 1998, Sixth Edition*; *Ann Intern Med 95:468–476, 1981*

Mercury poisoning – butterfly rash, flushing, perspiration of face, palmar erythema *JAAD 45:966–967, 2001*

Mushrooms

Mustard gas exposure *JAAD 39:187–190, 1998; JAAD 32:765–766, 1995; AD 128:775–780, 1992*

Ovariectomy

Pancreatic carcinoma *NEJM 264:435–439, 1961*

POEMS syndrome – flushing mimicking carcinoid syndrome *AJM 90:646, 1991, Cutis 61:329–334, 1998; JAAD 40:808–812, 1999*

Polycythemia vera *Ghatan p.246, 2002, Second Edition*

Yellow fever

# FOLLICULAR PLUGGING

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – lupus-like lesions *Dermatol 195:280–283, 1997*

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

## EXOGENOUS AGENTS

Chloracne

## INFECTIONS AND INFESTATIONS

Demodicidosis *JAAD 21:81–84, 1989*

Leishmaniasis – post-kala-azar leishmaniasis – nodular *J Cutan Pathol 25:95–99, 1998*

Syphilis – alopecia with secondary syphilis *Am J Dermatopathol 17(2):158–162, 1995*

## INFLAMMATORY DISEASES

Folliculitis decalvans

Hidradenitis suppurativa

Perforating folliculitis

Pseudofolliculitis barbae

Sarcoid

## METABOLIC DISEASES

Biotin deficiency

Vitamin A deficiency

Vitamin C deficiency

## NEOPLASTIC DISORDERS

Cutaneous T-cell lymphoma

Epidermal nevus

Eruptive vellus hair cysts

Fibrofolliculoma

Generalized follicular harmatoma *AD 131:454–8, 1995; AD 107:435–440, 1973; AD 99:478–493, 1969*

Inverted follicular keratosis

Milia

Nevus comedonicus

Nevus sebaceus

Porokeratosis

Porokeratotic eccrine ostial dermal duct nevus

Seborrheic keratosis

Steatocystoma multiplex

## PRIMARY CUTANEOUS DISEASES

Acne vulgaris

Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Atrichia *A Hautkr 55 (4):210–217, 1980*

Darier's disease

Dilated pore of Winer

Ectodermal dysplasia with corkscrew hairs *JAAD 27:917–921, 1992*

Elastosis perforans serpiginosa

Follicular atrophoderma

Follicular ichthyosis *BJD 111:101–109, 1984*

Follicular lichen planus

Keratosis pilaris atrophicans

Kyrles's disease

Lichen planopilaris (S) (Graham–Little syndrome) *Rook p.1904–1912, 1998, Sixth Edition; Dermatol Clin 14:773–782, 1996; JAAD 22:594–598, 1990; AD Syphilol 5:102–113, 1922*

Lichen spinulosis

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition*

Reactive perforating collagenosis

Rhinophyma *Clin Exp Dermatol 15:282–284, 1990*

Trichostasis spinulosa

## SYNDROMES

KID syndrome

# FOOT ULCERS

***NEJM 343:787–793, 2000; Rook p.2269, 1998, Sixth Edition***

Acrodermatitis enteropathica

Altered foot biomechanics

Arterial insufficiency

Arteriovenous shunting

Atrophie blanche

Bony deformities

Cellulitis

Charcot foot

Charcot–Marie–Tooth disease – neurotrophic ulcer

Decubitus

Diabetes mellitus
Epidermolysis bullosa
Factitial
Fractures
Gram-negative web space infection
Infections, bacterial, mycotic, parasitic
Leprosy
Lymphoma – cutaneous T-cell lymphoma
Lupus erythematosus, discoid
Neuropathy – motor, sensory, or autonomic
North American blastomycosis
Osteomyelitis
Poliomyelitis
Pressure
Rheumatoid arthritis
Staphylococcal
Streptococcal
Syphilis, tabes dorsalis
Syringomyelia
Traumatic injuries
Trench foot
Tropical sores
Venous gangrene

# FRECKLING OF THE HANDS

## DRUG-INDUCED

Minocin hyperpigmentation

## INFECTIONS

Pinta

## INFILTRATIVE DISEASES

Macular amyloidosis

## INFLAMMATORY DISEASES

Post-inflammatory hyperpigmentation

## NEOPLASTIC

Eruptive lentiginosis
Generalized lentiginosis *JAAD 18:444–447, 1988*
Lentiginous mosaicism
Lentigo simplex
Nevus spilus *JAAD 10:1–16, 1984*
Spitz nevi, agminated
Urticaria pigmentosum

## PHOTODERMATOSES

Melasma
Solar lentigines

## PRIMARY CUTANEOUS DISEASES

Erythema dyschromicum perstans
Vitiligo, repigmenting
Zosteriform reticulate hyperpigmentation

## SYNDROMES

Acromelanosis
Albright's syndrome – melanotic macules
Centrofacial lentiginosis
  Classic (Touraine)
  Greither
Cronkhite–Canada syndrome
Dyskeratosis congenita
Familial progressive hyperpigmentation
Fanconi's syndrome
Incontinentia pigmenti
Inherited patterned lentiginosis in blacks *AD 125:1231–1235, 1989*
Laugier–Hunziker syndrome
Lentiginosis with hemangiomas
Lentiginosis with nystagmus and strabismus (Pipkin)
LEOPARD syndrome
Mendes de Costa syndrome (dystrophia bullosa, typus maculatus)
Mucocutaneous pigmentation with intestinal hemangiomatosis
Naegeli–Franceschetti–Jadassohn syndrome
NAME/LAMB syndromes
Neurofibromatosis
Peutz–Jegher's syndrome
POEMS syndrome
Reticulate acropigmentation of Kitamura
Symmetrical dyschromatosis of the extremities (acropigmentation of Dohi)
Tay's syndrome
Tuberous sclerosis
Xeroderma pigmentosum

# GINGIVAL HYPERPLASIA

***JAAD 52:491–499, 2005***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic familial neutropenia
Scleroderma

## CONGENITAL DISEASES

Macrogingivae, congenital

## DRUGS

Calcium channel blockers – felodipine, amlodipine, diltiazem, isradipine, nicardipine, nifedipine, nitrendipine, nimodipine, oxodapine, verapamil *JAAD 38:201–206, 1998; Cutis 62:41–43, 1998; Mayo Clin Proc 73:1196–1199, 1998*

Carbamazepine *Mayo Clin Proc 73:1196–1199, 1998*

Cotrimoxazople *J Contemp Dent Pract 4:10–31, 2003*

Cyclosporine *Dermatologica 172:24–30, 1986; Oral Surg 62:417–421, 1986; J Periodontol 57:771–775, 1986*

Erythromycin *J Contemp Dent Pract 4:10–31, 2003*

Estrogens in oral contraceptives *Mayo Clin Proc 74:1196–1199, 1998*

Ethosuximide J Co*ntemp Dent Pract 4:10–31, 2003*

Felodipine *J Periodontol 76:1217, 2005*

Ketoconazole J *Contemp Dent Pract 4:10–31, 2003*

Lamotrigine *J Contemp Dent Pract 4:10–31, 2003*

Lithium *J Contemp Dent Pract 4:10–31, 2003*

Phenobarbitone *J Neurol Neurosurg Psychiatry 73:601, 2002*

Phenytoin *J Clin Periodontol 23:165–175, 1996; Int J Derm 26:602–603, 1987*

Primidone *J Contemp Dent Pract 4:10–31, 2003*

Sertaline *J Contemp Dent Pract 4:10–31, 2003*

Succinimides *Mayo Clin Proc 73:1196–1199, 1998*

Tacrolimus *J Periodontol 74:552–556, 2003*

Topiramate *J Contemp Dent Pract 4:10–31, 2003*

Vagobatrin *J Contemp Dent Pract 4:10–31, 2003*

Valproate sodium *Mayo Clin Proc 73:1196–1199, 1998*

## EXOGENOUS AGENTS

Oral hygiene *JAAD 52:491–499, 2005*

Vitamin A toxicity *JAAD 16:1027–1039, 1987*

## INFECTIONS

Abscesses

Cytomegalovirus *Clin Infect Dis 37:e44–46, 2003*

HIV *Cutis 47:55–62, 1991*

Mycobacteria, non-tuberculous *Ghatan p.89, 2002, Second Edition*

*Mycobacterium tuberculosis*

Paracoccidioidomycosis – granulomatous ulcerative gingivitis *Cutis 40:214–216, 1987*

Periodontitis, chronic, adult or juvenile *Cutis 47:55–62, 1991*

Verrucae vulgaris

## INFILTRATIVE DISORDERS

Amyloidosis *Rook p.3056, 1998, Sixth Edition*; *J Oral Pathol Med 26:100–104, 1997; J Oral Pathol Med 23:423–428, 1994*

Disseminated xanthosiderohistiocytosis (nodules) *JAAD 11:750–755, 1984*

Juvenile colloid milium *JAAD 49:1185–1188, 2003*

Langerhans cell histiocytosis – gingival nodules with ulcerations *Curr Prob Derm 14:41–70, 2002; Oral Surg 49:38–54, 1980*

Plasma cell gingivitis *Cutis 47:55–62, 1991*

Xanthogranulomatosis – multiple juvenile xanthogranulomas *JAAD 14:405–411, 1986*

## INFLAMMATORY DISEASES

Acute necrotizing ulcerative gingivitis (ANUG) *Cutis 47:55–62, 1991*

Crohn's disease *NEJM 342:1644, 2000; Rook p.3056, 1998, Sixth Edition*

Gingivitis, chronic – localized or generalized *JAAD 52:491–499, 2005*

Inflammatory periodontal disease *Ghatan p.89, 2002, Second Edition*

Marginal gingivitis, chronic

Orofacial granulomatosis

Periodontitis – gingivitis involving the periodontal ligament and alveolar bone, leading to destruction; adult or juvenile *JAAD 52:491–499, 2005; Cutis 47:55–62, 1991*

Peripheral giant cell granuloma *AD 121:125–130, 1985*

Plaque-induced gingivitis *Cutis 47:55–62, 1991*

Pyostomatitis vegetans

Sarcoidosis *Rook p.3056,3122, 1998, Sixth Edition*; *Br J Oral Surg 21:31–35, 1983*

## METABOLIC DISEASES

Acromegaly *Endocrine 18:207–210, 2002*

Aplastic anemia *Oral Surg Oral Med Oral Pathol 71:55–56, 1991*

Aspartylglucosaminuria – oral fibromatosis *J Med Genet 36:398–404, 1999*

Chronic renal failure *Pediatr Nephrol 18:39–45, 2003*

Diabetes mellitus, uncontrolled – edematous gingival enlargement

Fucosidosis *JAAD 52:491–499, 2005*

Glycogen storage disease 1B (glucose-6-phosphate translocase deficiency) *J Craniofac Surg 16:45–52, 2005*

Hormonal gingivitis *Cutis 47:55–62, 1991*

Hyperparathyroidism

Mannosidosis – autosomal recessive; gingival hypertrophy, macroglossia, coarse features, prognathism, thick eyebrows, low anterior hairline, deafness, lens opacities, hepatosplenomegaly, recurrent respiratory tract infections, muscular hypotonia, mental retardation *Ped Derm 18:534–536, 2001*

Mucolipidoses *Rook p.3056,3121, 1998, Sixth Edition*

Mucopolysaccharidoses *Rook p.3055–3056,3121, 1998, Sixth Edition*

Plasminogen deficiency

Pregnancy *JAAD 52:491–499, 2005; J Int Med Res 30:353–355, 2002; Rook p.3056, 1998, Sixth Edition; J Am Dent Assoc 110:365–368, 1985*

Puberty *JAAD 52:491–499, 2005*

Scurvy *JAAD 52:491–499, 2005; Rook p.3056, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Cysts *Rook p.3056, 1998, Sixth Edition*

Epidermal nevus (verrucous nevus) – red papules of uvula, soft palate, and gingiva *AD 141:515–520, 2005*

Extramedullary plasmacytoma *Cutis 48:134–136, 1991*

Granular cell tumor, congenital *JAAD 52:491–499, 2005*

Kaposi's sarcoma *Tyring p.377, 2002; Gen Dent 47:413–415, 1999*; *J Periodontol 57:159–163, 1986*

Leukemia – monocytic leukemia, acute myelomonocytic leukemia *J Periodontol 73:664–668, 2002; J Oral Pathol Med 31:55–58, 2002; J Can Dent Assoc 66:78–79, 2000;* chronic myelomonocytic leukemia ($CD56^+$) *Leuk Lymphoma 45:415–418, 2004;* granulocytic sarcoma (chloroma) *Spec Care*

*Dentist 24:65–69, 2004;* Burkitt cell type acute lymphoblastic leukemia *J Periodontol 74:547–551, 2003;* acute lymphocytic leukemia *AD 123:225–231, 1971;* myelodysplastic syndrome *Oral Surg Oral Med Oral Pathol 61:466–470, 1986*; mixed lineage leukemia *J Oral Pathol Med 31:55–58, 2002*

Lymphoma – Hodgkin's disease *J Periodontol 72:107–112, 2001*

Melanocytic nevus – intramucosal nevus *Int J Oral Maxillofac Surg 31:330–333, 2002*

Metastases – due to hepatocellular carcinoma *Cutis 65:107–109, 2000;* medullary carcinoma of the thyroid *J Periodontol 71:112–116, 2000*

Myofibromatosis *J Clin Periodontol 29:1048–1050, 2002*

Nevus sebaceus of Jadassohn *Int J Oral Surg 12:437–443, 1983*

Osteosarcoma

Peripheral ossifying fibroma

Verrucous carcinoma *Ghatan p.89, 2002, Second Edition*

## PARANEOPLASTIC DISEASES

Hodgkin's disease *J Periodontol 72:107–112, 2001*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans – gingival swelling *BJD 145:506–507, 2001*

Epulis fissuratum *Ghatan p.89, 2002, Second Edition*

Giant cell epulis *Ghatan p.89, 2002, Second Edition*

Idiopathic gingival hyperplasia *J Orthod 30:13–19, 2003*

Solitary gingival enlargement

## SYNDROMES

Amelogenesis imperfecta *J Periodontol 76:1563–1566, 2005; J Clin Pediatr Dent 23:117–121, 1999*

Amyloidosis of the gingiva and conjunctiva with mental retardation

Borrone dermatocardioskeletal syndrome – autosomal recessive or X-linked; gingival hypertrophy, coarse facies, late eruption of teeth, loss of teeth, thick skin, acne conglobata, osteolysis, large joint flexion contractuures, short stature, brachydactyly, camptodactyly, mitral valve prolapse, congestive heart failure *Ped Derm 18:534–536, 2001*

Congenital cataracts, sensorineural deafness, hypogonadism, hypertrichosis, short stature – gingival hyperplasia *Clin Dysmorphol 4:283–288, 1995*

Congenital generalized fibromatosis – autosomal recessive; skin, muscle, bones, viscera *Ped Derm 18:534–536, 2001*

Congenital hypertrichosis lanuginosa with gingival hyperplasia *Ped Derm 10:263–265, 1993*; profuse hypertrichosis of lower face, trunk, and extremities with acromegalic features *Plast Reconstr Surg 27:608–612, 1962*

Congenital generalized hypertrichosis with gingival hyperplasia – osteochondrodysplasia, dysmorphic face *Am J Med Genet 30:278–283, 2003; Am J Med Genet 47:198–212, 1993*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Aust Paediat J 13:114–118, 1977*

Cowden's syndrome – verrucous plaque on gingiva *JAAD 11:1127–1141, 1984*

Cross syndrome – autosomal recessive; gingival fibromatosis, microphthalmia with cloudy corneas, mental retardation, spasticity, growth retardation, athetosis, hypopigmentation, silvery gray hair *Ped Derm 18:534–536, 2001; J Pediatr 70:398–406, 1967*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Ehlers–Danlos syndrome type VIIc (dermatosparaxis) *J Oral Pathol Med 32:568–570, 2003*

Erdheim–Chester disease (lipogranulomatosis)

Fabry's disease (Anderson–Fabry's disease) – localized congenital gingival enlargement *JAAD 52:491–499, 2005*

François syndrome – dermochondral dystrophy; gingival hypertrophy

Gangliosidosis – X-linked – gingival hypertrophy, macroglossia, coarse facies, micrognathia, loose skin, inguinal hernia, delayed growth, hepatosplenomegaly, neonatal hypotonia, delayed motor development *Ped Derm 18:534–536, 2001*

Gingival fibromatosis (hereditary gingival fibromatosis) – autosomal dominant *Ped Derm 18:534–536, 2001; J Clin Pediatr Dent 25:41–46, 2000; Rook p.3055, 1998, Sixth Edition*

Gingival fibromatosis, hypertrichosis, cherubism, mental and somatic retardation, and epilepsy (Ramon syndrome) *Am J Med Genet 25:433–442, 1986;* (gingival fibromatosis, hypertrichosis, epilepsy, mental retardation) *Dev Med Child Neurol 31:538–542, 1989*

Gingival fibromatosis–hypertrichosis syndrome (Byars–Jurkiewicz syndrome) – autosomal dominant; giant fibroadenomas of breast; hypertrichosis of face, upper extremities, midback; redundant skin; secondary kyphosis *Ped Derm 18:534–536, 2001; J Pediatr 67:499–502, 1965*; *Plast Reconstr Surg 27:608–612, 1961*

Gingival fibromatosis with distinctive facies – autosomal recessive; macrocephaly, hypertelorism, bushy eyebrows, synophrys, downslanted palpebral fissures, flat nasal bridge with hypoplastic nares, cupid-bow mouth, high arched palate *Ped Derm 18:534–536, 2001*

Gingival fibromatosis with growth hormone deficiency *Syndromes of the Head and Neck, p.852–853, 1990*

Gingival fibromatosis with sensorineural hearing loss (Jones) *Ped Derm 18:534–536, 2001; Am J Med Genet 22:623–627, 1985*

Heck's disease

Hemimaxillofacial dysplasia (segmental odontomaxillary dysplasia) (HATS – hemimaxillary enlargement, asymmetry of face, skin findings) – facial asymmetry, hypertrichosis of the face, unilateral maxillary enlargement, partial anodontia, delayed eruption of teeth, gingival thickening of affected segment, Becker's nevus, hairy nevus (hypertrichosis), lip hypopigmentation, depression of cheek, erythema, hypoplastic teeth *Ped Derm 21:448–451, 2004; JAAD 48:161–179, 2003; Oral Surg Oral Med Oral Pathol 64:445–448, 1987*

Hereditary angioedema *J Clin Periodontol 30:271–277, 2003*

Hereditary progressive mucinous histiocytosis – yellow dome-shaped papules of face, gingiva, hard palate *BJD 141:1101–1105, 1999*

Hypereosinophilic syndrome *Cutis 29:490–493, 1982*

Hyperkeratosis palmoplantaris and attached gingival hyperkeratosis *Arch Int Med 113:866–871, 1974*

I-cell disease (mucolipidosis II) – puffy eyelids; small orbits, prominent eyes, fullness of lower cheeks; small telangiectasias; fish-mouth appearance, short neck; gingival hypertrophy *Int J Paediatr Dent 13:41–45, 2003; Textbook of Neonatal Dermatology, p.446, 2001; Clin Genet 23:155–159, 1983; Birth Defects 5:174–185, 1969*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – gingical hyperplasia; collodion membrane and erythema at birth; ichthyosis; palmoplantar erythema; generalized follicular keratoses, non-scarring alopecia of scalp, eyebrows, and eyelashes, keratotic spiny follicular papules of elbows, knees, fingers, extensor surfaces, xerosis; angular cheilitis, recurrent cutaneous infections; punctate keratitis; ocular revascularizations; growth retardation; atopic dermatitis, urticaria; X-linked recessive *Ped Derm 20:48–51, 2003; JAAD 46:S156–158, 2002; Am J Med Genet 85:365–368, 1999; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Idiopathic fibrous hyperplasia *Cutis 56:46–48, 1995*

Julia Pastrana syndrome – congenital generalized hypertrichosis terminali – facial deformities and gingival hyperplasia *Am J Med Genet 47:198–212, 1993*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) (Murray–Puretic–Drescher syndrome) – autosomal recessive; gingival fibromatosis with hypertrophy, focal skin nodularity with multiple subcutaneous tumors (nodular perianal lesions, facial red or pearly papules (paranasal, periauricular), dusky red plaques of buttocks, ears, lips), synophrys, thickened skin with sclerodermiform atrophy, osteolytic (osteoporotic) skeletal lesions, stiff muscles with massive stiffness, flexural joint contractures, hyperpigmentation, flexion contractures of joints, juxta-articular nodules (knuckle pads), diarrhea, recurrent suppurative infections failure to thrive with stunted growth (growth failure) and death in infancy; CMG2 (capillary morphogenesis protein 2) mutation (chromosome 4q21) *Ped Derm 21:154–159, 2004; JAAD 50:S61–64, 2004; Ped Derm 18:534–536, 2001; Ped Derm 18:400–402, 2001; Dermatology 198:18–25, 1999; Int J Paediatr Dent 6:39–43, 1996*; *J Periodontol 67:451–453, 1996; Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994*; *Ped Derm 6:68–75, 1989; Oral Surg 63:71–77, 1987*

Laband syndrome (hereditary gingival fibromatosis) (Zimmermann–Laband syndrome) – autosomal dominant; soft, large floppy ears; bulbous soft nose, gingival fibromatosis; dysplastic/absent nails; atrophic distal phalanges (short terminal phalanges), hyperextensible metacarpophalangeal joints, hepatosplenomegaly, hypertrichosis, mental retardation *Ped Derm 18:534–536, 2001; Ped Derm 10:263–266, 1993; J Otol Pathol Med 19:385–387, 1990; Oral Surg Oral Med Oral Pathol 17:339–351, 1964*

Leprechaunism (Donohue syndrome) *AD 117:531–535, 1981*

Lipoid proteinosis *J Oral Pathol Med 27:233–237, 1998; Rook p.3055–3056, 1998, Sixth Edition*

Melkersson–Rosenthal syndrome

Menke's kinky hair disease

Mucopolysaccaridoses I-H *JAAD 52:491–499, 2005*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988; Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple endocrine neoplasia syndrome type I – gingival papules *JAAD 42:939–969, 2000*

Neurofibromatosis – unilateral gingival enlargement *J Clin Periodontol 27:361–365, 2000*

Nevus sebaceus syndrome (Schimmelpenning–Feuerstein–Mims syndrome) – gingival hyperplasia, papillomas of tongue, thickened mucosa, anodontia, dysodontia *JAAD 52:S62–64, 2005; Ped Derm 13:22–24, 1996; Int J Oral Maxillofac Surg 12:437–443, 1983*

Pfeiffer's syndrome *JAAD 52:491–499, 2005*

Proteus syndrome *AD 140:947–953, 2004; Int J Dermatol 42:826–828, 2003*

Rutherfurd syndrome (gingival fibromatosis and corneal dystrophy) – autosomal dominant; gum hypertrophy, failure of tooth eruption, corneal opacities, mental retardation, aggressive behavior *Ped Derm 18:534–536, 2001; Acta Paediatr Scand 55:233–238, 1966*

Sturge–Weber syndrome *Indian J Dent Res 9:140–144, 1998*

Sweet's syndrome *Ann Hematol 81:397–398, 2002*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – gingival hyperplasia, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Tuberous sclerosis – gingival fibromatosis *JAAD 52: 491–499, 2005; Rook p.3122, 1998, Sixth Edition; BJD 135:1–5, 1996*

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004; J Pediatr 84:701–709, 1974; Pediatrics 47:360–369, 1971*

### TRAUMA

Epulis fissuratum – inflammatory fibrous hyperplasia due to ill-fitting dentures *Ghatan p.177, 2002, Second Edition*

Irritation, chronic

Mechanical trauma – ill-fitting dentures and implants *Clin Oral Implants Res 12:179–187, 2001;* ill-fitting scuba-diving mouthpiece *Ned Tijdschr Tandheelkd 110:403–405, 2003*

Mouth breathing – hyperplastic gingivitis

### VASCULAR DISEASES

Angiolymphoid hyperplasia with eosinophilia *BJD 145:365, 2001*

Microscopic polyangiitis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 94:707–711, 2002*

Pyogenic granuloma

Thrombocytopenia – hemorrhage

Thrombocytopathy – hemorrhage

Wegener's granulomatosis *J Clin Periodontol 19:64–66, 1992; AD 122:1435–1440, 1986;* interdental gingival hyperplasia resembling strawberries *AD 136:171–172, 2000*

## GINGIVITIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – methacrylate in dental restoration *J Prosth Dent 90:225–227, 2003;* acrylic crown *Allergy 54:1316–1321, 1999;* gold *Contact Dermatitis 28:276–281, 1993*; chewing gum *J Periodontol 42:709–712, 1971;* cinnamic

aldehyde *Br Dent J 168:115–118, 1990;* mints, dentifrices *Rook p.3109, 1998, Sixth Edition*

Bullous pemphigoid – desquamative gingivitis *BJD 145:994–997, 2001; JAAD 7:729–735, 1982*

Chronic granulomatous disease – acute gingivitis *Rook p.2742,3121, 1998, Sixth Edition*

Cicatricial pemphigoid (mucous membrane pemphigoid) – desquamative gingivitis *AD 138:370–379, 2002; JAAD 43:571–591, 2000; J Periodontol 71:1620–1629, 2000; Semin Cutan Med Surg 16:308–313, 1997*

Congenital neutropenia

Cyclic neutropenia – oral aphthae, gingivitis, weakness, fever, sepsis, diarrhea, gangrenous enterocolitis *Ped Derm 20:519–523, 2003; Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976*

Dermatitis herpetiformis – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Dermatomyositis – telangiectatic gingivitis in childhood dermatomyositis *Dialogues in Dermatology, Nov 2001;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Epidermolysis bullosa acquisita – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Immunoglobulin deficiency with hyper-IgM and neutopenia

Infantile genetic agranulocytosis – subcutaneous abscesses *Acta Paediatr Scand 64:362–368, 1975*

Leukocyte adhesion deficiency syndrome (congenital deficiency of leucocyte-adherence glycoproteins) (CD11a(LFA-1), CD11b, CD11c, CD18) (CD 18 beta2 subunit) – necrotic cutaneous abscesses, gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *Dermatol Therapy 18:176–183, 2005; JAAD 31:316–9, 1994; Periodontol 6:26–36, 1994; Pediatr Pathol 12:119–130, 1992; BJD 123:395–401, 1990*

Linear IgA disease – desquamative gingivitis *Aust NZ J Ophthalmol 27:443–446, 1999; Semin Cutan Med Surg 16:308–313, 1997; Oral Surg Oral Med Oral Pathol 70:450–453, 1990*

Lupus erythematosus – systemic lupus erythematosus – lesions of gums; red or purpuric areas with red halos break down to form shallow ulcers *BJD 135:355–362, 1996; BJD 121:727–741, 1989;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Mixed connective tissue disease – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Pemphigus vulgaris *J Periodont 70:808–812, 1999; J Periodontol 59:611–614, 1988;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Rheumatoid arthritis *Eur J Med Res 3:387–392, 1998*

## DRUGS

*Rook p.3055, 1998, Sixth Edition*

Cyclosporine

Diltiazem

Nifedipine

Oral contraceptives *Rook p.3055, 1998, Sixth Edition*

Phenytoin

## EXOGENOUS AGENTS

Chewing gum – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Foreign body gingivitis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 83:562–570, 1997*

Mouthwash – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Tobacco – smoking

## INFECTIONS

Abscesses *Rook p.3056, 1998, Sixth Edition*

AIDS – periodontitis, gingivitis *Tyring p.371, 2002; Rook p.3054, 1998, Sixth Edition*

Aspergillosis – invasive aspergillus stomatitis *Clin Inf Dis 33:1975–1980, 2001*

*Calymmatobacterium granulomatis* (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*

Candidiasis – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Gonorrhea – primary infection *Rook p.1140,3122, 1998, Sixth Edition*

Herpes simplex – primary herpetic gingivostomatitis *Tyring p.75, 2002; Infection 25:310–312, 1997*

HIV gingivitis/periodontitis *Oral Dis 3Suppl 1:S141–148, 1997;* linear gingival erythema of HIV

Histoplasmosis – necrotizing gingivitis *BJD 133:472–474, 1995*

Leishmaniasis – New World leishmaniasis; nasal, oropharyngeal, gingival involvement *Trop Doct 7:7–11, 1977;* post-kala-azar leishmaniasis

*Mycobacterium tuberculosis* – periorificial tuberculosis *Rook p.1194, 1998, Sixth Edition*

Myiasis gingiva *J Periodontol 66:892–895, 1995*

*Nocardia asteroides* – gingivitis with brain abscess *Postgrad Med J 73:327–328, 1997*

Noma (cancrum oris) (necrotizing gingivitis) – *Fusobacterium necrophorum*, *Prevotella intermedia*, alpha-hemolytic streptococci, Actinomyces spp.*Oral Dis 5:144–149,156–162, 1999*

Paracoccidioidomycosis – granulomatous ulcerative gingivitis *Cutis 40:214–216, 1987*

Periodontal abscess

*Pseudomas*-induced necrotizing gingivostomatitis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 88:644–645, 1999*

*Serratia marcescens*

*Staphylococcus hominis*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis – may simulate necrotizing gingivitis *J Periodontol 60:57–66, 1989*

Plasma cell gingivitis – red plaque *Cutis 69:41–45, 2002; JAAD 34:145–146, 1996; J Periodontol 55:235–241, 1984;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

## INFLAMMATORY DISEASES

Acute gingivitis

Acute necrotizing ulcerative gingivitis (ANUG) *Ann Periodontol 4:65–73, 1999; J Periodont 66:990–998, 1995*

Chronic marginal gingivitis *Rook p.3056, 1998, Sixth Edition; J Clin Periodontol 13:345–359, 1986*

Chronic ulcerative stomatitis – desquamative gingivitis *BJD 143:671–672, 2000; JAAD 38:1005–1006, 1998; Semin Cutan Med Surg 16:308–313, 1997; JAAD 22:215–220, 1990*

Crohn's disease *Rook p.3055–3056, 1998, Sixth Edition; Periodont Case Reports 11:20–22, 1989;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Desquamative gingivitis *Ann DV 127:381–387, 2000; Periodontol Insights 2:4–10, 1995;* cicatricial pemphigoid in adults and children *Int J Paedeatr Dent 7:31–34, 1997;* pemphigus vulgaris, lichen planus *Ann DV 127:381–387, 2000 (French);* allergic contact dermatitis *Contact Derm 39:90, 1998;* linear IgA disease, chronic ulcerative stomatitis with epithelial antinuclear antibodies *Rook p.3108, 1998, Sixth Edition*

Erythema multiforme *J Periodontol 64:910–913, 1993;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Gingivitis with premature loss of teeth *Cutis 65:151–155, 2000*
- Acatalasia
- Acrodynia
- Chediak–Higashi syndrome
- Congenital neutropenia
- Cyclic neutropenia
- Hypophosphatasia
- Juvenile periodontitis
- Langerhans cell histiocytosis
- Leukemia
- Takahara's syndrome

Juvenile periodontitis, generalized

Kikuchi's histiocytic necrotizing lymphadenitis *BJD 144:885–889, 2001*

Periodontal fistula

Periodontitis

Pyostomatitis vegetans – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Sarcoidosis *Rook p.3055, 1998, Sixth Edition; Br Med J 296:1504, 1988;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Stevens–Johnson syndrome

## METABOLIC DISEASES

Agranulocytosis – periodontal destruction, gingival swelling *Oral Surg Oral Med Oral Pathol 71:55–56, 1991*

Diabetes mellitus – severe periodontitis

Kynureninase deficiency (xanthurenicaciduria)

Leukocyte defects – periodontitis *Rook p.3054, 1998, Sixth Edition*

Lupoid hepatitis

Malnutrition

Porphyria cutanea tarda

Pregnancy *Rook p.3055–3056,3270, 1998, Sixth Edition; J Am Dent Assoc 110:365–368, 1985*

Pubertal gingivitis *Rook p.3111, 1998, Sixth Edition*

Renal failure, chronic *Ren Fail 22:307–318, 2000*

Scurvy – hemorrhagic gingivitis *Cutis 66:39–44, 2000; JAAD 41:895–906, 1999; AD 120:1212–1214, 1984*

Tumoral calcinosis

## NEOPLASTIC DISEASES

Erythroleukemia

Erythroplasia *Rook p.3056, 1998, Sixth Edition*

Kaposi's sarcoma *Postgrad Dent 2:93–100, 1992*

Leukemia – acute myelomonocytic leukemia *AD 123:225–231, 1971;* chronic lymphocytic leukemia, chronic myelogenous leukemia; periodontitis *Rook p.3054, 1998, Sixth Edition;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

Lymphoma – mimicking necrotizing and hyperplastic gingivostomatitis *Eur J Dermatol 9:569–573, 1999*

Squamous cell carcinoma

Waldenström's macroglobulinemia

## PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa, recessive dystrophic EB, gravis (Hallopeau, Siemens variant) *Epidermolysis Bullosa: Basic and Clinical Aspects. New York:Springer, 1992:135–151*

Hereditary PPK (Unna-Thost) with oral keratosis or periodontosis *Rook p.3055, 1998, Sixth Edition*

Lichen planus – desquamative gingivitis *JAAD 46:207–214, 2002; Rook p.1904–1912,3082, 1998, Sixth Edition*; *Semin Cutan Med Surg 16:308–313, 1997;* vulvo–vaginal–gingival syndrome (erosive lichen planus) *Int J Derm 28:381–384, 1989;* red gingiva

Psoriasis – desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

## PSYCHOCUTANEOUS DISEASES

Factitial gingivitis *NY State Dent J 40:33–36, 1974;* desquamative gingivitis *Semin Cutan Med Surg 16:308–313, 1997*

## SYNDROMES

Chediak–Higashi syndrome – periodontitis *Rook p.493,3121, 1998, Sixth Edition*

Chronic familial neutropenia *Rook p.2748, 1998, Sixth Edition*

Down's syndrome *J Periodontol 68:626–631, 1997; J Periodontol 53:158–162, 1982*

Ehlers–Danlos syndrome – type VIII; periodontitis, marked skin fragility, over shins, decrease Type III collagen *Clin Oral Investig 4:66–69, 2000; Birth Defects 13:85–93, 1983; JAAD 5:297–303, 1981*

François syndrome (dermochondrocorneal dystrophy) *J Clin Periodontol 25:1047–1049, 1998*

Haim-Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon–Lefevre syndrome); palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, atrophic nails, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Hereditary mucoepithelial dysplasia

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – beefy red gingiva; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue, angular stomatitis, atopy, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Job's syndrome

Kindler's syndrome – desquamative lesions of the gingivae; severe periodontal disease *AD 140:939–944, 2004; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 84:488–491, 1997*

Lazy leukocyte syndrome *Quintessence Int 10:9–14, 1979*

Lipoid proteinosis *Rook p.3055, 1998, Sixth Edition*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000; Rook p.3056, 1998, Sixth Edition*

Palmoplantar keratoderma, pes planus, onychogryphosis, periodontosis, arachnodactyly, and acro-osteolysis *BJD 115:243–248, 1986*

Papillon–Lefevre syndrome *Quintessence Int 26:795–803, 1995*; *AD 124:533–539, 1988; Hum Genet 51:1–35, 1979;* late onset Papillon–Lefevre syndrome *J Periodontol 64:379–386, 1993*

Sjögren's syndrome

Wiskott–Aldrich syndrome

### TOXINS

Acrodynia – mercury sensitivity – inorganic mercury poisoning *JAAD 43:81–90, 2000;* red gums *AD 124:107–109, 1988*

### TRAUMA

Denture wearer's stomatitis – red sore gums and palate; candida, mechanical irritation, and bacteria in combination *Scand J Dental Res 82:151–190, 1974*

Mouth breathing

Physical trauma

### VASCULAR DISEASES

Cutaneous necrotizing eosinophilic vasculitis *AD 130:1159–1166, 1994*

Hemangiomas *Rook p.3056, 1998, Sixth Edition*

Wegener's granulomatosis – strawberry gingiva *JAAD 49:335–337, 2003; JAMA 246:2610–2611, 1981*

## HAIR NODULES OR NITS (PARTICULATE MATTER)

### EXOGENOUS AGENTS

Glue *Olsen p.95, 1993*

Hair spray – pseudonits *JAAD 36:260, 1997*

Lacquer *Olsen p.95, 1993*

Paint *Olsen p.95, 1993*

Retained selenium sulfide shampoo

### INFECTIONS AND INFESTATIONS

Black piedra (*Piedraia hortae*) – black hard nodules of scalp, beard, mustache, or pubic hair *BJD 130 Suppl 43:26–28, 1994*

Pediculosis capitis, pubis – nits of pubic hair, eyebrows, eyelashes *Ped Derm 20:356–357, 2003; JAMA 250:32, 1983;* beard, axillae, areolar hair, scalp hair along margins; truncal hair in hirsute men *Rook p.1441, 1443–1444, 1998, Sixth Edition*

Psocid (*Liposcelis*) infestation *JAAD 50:1–12, 2004*

Tinea capitis

Trichomycosis – trichomycosis axillaris – yellow, red, or black concretions of hair shaft of axillary hair; *Corynebacterium* species *Rook p.1134–1135, 1998, Sixth Edition; AD 115:444–445, 1979;* trichomycosis pubis *Int J Derm 30:667–669, 1991*

White piedra (trichosporosis) – *Trichosporon beigelii*, *T. ovoides*, *Cephalosporium acremonium*, *Brevibacterium mcbrellneri* – soft white or light-brown nodules of beard, mustache, pubic; scalp less often *JAAD 49:746–749, 2003; JAAD 47:415–418, 2002; Cutis 70:209–211, 2002; Australas J Dermatol 32:75–79, 1991; BJD 123:355–363, 1990; Ann DV 114:819–827, 1987; JAAD 14:982–983, 1986; AD 118:208–211, 1982; Cephalosporium acremonium Chin Med J 104:425–427, 1991*

### INFILTRATIVE DISEASES

Langerhans cell histiocytosis

### PRIMARY CUTANEOUS DISEASES

Hair knots *JAAD 47:415–418, 2002*

Monilethrix *JAAD 47:415–418, 2002*

Peripilar hair casts (pseudonits) *Dermatologica 182:124–127, 1991; Cutis 43:380–381, 1989; AD 75:509–513, 1957*

Seborrheic dermatitis *JAAD 50:1–12, 2004*

Tinea amientacea

Trichorrhexis nodosa – congenital, acquired *JAAD 16:1–24, 1987*

### SYNDROMES

Menkes' kinky hair syndrome – trichorrhexis nodosa *Olsen p.107, 1993*

Netherton's syndrome

## HAIR, PREMATURE GRAYING

### DEGENERATIVE DISEASES

Aging – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

### DRUGS

Bleomycin – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Chloroquine

Dixarazine – white hair *Acta DV (Stockh) 61:85–88, 1981*

Fluorobutyrophenone – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Haloperidol – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Hydroxychloroquine – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Hydroquinone – hypopigmentation of skin and hair *Rook p.2965, 1998, Sixth Edition*

Imatinib (tyrosine kinase inhibitor) *NEJM 347:446–447, 2002*

Mephenesin – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Para-amino benzoic acid – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Phenobarbital – depigmentation of skin and hair *Ann DV 119:927–929, 1992*

Phenols *Ghatan p.8, 2002, Second Edition*

Phenylthiourea – hypopigmentation of skin and hair *Rook p.2965, 1998, Sixth Edition*

Triparanol – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Valproic acid – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

## INFLAMMATORY DISEASES

Post-inflammatory hypopigmentation of skin and hair *Ghatan p.70, 2002, Second Edition*

## METABOLIC DISEASES

Celiac disease

Copper deficiency – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Essential fatty acid deficiency

Histidenemia – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Homocystinuria – lightening of hair *Rook p.2965, 1998, Sixth Edition*

Hyperthyroidism *Rook p.2963, 1998, Sixth Edition*

Hypothyroidism *Rook p.2963, 1998, Sixth Edition*

Iron deficiency anemia (segmented heterochromia) (canities segmentata sideropaenica) – hypopigmented hair *Ghatan p.69, 2002, Second Edition; AD 125:531–535, 1989*

Kwashiorkor – hypochromotrichia and hypopigmentation of skin *Cutis 67:321–327, 2001; Cutis 51:445–446, 1993*

Malnutrition – flag sign

Oasthouse disease – white hair, recurrent edema; increased serum methionine *Rook p.2965, 1998, Sixth Edition*

Panhypopituitarism – pale, yellow tinged skin *Ghatan p.165, 2002, Second Edition*

Pellagra – leukonychia *Ghatan p.79, 2002, Second Edition*

Pernicious anemia – vitiligo, canities *Rook p.1783, 1998, Sixth Edition; BJD 82:221–226, 1970*

Phenylketonuria – phenylalanine hydroxylase deficiency; fair skin and hair *Rook p.2645,2965, 1998, Sixth Edition;* lichen sclerosus-like changes *JAAD 49:S190–192, 2003;* vitamin $B_{12}$ deficiency *No To Shinkei 49:283–286, 1997 (Japanese)*

Prolidase deficiency

Renal disease – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Tyrosinemia – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

## NEOPLASTIC DISEASES

Melanoma – leukoderma; hypopigmented hair

## PRIMARY CUTANEOUS DISEASES

Albinism – tyrosinase negative (type IA), yellow mutant (type IB), platinum, tyrosinase positive (type II), minimal pigment, brown, rufous, Hermansky–Pudlak syndrome – hypopigmented skin and hair *JAAD 19:217–255, 1988*

Albinoidism *JAAD 19:217–255, 1988*

Alopecia areata – white (hair) overnight *AD 102:162–167, 1970*

Canities *Rook p.2962, 1998, Sixth Edition*

Diffuse hypomelanosis of scalp hair
- Book syndrome
- Chronic protein loss or deficiency (kwashiorkor, renal disease, inflammatory bowel disease, malabsorption)
- Down's syndrome
- Fanconi syndrome
- Hallerman–Streiff syndrome
- Hyperthyroidism
- Prolidase deficiency
- Treacher Collins syndrome
- Vitamin $B_{12}$ deficiency

Vitiligo

White forelock – isolated finding

## SYNDROMES

Ataxia telangiectasia *JAAD 42:939–969, 2000; AD 134:1145–1150, 1998; JAAD 10:431–438, 1984*

Book's syndrome – autosomal dominant; premature graying, premolar hypodontia, palmoplantar hyperhidrosis *Am J Hum Genet 2:240–245, 1950*

Chediak–Higashi syndrome – autosomal recessive *Curr Prob Dermatol 18:93–100, 1989*

Cri-du-chat syndrome (chromosome 5p syndrome) *J Pediatrics 77:782–791, 1970*

Cross syndrome – autosomal recessive; gingival fibromatosis, microphthalmia with cloudy corneas, mental retardation, spasticity, growth retardation, athetosis, hypopigmentation, silvery gray hair *Ped Derm 18:534–536, 2001; J Pediatr 70:398–406, 1967*

Down's syndrome – hypopigmented hair; vitiligo *Ghatan p.69, 2002, Second Edition*

Elejalde syndrome (neuroectodermal lysosomal disease) – bronze skin, silver hair *AD 135:182–186, 1999*

Fanconi's syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Fisch's syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Griscelli syndrome (partial albinism with immunodeficiency) – rare and fatal immunologic disorder characterized by partial oculocutaneous albinism, silver gray sheen of the hair (microscopic examination of hair shafts demonstrated large pigment granules accumulated in the medullary region), and variable cellular and immunodeficiency. Between the ages of 4 months and 4 years patients experience recurrent disease – exacerabation of lymphohistiocytic infiltration of multiple organs, including the brain and meninges often triggered by infection *J Ped 125:886, 1994*

Hallerman–Streiff syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Hereditary premature canities

Hermansky–Pudlak syndrome – white skin and hair *AD 135:774–780, 1999*

Hypomelia, hypotrichosis, facial hemangioma syndrome (pseudothalidomide syndrome) – sparse silvery blond hair *Am J Dis Child 123:602–606, 1972*

Lipoatrophy (distal), stunted growth, muscle cramps, and hypoplastic uterus *Rinsho Shinkeigaku 23:867–873, 1983*

Menkes' kinky hair syndrome – hypopigmented hair *Rook p.2965, 1998, Sixth Edition*

Mukamel syndrome – autosomal recessive; premature graying in infancy, lentigines, depigmented macules, mental retardation, spastic paraparesis, microcephaly, scoliosis *Bolognia, p.859, 2003*

Myotonic dystrophy – hypopigmented hair *Ghatan p.70, 2002, Second Edition; Rook p.2964, 1998, Sixth Edition*

Piebaldism

Pierre–Robin syndrome – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Premature canities, palmoplantar hyperhidrosis, premolar hypodontia *American J Human Genetics 2:240–263, 1950*

Progeria (Hutchinson–Gilford syndrome) – hypopigmented hair *Ghatan p.70, 2002, Second Edition; Rook p.2964, 1998, Sixth Edition*

Pseudocleft of upper lip, cleft lip-palate, and hemangiomatous branchial cleft – canities *Plast Reconstr Surg 83:143–147, 1989*

Pseudocleft of the upper lip (or cleft lip/palate), linear cutaneous lesions on the lateral neck (ranging from bronchial clefts to epidermal nevi) and cervical thymus *Am J Med Genet 27:943–951, 1987*

Rothmund–Thomson syndrome *Rook p.2964, 1998, Sixth Edition*

Seckel's syndrome (bird-headed dwarfism) – autosomal recessive; hair sparse and prematurely gray, growth retardation, beak-like nose, large eyes, skeletal defects *Am J Med Genet 12:7–21, 1982*

Sialic acid storage disease – silver hair, coarse facial features, hepatosplenomegaly *AD 135:203–208, 1999*

Sensory neurodeafness with premature graying of the hair *Laryngol Otol 73:355–367, 1959*

Sudden whitening of hair

Tay syndrome – autosomal recessive, growth retardation, triangular face, cirrhosis, trident hands, premature canities, vitiligo *Bolognia p.859, 2003*

Treacher Collins syndrome – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Unusual facies, vitiligo, canities, progressive spastic paraplegia *Am J Med Genet 9:351–357, 1981*

Vogt–Koyanagi–Harada syndrome *Ann DV 127:282–284, 2000*

Waardenburg syndrome

Werner's syndrome (pangeria) – graying of temples in teenage years progressing to canities *Rook p.2964, 1998, Sixth Edition; Medicine 45:177–221, 1966*

### TRAUMA

Physical trauma – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Radiation therapy – hypopigmented hair *Rook p.2964, 1998, Sixth Edition*

## HEMIHYPERTROPHY

***JAAD 48:161–179, 2003***

Associated with:
- Adrenocortical tumors
- Beckwith–Wiedemann syndrome
- Brain tumors
- Connective tissue nevi *Ghatan p.127, 2002, Second Edition*
- Dermatofibrosarcoma protuberans – of the sole *Dermatology 192:280–282, 1996*
- Fibrosarcoma, including congenital fibrosarcoma *Ped Derm 14:241–243, 1997*
- Genitourinary malformations
- Hemangiomas
- Hemihyperplasia multiple lipomatosis syndrome Overgrowth Syndromes. New York. Oxford Univ. Press, 2002, pp.5–110
- Hepatoblastomas
- Hypertrichosis
- Juvenile hyaline fibromatosis *Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*
- Klippel–Trenaunay–Weber syndrome
- Proteus syndrome
- Tuberous sclerosis – including macrodactyly *Ped Derm 18:364–365, 2001*
- Vascular (venous) malformations *AD 139:1409–1416, 2003*
- Wilms' tumor

## HERPETIFORM LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous pemphigoid *Przegl Dermatol 69:291–294, 1982 (Polish);* vesicular pemphigoid *JAAD 49:722–724, 2003*

Dermatitis herpetiformis

Epidermolysis bullosa acquisita *BJD 131:898–900, 1994*

IgA pemphigus foliaceus *JAAD 24:839–844, 1991*

Linear IgA disease

Lupus erythematosus – bullous herpetiform variant *JAAD 9:163, 1983; AD 115:1427–1428, 1979*

Pemphigus *AD 135:943–947, 1999; BJD 141:754–755, 1999;* including drug-induced herpetiform pemphigus – thiopronine *BJD 130:238–240, 1994;* D-penicillamine *J Dermatol 7:425–429, 1980;* pemphigus foliaceus *BJD 86:99–101, 1972;* IgG/IgA pemphigus – herpetiform, targetoid lesions *BJD 147:1012–1017, 2002*; pemphigus with anti-desmoglein 3 IgG autoantibodies *J Dermatol 31:407–410, 2004*

### INFECTIONS AND INFESTATIONS

Coxsackie A virus – herpetiform herpangina *Virologie 35:49–53, 1984*

Cowpox

Cryptococcosis *BJD 121:665–667, 1989; JAAD 10:387–390, 1984*

Gonococcal paronychia

Herpes simplex infections, including primary, recurrent, chronic herpes simplex, and eczema herpeticum (Kaposi's varicelliform eruption)

Herpes zoster

Histoplasmosis

Protothecosis *Int J Derm 25:54–55, 1986*

Syphilis *Clin Dermatol 23:555–564, 2005*

Tinea corporis *Hautarzt 40:364–389, 1989*

### INFLAMMATORY DISEASES

Erythema multiforme – herpetiform eruption *Acta DV 62:141–146, 1982*

### NEOPLASTIC DISEASES

Metastases – ovarian adenocarcinoma *Arch Gynecol Obstet 244:63–67, 1988*

### PARANEOPLASTIC DISEASES

Paraneoplastic herpetiform dermatosis *An Bras Dermatol 45:153–160, 1970*

### PRIMARY CUTANEOUS DISEASES

Aphthous ulcers *Am J Otolaryngol 21:389–393, 2000; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 81:141–147, 1996; J Mich Dent Assoc 66:357–363, 1984*

Dowling–Meara epidermolysis bullosa simplex – keratin 5 mutation *JID 109:815–816, 1997*; *Arch Dermatol Res 286:233–241, 1994; BJD 126:421–430, 1992; AD 122:190–198, 1986*

Impetigo herpetiformis

Pustular psoriasis (Hebra's herpetiform impetigo) *Vestn Dermatol Venereol 1:63–65, 1990 (Russian)*

Seborrheic dermatitis – herpetiform napkin dermatitis *BJD 114:746–747, 1986*

Urticaria

### VASCULAR DISEASES

Acute hemorrhagic edema of infancy

Urticarial vasculitis

## HETEROCHROMIC IRIDES

### CONGENITAL

Chediak–Higashi syndrome

Hypomelanosis of Ito Can *J Neurol Sci 15:124–129, 1988*

Idiopathic

Ipsilateral facial and uveal arteriovenous and capillary angiomata, microphthalmia, heterochromia, and hypotony – simulates Sturge–Weber syndrome *Trans Am Ophthalmol Soc 94:227–239, 1996*

Iris coloboma *Arch Ophthalmol 118:1590–1591, 2000*

Parry–Romberg syndrome *Rortschr Ophthalmol 83:302–304, 1986*

Prenatal toxic or other noxious influences

Proteus syndrome *AD 140:947–953, 2004*

Sturge–Weber syndrome

Tuberous sclerosis (hypopigmented iris spot)

Waardenburg's syndrome *Eye 12:353–357, 1998; Am J Med Genet 55:95–100, 1995*

### ACQUIRED

Hyperchromic heterochromia
- Foreign body *Surv Ophthalmol 28:409–411, 1984*
- Hyphema (hemorrhage in anterior chamber of eye)
- Iris abscess
- Melanoma of iris, including metastatic iris melanoma *Br J Ophthalmol 63:744–749, 1979*
- Melanosis bulbi (vs. pigment in anterior layers of iris)
- Metallic siderosis (intravascular iron fragments)
- Neovascularization (rubeosis iridis or hyperemia of iris)
- Neurofibromatosis
- Nevus of iris, including iris nevus (Cogan–Reese) syndrome *Can J Ophthalmol 13:287–290, 1978*
- Romberg's syndrome (facial hemiatrophy)
- Scleroderma, periorbital *Am J Ophthalmol 90:858–861, 1980*
- Trauma – perforating injuries or contusions to eye
- Xanthogranuloma *Klin Monatsbl Augenheilkd 205:47–49, 1994*

Hypochromic heterochromia
- Anemia
- Coloboma or micrcornea
- Diabetic rubiosis iridis
- Glaucoma cyclitis crisis (Posner–Schlossman syndrome)
- Horner's syndrome *Br J Ophthalmol 82:1095, 1998*
- Idiopathic
- Iris atrophy
- Iritis or iridocyclitis due to localized or generalized disease like tuberculosis, rheumatoid arthritis, syphilis, herpes zoster, Fuchs heterochromic iridocyclitis *Ophthalmologica 209:289–291, 1995*
- Ischemic neovascularization
- Infiltration of iris by non-pigmented tumor
- Metastic neuroblastoma with involvement of ophthalmic sympathetic nerve

## HYPERHIDROSIS

***Int J Derm 38:561–567, 1999; JAAD 20:713–726, 1989***

### GENERALIZED HYPERHIDROSIS

#### *SPINAL CORD INJURIES*

Profuse sweating of face, neck, upper trunk with lesions at or above T6

Autonomic dysregulation

Congenital autonomic dysfunction with universal pain loss *Ghatan p.247, 2002, Second Edition*

Orthostatic hypotension

Paraplegia *Arch Neurol 34:536–539, 1977*

Post-traumatic syringomyelia

#### *PERIPHERAL NEUROPATHY*

Diabetic autonomic neuropathy *Rook p.1991, 1998, Sixth Edition*

Familial dysautonomia (Riley–Day syndrome)

Cold exposure

Congenital autonomic dysfunction with universal pain loss

Post-sympathectomy

#### *PROBABLE BRAIN LESIONS*

Asymmetric hyperhidrosis – central nervous system lesions of cortex, basal ganglia or spinal cord *Rook p.1993, 1998, Sixth Edition*

Hypothalamic stroke – hemihyperhidrosis *Neurology 22:1394–1396, 2001*

Hypothermia (Hines–Bannick syndrome)

Without hyperthermia

Hypertension, post-traumatic

Olfactory

Parkinson's disease *Ghatan p.247, 2002, Second Edition*

Post-influenza diencephalitis *Wiad Lek 33:149–152, 1980*

Syringomyelia – hyperhidrosis over face and upper arms *Rook p.2777, 1998, Sixth Edition*

Tumors *Ghatan p.247, 2002, Second Edition*

### *ASSOCIATION WITH INTRATHORACIC NEOPLASMS OR LESIONS*

Paroxysmal unilateral hyperhidrosis (cervical rib, osteoma, pulmonary adenocarcinoma, bronchogenic carcinoma, mesothelioma) *AD 117:659–661, 1981*

### *ASSOCIATION WITH SYSTEMIC ILLNESS*

Acrodynia

Acromegaly *Br Med J 2 (6195):901–902, 1979*

AIDS – episodic spontaneous hyperhidrosis with hypothermia *Clin Inf Dis 29:210, 1999*

Alcoholism, chronic

Anorexia nervosa – drenching night sweats during weight recovery *Rook p.2795, 1998, Sixth Edition*

Apert syndrome (acrocephalosyndactyly) *Cutis 52:205–208, 1993*

Book syndrome – autosomal dominant; canities, hyperhidrosis, premolar hypodontia *Am J Hum Genet 2:240–263, 1950*

Brucellosis *Ghatan p.247, 2002, Second Edition*

Carcinoid syndrome – foregut (stomach, lung, pancreas) – bright red geographic flush, sustained, with burning, lacrimation, wheezing, sweating *Int J Derm 38:561–567, 1999; Rook p.2101, 1998, Sixth Edition*

Cardiogenic shock

Chediak–Higashi syndrome *Ghatan p.247, 2002, Second Edition*

Cold exposure *Lancet ii:1073–1074, 1978*

Congestive heart failure

Dermatomyositis

Diabetes mellitus *Int J Derm 38:561–567, 1999*

Emotional stress *AD 123:890–892, 1987*

Epidermolysis bullosa – late onset junctional epidermolysis bullosa (epidermolysis junctionalis progressiva) – bullae of hands and feet, nail dystrophy, loss of dermatolyphic pattern, tooth enamel abnormalities, hyperhidrosis *BJD 144:1054–1057, 2001*

Febrile illnesses

Fructose intolerance – deficit of aldolase B

Fucosidosis type III

Gaucher's disease, type I

Gout *Curr Ther 16:863–867, 1998*

Graves' disease *JAAD 48:641–659, 2003*

Herbicide poisoning

Hot environment *Int J Derm 38:561–567, 1999*

Hypertension, post-traumatic *Ghatan p.247, 2002, Second Edition*

Hyperthyroidism *JAAD 26:885–902, 1992*

Hypoglycemia *Int J Derm 38:561–567, 1999*

Infections, acute and chronic

Insecticide poisoning

Lupus erythematosus, polymyositis overlap syndrome *J Rheumatol 25:1638–1641, 1998*

Lymphoma *Ghatan p.247, 2002, Second Edition*

Menopause *Curr Ther 16:863–867, 1998*

Mercury intoxication

Obesity

Over-clothed *Int J Derm 38:561–567, 1999*

Parkinson's disease

Phenylketonuria *Ghatan p.247, 2002, Second Edition*

Pheochromocytoma *Rook p.1991, 1998, Sixth Edition; Int J Derm 38:561–567, 1999*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism; sclerodermoid changes (thickening of skin), either generalized or localized (legs), cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001, JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985, AD 124:695–698, 1988, Cutis 61:329–334, 1998; JAAD 40:808–812, 1999*

Porphyria

Pregnancy – hyperhidrosis, spares palms *Ghatan p.297, 2002, Second Edition*

Respiratory failure *Int J Derm 38:561–567, 1999*

Rickets

Ross' syndrome – segmental compenstory hyperhidrosis *JAAD 28:308–312, 1993*

Russell–Silver syndrome – intrauterine and post-natal growth retardation; triangular facies, childhood hyperhidrosis, limb asymmetry, café au lait macules, blue sclerae, achromia, 5th finger clinodactyly, genital dysmorphia

Schopf syndrome (oligodontia, hypotrichosis, palmoplantar hyperkeratosis, apocrine hidrocystomas of eyelid margins) *JAAD 10:922–925, 1984*

Scurvy

Syncopal states *Ghatan p.246, 2002, Second Edition*

Thermal stimuli

Thyrotoxicosis *Int J Derm 38:561–567, 1999*

Tyrosinemia type II (Richner–Hanhart syndrome) *JAAD 35:857–859, 1996*

Uremia

Visceral disease – asymmetric sweating *Fed Proc Am Soc Exp Biol 8:87–88, 1949*

After vomiting

### *NIGHT SWEATS*

Acromegaly *Clin Endocrinol 53:601–608, 2000*

Carcinoid syndrome

Chediak–Higashi syndrome

Dermatomyositis

Drug withdrawal

Dumping syndrome *Ghatan p.247, 2002, Second Edition*

Dysautonomic states, including familial dysautonomia (Riley–Day syndrome)

Febrile illness

Gout *Cutis 69:336–338, 2002*

Heat *Ghatan p.247, 2002, Second Edition*

Hodgkin's disease – nocturnal hyperhidrosis *Cutis 69:336–338, 2002*

Hyperpituitarism *Ghatan p.247, 2002, Second Edition*

Hyperthyroidism

Hypoglycemia *Ghatan p.247, 2002, Second Edition*

Idiopathic hyperhidrosis *Int J Derm 38:561–567, 1999; Pediatrics 64:698, 1979*

Insulinoma

Menopause

Obesity

Phenylketonuria

Pheochromocytoma *JAAD 46:161–183, 2002*

Porphyria *Ghatan p.247, 2002, Second Edition*

Pregnancy *Ghatan p.247, 2002, Second Edition*

Prinzmetal's angina *Ann Intern Med 107:121, 1987*

Rickets *Ghatan p.247, 2002, Second Edition*

Scurvy in infants *Ghatan p.247, 2002, Second Edition*

Subacute bacterial endocarditis

Tuberculosis

Turner syndrome *Clin Genet 52:63–64, 1997*

Vasculitis

#### *COMPENSATORY*

After sympathectomy

Associated with diffuse anhidrosis

#### *NEUROLOGICAL ASSOCIATIONS*

Emotional factors (anxiety) *Int J Derm 38:561–567, 1999*

Central nervous system lesions

Gustatory hyperhidrosis *Int J Derm 38:561–567, 1999*

Olfactory hyperhidrosis *Int J Derm 38:561–567, 1999*

Myasthenia gravis *Tohoku J Exp Med 164:285–291, 1991*

Parkinson's disease

Paroxysmal unilateral hyperhidrosis *Ghatan p.247, 2002, Second Edition*

Sympathetic discharge
- Shock and syncope
- Intense pain
- Alcohol
- Drug withdrawal *Curr Ther 16:863–867, 1998*

#### *PHARMACOLOGIC*

Alcohol intoxication or withdrawal *Ghatan p.247, 2002, Second Edition*

Antipyretic agents *Ghatan p.247, 2002, Second Edition*

Betel nut (areca nut) chewing – betel quid (areca nut, leaf of betel pepper, slaked lime paste from shells, coral, or limestone) autonomic and psychoneurologic effects; cholinergic activation, flushing, tachycardia, warmth, euphoria, alertness, hypotension, angioedema, hyperhidrosis, myocardial infarction *Clin Toxicol 39:355–360, 2001*

Cholinergic drugs

Chronic arsenic intoxication

Cyclobenzaprine poisoning – paradoxical diaphoresis *Ann Intern Med 101:881, 1984*

Emetic drugs *Ghatan p.247, 2002, Second Edition*

Hyperandrogenism *AD 136:430–431, 2000*

Insulin overdose

Meperidine

Nicotinic acid

Omeprazole *Postgrad Med J 75:701–702, 1999*

Physostigmine *Cutis 69:336–338, 2002*

Pilocarpine *Cutis 69:336–338, 2002*

Propranalol *Cutis 69:336–338, 2002*

Tricyclic antidepressants *Cutis 69:336–338, 2002*

Venlafaxine *Cutis 69:336–338, 2002*

#### *TOXINS*

Acrodynia *AD 124:107–109, 1988*

Insecticides *Ghatan p.247, 2002, Second Edition*

#### *TRAUMA*

Endoscopic thoracic sympathectomy (T2–T4) – facial and axillary anhidrosis with compensatory hyperhidrosis of lower chest and abdomen *Cutis 71:68–70, 2003*

Heat, humidity, and exercise *Curr Ther 16:863–867, 1998*

## LOCALIZED HYPERHIDROSIS

***Ped Derm 10:341–343, 1993***

#### *IDIOPATHIC UNILATERAL CIRCUMSCRIBED HYPERHIDROSIS*

***AD 137:1241–1246, 2001; Ped Derm 17:25–28, 2000***

#### *GUSTATORY SWEATING*

***Clin Pediatr 32:629–631, 1993***

Auriculotemporal syndrome (von Frey's syndrome) – damage to auriculotemporal nerve due to injury, abscess, after parotitis,surgery in parotid area; linear flush and/or sweating on cheek after eating *Ped Derm 17:415–416, 2000; AD 133:1143–1145, 1997*; after facial trauma *J Oral Maxillofac Surg 55:1485–1490, 1997*; parotidectomy *Laryngoscope 107:1496–1501, 1997*; after thyroidectomy *BJD 79:519–526, 1967*

Central nervous system lesions *Rook p.1994–1995, 1998, Sixth Edition*

Chocolate *Curr Ther 16:863–867, 1998*

Citric acid *Curr Ther 16:863–867, 1998*

Coffee *Curr Ther 16:863–867, 1998*

Diabetic neuropathy *Oral Surg Oral Med Oral Pathol 77:113–115, 1994; Am J Gastroenterol 86:1514–1517, 1991*

Encephalitis

Greater auricular nerve sweating after radical neck surgery *Plast Reconstr Surg 49:639–642, 1972*

Gustatory sweating – hyperhidrosis of face *Rook p.1994–1995, 1998, Sixth Edition;* knee *JAMA 142:901–902, 1950*

Gustatory sweating syndrome of the submandibular gland *Ear Nose Throat J 79:111–112, 2000*; following removal of the submandibular gland *Br Dent J 158:17–18, 1985*

Herpes zoster parotitis *Ann Neurol 21:559,1987*

Horner's syndrome – medullary infarction, syringomyelia, multiple sclerosis, intraspinal tumors, aortic aneurysm, cervical lymphadenopathy, surgery, regional anesthesia, tumors – transient unilateral hyperhidrosis and vasoconstriction of the face *Rook p.2782, 1998, Sixth Edition*

Hypertensive diencephalic syndrome – hyperhidrosis and blotchy erythema of face and neck with salivation, tachycardia, and sustained hypertension *Rook p.2782, 1998, Sixth Edition*

Pancoast tumor – hemifacial gustatory sweating *Am J Med 82:1269–1271, 1987*

Parotid abscess

Parotidectomy *Acta Otolaryngol 48:234–252, 1957*

Peanut butter *Curr Ther 16:863–867, 1998*

Postherpetic gustatory sweating and flushing *Ann Neurol 21:559–563, 1987*

Spicy food *Curr Ther 16:863–867, 1998*

Submental gustatory sweating *Rook p.1994–1995, 1998, Sixth Edition*

Sympathetic nerves damage of head and neck *Rook p.1994–1995, 1998, Sixth Edition*

Syringomyelia

Thoracic sympathectomy

Trauma *J Oral Surg 35:306–308, 1977*

Vagus nerve-induced gustatory sweating of upper arm after cervical sympathectomy *Br Med J I:688–689, 1958*

Paroxysmal idiopathic localized hyperhidrosis

Localized hyperhidrosis associated with central nervous system disease, peripheral neuropathy, stroke, trauma, syringomyelia, tabes dorsalis, cervical rib, vertebral osteoma, mesothelioma, lung cancer

### *ASSOCIATIONS*

Acrodynia – mercury poisoning – butterfly rash, flushing, perspiration of face, palmar erythema *JAAD 45:966–967, 2001*

Acro-osteolysis associated with spinal dysraphism – hyperhidrosis of the affected limb *Ped Derm 18:97–101, 2001*

Adjacent to area of anhidrosis *Rook p.1993, 1998, Sixth Edition*

Angioblastoma (Nakagawa) *BJD 143:223–224, 2000*

Around leg ulcer (axon reflex stimulation) *Rook p.1993, 1998, Sixth Edition*

Blue rubber bleb nevus (vascular malformation) *AD 137:1241–1246, 2001; Rook p.1993, 1998, Sixth Edition; AD 116:924–929, 1996*

Book syndrome – autosomal dominant; palms and soles hyperhidrotic – aplasia of premolar teeth, premature graying (canities) *Am J Hum Genet 2:240–263, 1950*

Bronchial carcinoma – with pleural spread – unilateral thoracic hyperhidrosis *Br Med J 2 (6035):563, 1976*

Buerger's disease *AD 137:1241–1246, 2001*

Burning feet syndrome (Gopalan's syndrome)

Carcinoid syndrome

Causalgia

Charcot–Marie Tooth syndrome

Chilblains *Ghatan p.247, 2002, Second Edition*

Compensatory hyperhidrosis, after thoracic sympathectomy *Lancet 351:1136, 1998*

Eccrine nevus – skin-colored papules, brown papules, depressed brown patches, perianal skin tag, solitary pore, draining mucoid material; localized unilateral hyperhidrosis *JAAD 51:301–304, 2004; Clin Exp Derm 22:246–247, 1997; Cutis 53:259–261, 1994; JAAD 27:115, 1992*; nevus sudoriferus – area of increased sweat production *AD 96:67–68, 1967*

Eccrine angiomatous nevus (hamartoma) – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored nodule or plaque *Ped Derm 22:175–176, 2005; JAAD 51:301–304, 2004; Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; Ped Derm 18:117–119, 2001; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 13:139–142, 1996; AD 129:105–110, 1993*; skin-colored nodule with blue papules *JAAD 41:109–111, 1999*; blue plaque or nodule *Dermatologica 155:206–209, 1977*

Eccrine pilar angiomatous hamartoma *AD 137:1241–1246, 2001*

Emotional – palmoplantar and axillary

Encephalitis *Ghatan p.247, 2002, Second Edition*

Epidermolysis bullosa – recessive

Erythrocyanosis *Ghatan p.247, 2002, Second Edition*

Fibrous hamartoma of infancy – eccrine sweating over lesion; hairy plaque on arm *JAAD 41:857–859, 1999*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) (hereditary painful callosities) – palmoplantar keratoderma with hyperhidrosis, leukoplakia (gingival keratosis), and cutaneous horn of the lips *JAAD 52:403–409, 2005; BJD 146:680–683, 2002; Oral Surg 50:250, 1980; Birth Defects 12:239–242, 1976; Arch Int Med 113:866–871, 1964*

Frostbite *Ghatan p.247, 2002, Second Edition*

Glomus tumors *AD 137:1241–1246, 2001; Rook p.1993, 1998, Sixth Edition; JAAD 41:109–111, 1997*; hyperhidrosis may precede appearance of glomus on a limb *Ped Derm 19:402–408, 2002*

Gopalan's syndrome *AD 137:1241–1246, 2001*

Granulosis rubra nasi – erythema of tip of nose, upper lip, chin; telangiectasias, small cysts *Ann DV 123:106–108, 1996; Cutis 10:463, 1972*

Heat *Curr Ther 16:863–867, 1998*

Herpes zoster *Ghatan p.247, 2002, Second Edition*

Hyperhidrotic malformations *JAAD 29:274–275, 1993*

Hyperthyroidism – palms and soles *JAAD 26:885–902, 1992*

Ichthyosis bullosa of Siemens – mutation of keratin 2e; superficial blistering of flexures, shins, abdomen with annular peeling; gray rippled hyperkeratosis of extrexities, lower trunk, flexures; hypertrichosis; circumscribed patchy scaling (mauserung); palmoplantar blistering with hyperhidrosis *BJD 140:689–695, 1999; JID 103:277–281, 1994; JAAD 14:1000–1005, 1986*

Idiopathic unilateral hyperhidrosis *Arch Dermatol Syphilol 51:370–372, 1945*

Iron deficiency *Ann Clin Biochem 32:509–510, 1995*

Jadassohn–Lewandowsky syndrome *Ghatan p.248, 2002, Second Edition*

Jakac–Wolf syndrome – palmoplantar keratoderma with squamous cell carcinoma, gingival dental anomalies, hyperhidrosis *JAAD 53:S234–239, 2005*

Klippel–Trenaunay–Weber syndrome *Cutis 60:127–132, 1997*

Localized hyperhidrosis on the backs of the hands *JAAD 12:937–942, 1985*

Localized paroxysmal hyperhidrosis *Am J Med Sci 221:86–88, 1951*

Maffucci's syndrome – angiomatous lesion with hyperplastic sweat glands

Malignant mesothelioma – paroxysmal unilateral hyperhidrosis *Arch Neurol 40:256, 1983*

Olfactory hyperhidrosis – facial hyperhidrosis *Clin Exp Dermatol 12:298–299, 1987*

Following opiate abuse – persistent focal hyperhidrosis *Addiction 94:923–924, 1999*

Pachydermoperiostosis *AD 137:1241–1246, 2001*

Perilesional

Palmoplantar keratoderma – Papillon Lefevre

Parotid abscess *Ghatan p.247, 2002, Second Edition*

Parotitis *Ghatan p.247, 2002, Second Edition*

Phakomatosis pigmentokeratotica *AD 134:333–337, 1998*

POEMS syndrome *AD 137:1241–1246, 2001*

Porokeratotic eccrine ostial and dermal duct nevus – resemble nevus comedonicus; linear keratotic papules with central plugged pit; may be verrucous; filiform; anhidrotic or hyperhidrotic; most common on palms and soles *JAAD 43:364–367, 2000; JAAD 24:300–1, 1991; Cutis 46:495–497, 1990*

Pretibial myxedema *JAAD 23:250–254, 1990*

Primary focal hyperhidrosis *Eur Neurol 44:112–116, 2000*

Pulmonary adenocarcinoma – unilateral segmental hyperhidrosis *Chest 114:1215–1217, 1998*

Reflex sympathetic dystrophy *Cutis 68:179–182, 2001; AD 137:1241–1246, 2001; Am J Dis Child 142:1325–1330, 1988*

Rheumatoid arthritis *Ghatan p.172, 2002, Second Edition*

Ross' syndrome – unilateral tonic pupils, generalized areflexia, progressive segmental anhidrosis with compensatory band of hyperhidrosis *Curr Ther 16:863–867, 1998; Rook p.1993, 1998, Sixth Edition*

Sudoriparous angioma *BJD 119:111–1113, 1988*

Tufted angioma *AD 136:905–914, 2000; Ped Derm 14:53–55, 1997; JAAD 33:124–126, 1995; JAAD 28:516–517,520, 1993; Clin Exp Dermatol 17:344–345, 1992*

Unilateral hyperhidrosis of the trunk *Acta Med Scand 168:17–20, 1960*

Varicella – segmental hyperhidrosis preceding varicella *J S C Med Assoc 80:504–505, 1984*

Venous malformation *JAAD 37:523–549, 1997*

#### *NEUROLOGICAL ASSOCIATIONS*

Auriculotemporal syndrome

Brain tumors

Cerebral infarction – unilateral hyperhidrosis *Neurology 38:1679–1682, 1988*

Causalgia

Diabetic neuropathy *Ghatan p.247, 2002, Second Edition*

Fear *Ghatan p.247, 2002, Second Edition*

Gustatory

Hemiplegia vegetativa alterna (ipsilateral Horner's syndrome with contralateral hemihyperhidrosis) – due to posterior cerebral artery occlusion *Stroke 26:702–704, 1995*

Horner's syndrome *Ghatan p.248, 2002, Second Edition*

Olfactory hyperhidrosis

Post-encephalitis

Post-traumatic forehead hyperhidrosis *Headache 30:64–68, 1990*

Sympathetic neurologic lesions

Syringomyelia

Tabes dorsalis *Ghatan p.247, 2002, Second Edition*

Tethered spinal cord syndrome – unilateral hyperhidrosis *Ped Derm 15:486–487, 1998*

Thoracic sympathectomy *Ghatan p.247, 2002, Second Edition*

#### *PHARMACOLOGIC CAUSES*

Adrenergic agents

Cholinergic agents

Tricyclic antidepressants *J Clin Psychiatry 51:258–259, 1990*

#### *PHYSIOLOGIC CAUSES*

Anxiety

Local heat

Pressure

#### *VASOMOTOR CAUSES*

Arteriovenous fistulae

Cold injury

Erythrocyanosis

Frostbite *Rook p.958–959, 1998, Sixth Edition*

Glomangiomas

Mafucci syndrome

Myocardial ischemia

Raynaud's phenomenon

Sudoriporous hemangioma

Symmetrical lividity of palms and soles

Vibration *Rook p.931, 1998, Sixth Edition*

## HYPERHIDROSIS OF PALMS AND SOLES

Arteriovenous fistula

Book's syndrome – autosomal dominant; premature graying, premolar hypodontia, palmoplantar hyperhidrosis *Am J Hum Genet 2:240–245, 1950*

Chloracne *Dermatol Clin 12:569–576, 1994*

Cold injury *Rook p.1992, 1998, Sixth Edition*

Dyskeratosis congenita

Emotional stress *Rook p.1992, 1998, Sixth Edition*

Epidermolysis bullosa simplex (Weber–Cockayne) *Ghatan p.248, 2002, Second Edition*

Erythromelalgia

Graves' disease *JAAD 48:641–659, 2003*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *Cutis 65:141–145, 2000; Dermatology 187:309–311, 1993*

Herpes zoster *Tyring p.133, 2002*

Hidrotic ectodermal dysplasia *Dermatologica 158:168–174, 1979*

Hyperhidrosis palmaris et plantaris

Ichthyosis bullosa of Siemens – mutation of keratin 2e; superficial blistering of flexures, shins, abdomen with annular peeling; gray rippled hyperkeratosis of extrexities, lower trunk, flexures; hypertrichosis; circumscribed patchy scaling (mauserung); palmoplantar blistering with hyperhidrosis *BJD*

*140:689–695, 1999; JID 103:277–281, 1994; JAAD 14:1000–1005, 1986*

Increased sympathetic response through T2–3 ganglia

Keratolysis exfoliativa *Ghatan p.248, 2002, Second Edition*

Keratosis palmaris et plantaris

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution; perioral erythema and hyperkeratosis; hyperhidrosis; pseudo-ainhum; lingua plicata, syndactyly, hairy palms and soles, high arched palate, lefthandedness *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Metastases – cutaneous metastases from a chondroblastoma initially presenting as unilateral palmar hyperhidrosis *JAAD 40:325–327, 1999*

Nail–patella syndrome *Rook p.1992, 1998, Sixth Edition*

Pachyonychia congenita *Ped Derm 7:33–38, 1990; JAAD 19:705–711, 1988*

Pachydermoperiostosis *Ghatan p.248, 2002, Second Edition*

Papillon–Lefevre syndrome – autosomal recessive; diffuse transgradiens palmoplantar keratoderma with hyperhidrosis; periodontal disease with shedding of primary and permanent dentition; recurrent cutaneous and systemic pyodermas; psoriasiform plaques of elbows and knees *JAAD 49:S240–243, 2003; J Periodontol 66:413–420, 1995; Ped Derm 11:354–357, 1994*

Pitted keratolysis *BJD 137:282–285, 1997*

Pretibial myxedema *JAAD 46:723–726, 2002*

Primary hyperhidrosis

Raynaud's phenomenon or disease *Rook p.1992, 1998, Sixth Edition*

Reflex sympathetic dystrophy *Br Med J 310:1645–1648, 1995*

Rheumatoid arthritis

Richner–Hanhart syndrome (tyrosinemia type II) – autosomal recessive; tyrosine aminotransferase deficiency; chromosome 16q22–q24; painful palmoplantar keratoderma with circumscribed keratoses, bullae may occur; dendritic corneal ulcers, mental retardation; palmoplantar hyperhidrosis; signs include tearing, redness, pain and photophobia progressing to superficial and deep dendritic ulcers; mental retardation; aggregated tonofibril bundles on electron microscopy; crystal structures *J Pediatr 126:266–269, 1995; AD 130:507–511, 1994; AD 126:1342–1346, 1990*

Symmetrical lividity of the soles *Cutis 64:175–176, 1999; BJD 37:123–125, 1925*

Unna–Thost palmoplantar keratoderma – diffuse non-epidermolytic palmoplantar keratoderma – autosomal dominant; mutations in keratin 16 *Hum Mol Genet 4:1875–1881, 1995;* mutation in keratin 1 *JID 103:764–769, 1994*

# HYPERKERATOTIC LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Anti-synthetase syndrome – mechanics' hands, Raynaud's phenomenon, interstitial lung disease, anti-Jo-1 antibody *AD 141:779–784, 2005*

Autoimmune progesterone dermatitis

Dermatomyositis – hyperkeratotic cuticles *AD 110:866–867, 1995*

Graft vs. host disease, chronic – follicular keratosis and plugs *AD 138:924–934, 2002*; acral keratotic form simulating warts *Australas J Dermatol 40:161–163, 1999*

Lupus erythematosus – systemic – hyperkeratotic and ragged cuticles *Rook p.2474, 1998, Sixth Edition;* discoid lupus erythematosus *BJD 98:507–520, 1978;* cutaneous horn *AD 121:837–838, 1985*

Mixed connective tissue disease – hyperkeratotic cuticles *Ghatan p.80, 2002, Second Edition*

Morphea – linear morphea *Clin Exp Dermatol 24:467–468, 1999; JAAD 38:366–368, 1998; Rook p.2505, 1998, Sixth Edition; BJD 134:594–595, 1996;* generalized morphea – keratoses *Rook p.2511, 1998, Sixth Edition*

Pemphigoid nodularis – hyperkeratotic plaques and nodules *JAAD 45:747–754, 2001; JAAD 27:863–867, 1992; AD 118:937–939, 1982*

Pemphigus foliaceus – pemphigus foliaceus resembling seborrheic keratosis *AD 126:543–544, 1990;* post-pemphigus acanthomata *Int J Derm 36:194–196, 1997*; endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

Scleroderma – hyperkeratotic plaques over phalanges containing amyloid *Trans St John's Hosp Dermatol Soc 57:177–180, 1971;* hyperkeratotic cuticles *Ghatan p.80, 2002, Second Edition*

## DEGENERATIVE DISEASES

Neurotrophic ulcers including those associated with neuropathies – begins as fissured callosity on metatarsal heads and heels *Rook p.2775, 1998, Sixth Edition*

## DRUG-INDUCED

Bleomycin – hyperkeratotic plaques on elbows and knees *JAAD 40:367–398, 1999; AD 107:553–555, 1973*

Cyclosporine – hair-like hyperkeratoses *Hautarzt 46:841–846, 1995*

Lithium-induced pseudo CTCL – follicular spiny hyperkeratosis *JAAD 44:308–309, 2001;* lithium-induced follicular hyperkeratosis *Clin Exp Dermatol 21:296–298, 1996*

## EXOGENOUS AGENTS

Foreign body granuloma

## INFECTIONS AND INFESTATIONS

Alternariosis – red scaly patches *Clin Inf Dis 32:1178–1187, 2001*

Bacillary angiomatosis *Tyring p.324, 2002*

Botryomycosis in AIDS *JAAD 16:238–242, 1987*

Chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981*

Coccidioidomycosis – hyperkeratotoic nodules and plaques *AD 140:609–614, 2004*

Cryptococcosis *Tyring p.340, 2002*

Demodicidosis – spinulosis of the face *BJD 138:901–903, 1998*

Dermatophytes – hyperkeratosis with cutaneous horns *Ann DV 125:705–707, 1998*

Erythrasma – disciform erythrasma; intertriginous and perigenital; *Corynebacterium minutissimum*; red to brown irregularly shaped and sharply marginated scaly and slightly creased patches of groin, axillae, intergluteal, submammary flexures, toe webs coral-red fluorescence with Wood's light examination due to coproporphyrin; toe clefts are most frequent location; acanthosis nigricans and normal follicular openings of face

and trunk may show coral pink fluorescence *Rev Infect Dis 4:1220–1235, 1982*

Favus – *Trichophyton schoenleinii BJD 148:1057, 2003*

*Fusarium solanae* – hyperkeratotic facial plaque *AD 101:598–600, 1970*

Herpes zoster in AIDS *JAAD 20:637–642, 1989; AD 126:1048–1050, 1990*

HIV infection – follicular hyperkeratotic spicules *JAAD 36:476–477, 1997*

Leishmaniasis – cutaneous horn *AD 123:168–169, 1987*

Leprosy – hyperkeratotic and verrucous lesions of the lower extremities *Indian J Lepr 64:183–187, 1992*

Molluscum contagiosum *JAAD 43:409–432, 2000*

*Mycobacterium avium-intracellulare* – scaling plaques *AD 126:1108–1110, 1990*

*Mycobacterium terrae* – hyperkeratotic plaque and osteomyelitis of fingertip following metal staple puncture *BJD 152:727–734, 2005*

*Mycobacterium tuberculosis* – lupus vulgaris – crusted hyperkeratotic plaque with nodules and scarring; tuberculosis verrucosa cutis *Int J Derm 39:856–858, 2000;* due to BCG inoculation *BJD 144:444–445, 2001*

Onychomycosis – thickened nails *Rook p.2865, 1998, Sixth Edition*

Phaeohyphomycosis (subcutaneous phaeohyphomycosis) – Exophiala jeanselmii *Cutis 72:132–134, 2003*

Pinta – tertiary (late phase) – hyperkeratoses of forearms, elbows, knees, ankles, legs, palms and soles *Rook p.1274, 1998, Sixth Edition*

Pitted keratolysis

Protothecosis – pyoderma-like lesion *BJD 146:688–693, 2002*

Scabies, crusted (Norwegian scabies) *Tyring p.330, 2002; Dermatology 197:306–308, 1998; AD 124:121–126, 1988;* scabies-associated acquired perforating dermatosis *JAAD 51:665–667, 2004*

*Schistosoma haematobium* – vulvar lesions resemble condyloma acuminata *Clin Exp Dermatol 8:189–194, 1983*

Sporotrichosis – scaly patches *Rook p.1353, 1998, Sixth Edition*

Syphilis, secondary

Tinea corporis, cruris, pedis; tinea pedis – resembling crusted scabies *Tyring p.346, 2002;* scutular favus-like tinea pedis – *Microsporum gypseum*

Warts *Tyring p.259–260, 2002; Cutis 63:91–94, 1999*

Yaws

## INFILTRATIVE LESIONS

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

Colloid milium, papuloverrucous variant *BJD 143:884–887, 2000*

Lichen myxedematosus – hyperkeratotic plaque

## INFLAMMATORY DISEASES

Perforating folliculitis

Polymyositis – fingertip hyperkeratosis *AD 129:1207–1208, 1993*

Sarcoid – keratotic spines and palmar pits *BJD 95:93–97, 1976*

Toxic epidermal necrolysis – healing with verrucous hyperplasia *BJD 149:1082–1083, 2003*

## METABOLIC DISEASES

Acromegaly – onychauxis (hypertrophy of nail) *Ghatan p.82, 2002, Second Edition*

Chronic obstructive pulmonary disease (COPD) – elbows *JAAD 13:681–682, 1985; Cutis 52:91–92, 1993*

Crohn's disease – hyperkeratotic spicules *JAAD 36:476–477, 1997*

Diabetes mellitus – neuropathic hemorrhagic calluses of feet *Rook p.2675, 1998, Sixth Edition*

Disseminated verruciform xanthoma *BJD 151:717–719, 2004*

Dysglobulinemia – hyperkeratotic spicules *JAAD 36:476–477, 1997*

Fabry's disease – angiokeratomas *AD 140:1440–1446, 2004*

Pellagra

Phrynoderma – hyperkeratotic spicules *AD 120:919–921, 1984*

Renal failure, chronic – hyperkeratotic spicules *JAAD 36:476–477, 1997;* uremic follicular hyperkeratosis *JAAD 26:782–783, 1992*

Scurvy

Tyrosinemia type II – painful calluses *AD 130:507–512, 1994*

Zinc deficiency

## NEOPLASTIC DISEASES

Acantholytic acanthoma – papule or nodule *JAAD 19:783–786, 1988*

Acquired digital fibrokeratoma *JAAD 12:816–821, 1985*

Actinic keratoses *JAAD 37:392–394, 1997*

Basal cell carcinoma – pseudohorn *Cutis 48:379, 1991*

Bowen's disease

Connective tissue nevus – mimicking linear epidermal nevus *JAAD 16:264–266, 1987*

Eccrine angiomatous hamartoma *BJD 141:167–169, 1999*

Eccrine syringofibroadenoma – nodule *JAAD 13:433–436, 1985*

Epidermal nevus

Granular cell myoblastoma – hyperkeratotic papule; prurigo nodularis-like lesions *Int J Derm 20:126–129, 1981*

Hyperkeratotic lichen planus-like reactions combined with infundibulocystic hyperplasia *AD 140:1262–1267, 2004*

Inflammatory linear verrucous epidermal nevus – linear dermatitic and/or psoriasiform plaques; often on leg *AD 113:767–769, 1977; AD 104:385–389, 1971*

Kaposi's sarcoma *BJD 142:501–505, 2000;* hyperkeratotic Kaposi's sarcoma in AIDS with massive lymphedema *BJD 142:501–505, 2000*

Keratoacanthoma

Large cell acanthomas – hyperkeratotic plaques *JAAD 8:840–845, 1983*

Lymphoma – verrucous CTCL *Clin Exp Dermatol 21:205–208, 1996;* pilotropic CTCL – keratotic spicules *AD 132:683–687, 1996;* Woringer–Kolopp disease – hyperkeratotic plaque *AD 120:1045–1051, 1984;* follicular CTCL – follicular keratosis *JAAD 48:448–452, 2003;* CTCL mimicking seborrheic keratosis *BJD 147:1264–1265, 2002*

Melanocytic nevi – inflammatory nevi evolving into halo nevi in children *BJD 152:357–360, 2005;* keratotic melanocytic nevus *Int J Derm 29:713–715, 1990*

Melanoma – verrucous and keratotic melanoma *Histopathology 23:453–458, 1993*

Multiple myeloma – hyperkeratotic filiform follicular spicules *JAAD 49:736–740, 2003; JAAD 36:476–477, 1997*

Nevoid hyperkeratosis of the nipple *JAAD 46:414–418, 2002; BJD 142:382–384, 2000; JAAD 41:325–326, 1999*

Nevus comedonicus

Nevus corniculatus – filiform keratoses, cutaneous horns, and giant comedones *BJD 122:107–112, 1990*

Paget's disease of the nipple – cutaneous horn *J Surg Oncol 29:237–239, 1985*

Papillary eccrine adenoma – pomegranate-like appearance *J Dermatol 24:773–776, 1997*

Penile horn (cutaneous horn of the penis) *Urology 30:156–158, 1987; J Urol 132:1192–1193, 1984*

Porokeratosis – porokeratosis plantaris discreta *JAAD 10:679–682, 1984;* porokeratosis of Mibelli *AD 122:586–587, 589–590, 1986;* porokeratosis palmaris, plantaris et disseminata *Dermatology 201:158–161, 2000;* linear porokeratosis *Ped Derm 21:682–683, 2004; AD 135:1544–1555,1547–1548, 1999; Ped Derm 4:209, 1987; AD 109:526–528, 1974*; eruptive pruritic papular porokeratosis *J Dermatol 19:109–112, 1992*

Porokeratotic eccrine and hair follicle nevus *BJD 141:315–322, 1999*

Porokeratotic eccrine ostial and dermal duct nevus *Bolognia p.1753, 2003*

Seborrheic keratosis, including stucco keratosis

Squamous cell carcinoma *Rook p.1689–1690,3074–3076, 1998, Sixth Edition; Otolaryngol Clin North Am 26:265–277, 1993;* squamous cell carcinoma of legs of black women *JAAD 47:524–529, 2002;* squamous cell carcinoma *in situ JAAD 47:524–529, 2002*; diffuse epidermal and periadnexal squamous cell carcinoma in situ – diffuse erythema and hyperkeratosis of face, neck, and scalp *JAAD 53:623–627, 2005*

Subungual exostosis – hyperkeratotic nodule *Ped Derm 13:212–218, 1996*

Syringoacanthoma – seborrheic keratosis-like lesion *AD 120:751–756, 1984*

Trichilemmal horn *Am J Dermatopathol 18:543–547, 1996;* palmar cutaneous horn *AD 120:386–387, 1984; BJD 100:303–309, 1979*

Verrucous carcinoma – of mouth *Cancer 89:2597–2606, 2000; Dermatology 192:217–221, 1996; J Craniomaxillofac Surg 17:309–314, 1989; Surg 23:670–678, 1948;* of umbilicus *AD 141:779–784, 2005*

Verrucous xanthoma *AD 136:665–670, 2000*

Warty dyskeratoma – face, neck, scalp, axillae *Ghatan p.341, 2002, Second Edition*

## PARANEOPLASTIC DISORDERS

Keratoacanthoma visceral carcinoma syndrome – cancers of the genitourinary tract *AD 139:1363–1368, 2003; AD 120:123–124, 1984*

Sign of Leser–Trelat – eruptive inflammatory seborrheic keratoses associated with internal malignancy, immunosuppression, HIV disease *JAAD 35:88–95, 1996; JAAD 21:50–55, 1989*

## PHOTODERMATOSES

Photolichenoid drug eruptions

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans; of the nipple *JAAD 52:529–530, 2005*

Acquired relapsing self-healing Blaschko dermatitis *JAAD 31:849–852, 1994*

Acrokeratoelastoidosis *BJD 106:337–344, 1982*

Acrokeratosis verruciformis

Aquagenic syringeal acrokeratoderma *JAAD 45:124–126, 2001*

Atopic hand–foot dermatitis *Ped Derm 18:102–106, 2001*

Bullous ichthyosiform erythroderma

Callosities

Clavus

Collodion baby *Ann Dermatol Syphiligr 3:149–15, 1884*

Confluent and reticulated papillomatosis *J Dermatol 27:598–603, 2000; Int J Derm 31:480–483, 1992*

Congenital trichoid keratosis – cutaneous horns on scalp *AD 128:1549–15550, 1992*

Darier's disease, including hemorrhagic acral Darier's disease *Hautarzt 51:857–861, 2000;* onychauxis (hypertrophy of nail) *Ghatan p.82, 2002, Second Edition*

Disseminated spiked hyperkeratosis *AD 117:412–414, 1981*

Ectopic nail – cutaneous horn *JAAD 10:114–116, 1984*

Elastosis perforans serpiginosa *JAAD 51:1–21, 2004*

Epidermolysis bullosa; non-Herlitz junctional epidermolysis bullosa with collagen XVII mutation – palmoplantar callosities *JAAD 52:371–373, 2005; AD 122:704–710, 1986; Dermatologica 152:72–86, 1976*

Epidermolysis bullosa, epidermolytic type – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolysis bullosa simplex – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolytic acanthoma *BJD 141:728–730, 1999*

Erythrokeratoderma variabilis *BJD 143:1283–1287, 2001*

Flegel's disease (hyperkeratosis lenticularis perstans) *AD 133:910–914, 1997; Cutis 48:201–204, 1991; JAAD 16:190–195, 1987*

Follicular ichthyosis *BJD 111:101–109, 1984*

Granular parakeratosis – hyperkeratotic papules and plaques in the intertriginous areas *JAAD 52:863–867, 2005; Ped Derm 20:215–220, 2003; Ped Derm 19:146–147, 2002;* submammary granular parakeratosis – punctate hyperkeratosis *JAAD 40:813–814, 1999*

Greither's palmoplantar keratoderma – hyperkeratosis of elbows, knees, shins *JAAD 53:S225–230, 2005*

Grover's disease – transient and/or persistent acantholytic dermatosis

Harlequin fetus (ichthyosis congenital fetalis) *Int J Derm 21:347–348, 1982*

Hyperkeratosis of the nipple and areola (hyperkeratosis areolae mammae) *AD 137:1327–1328, 2001; JAAD 41:274–276, 1999; Eur J Dermatol 8:131–132, 1998; JAAD 13:596–598, 1985; AD 126:687, 1990;* estrogen-induced *Cutis 26:95–96, 1980;* associated with CTCL *JAAD 32:124–125, 1995; Int J Derm 29:519–520, 1990;* ichthyosis, ichthyosiform erythroderma, acanthosis nigricans, Darier's disease *Rook p.3157, 1998, Sixth Edition*

Hyperkeratotic dermatitis of the palms *BJD 107:195–201, 1982*

Ichthyosis bullosa of Siemens

Ichthyosis vulgaris palmaris et plantaris dominans – form of ichthyosis vulgaris *Dermatologica 165:627–635, 1982*

Idiopathic follicular hyperkeratotic spicules of the nose *JAAD 36:476–477, 1997*

Keratosis follicularis squamosa of Dohi – scaly 3–10 mm patches symmetrical on trunk and thighs with central brown follicular plugs; margins slightly detached *BJD 150:603–605, 2004; Jpn J Dermatol 3:513–514, 1903*

Keratosis lichenoides chronica – hyperkeratotic plaques *JAAD 38:306–309, 1998*

Keratosis punctata

Knuckle pads *Ped Derm 17:450–452, 2000*

Kyrle's disease (hyperkeratosis follicularis et parafollicularis in cutem penetrans) *JAAD 16:117–123, 1987*

Lichen planus *BJD 142:310–314, 2000*

Lichen sclerosus et atrophicus

Lichen striatus *J Cutan Pathol 28:65–71, 2001*

Micaceous and keratotic pseudoepitheliomatous balanitis *JAAD 18:414–422, 1988*; *Bull Soc Fr Dermatol Syphiligr 68:164–167, 1966*

Music box spicules – spiny keratoderma, porokeratosis punctata palmaris et plantaris, multiple minute digitate hyperkeratoses *Cutis 54:389–394, 1994; AD 125:816–819, 1989*; *JAAD 18:431–436, 1988*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004; Int J Derm 35:252–256, 1996*

Onychogryphosis *JAAD 26:521–531, 1992;* acquired; inherited forms – autosomal dominant, congenital forms *Neonatal Dermatology, p.510, 2001*

Palmoplantar keratoderma, including punctuate PPK

Periumbilical perforating pseudoxanthoma elasticum *JAAD 39:338–344, 1998; JAAD 26:642–644, 1992; AD 115:300–303, 1979*

Pityriasis rubra pilaris – including thickened nails *Rook p.2865, 1998, Sixth Edition*

Progressive symmetric erythrokeratoderma *AD 122:434–440, 1986*

Prurigo nodularis – idiopathic or associated with lymphoma, peripheral T-cell lymphoma (Lennert's lymphoma) *Cutis 51:355–358, 1993;* Hodgkin's disease *Dermatologica 182:243–246, 1991; Ped Derm 7:136–139, 1990;* gluten sensitive enteropathy *BJD 95:89–92, 1976;* AIDS *JAAD 33:837–838, 1995;* uremia *South Med J 68:138–141, 1975;* depression, liver disease, $\alpha$-1 antitrypsin deficiency *Sustralas J Dermatol 32:151–157, 1991;* malabsorption *Dermatologica 169:211–214, 1984; The Clinical Management of Itching; Parthenon; p.xvi, 2000*

Psoriasis, including rupioid psoriasis of feet

Reactive perforating collagenosis

Symmetrical interdigital hyperkeratosis of the hands *Acta DV 73:459–460, 1993*

Terra firme (Diogenes syndrome) *Lancet i:366–368, 1975*

Transient reactive papulotranslucent acrokeratoderma *Australas J Dermatol 41:172–174, 2000*

## SYNDROMES

Apert's syndrome – circumferential nail at tip of fused digits *Textbook of Neonatal Dermatology, p.509, 2001*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – acral keratoses; facial verrrucous papules, angiokeratomas; dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996*

Congenital malalignment of the great toenail – thickened nails *Rook p.2865, 1998, Sixth Edition*

Corneal changes, hyperkeratosis, short stature, brachydactyly, premature birth – autosomal dominant *Am J Med Genet 18:67–77, 1984*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 9:533–536, 1999; Aust Paediat J 13:114–118, 1977*

Cowden's disease

Darier's disease, including thickened nails *Rook p.2865, 1998, Sixth Edition*

Deletion of long arm of chromosome 6 – circumferential nail *Textbook of Neonatal Dermatology, p.509, 2001*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flexures) – seborrheic keratosis-like lesions *BJD 147:568–571, 2002*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Ectodermal defects – including thickened nails *Rook p.2865, 1998, Sixth Edition*

Epidermodysplasia verruciformis – spiny hyperkeratosis of palms and soles *Ped Derm 20:176–178, 2003; Int J Derm 37:766–771, 1998*

Haim–Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon–Lefevre syndrome); palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, atrophic nails, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Hereditary (bullous) acrokeratotic poikiloderma of Weary (acrokeratotic poikiloderma) (Kindler's syndrome?) – autosomal dominant – vesiculopustular eruption of hands and feet in infancy and childhood; extensive dermatitis in childhood, persistent poikiloderma sparing face, scalp and ears, verrucous papules of hands, feet, elbows, and knees *AD 103:409–422, 1971;* pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997; AD 103:409–422, 1971*

Hereditary callosities – blisters at periphery of calluses *JAAD 11:409–415, 1984*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Hereditary sensory and autonomic neuropathy type I – calluses over metatarsal heads which blister, necrose, and ulcerate *Rook p.2779, 1998, Sixth Edition*

Hystrix-like ichthyosis–deafness syndrome – postnatal erythroderma, generalized spiky and cobblestoned

hyperkeratosis, sensorineural deafness, connexin mutation *BJD 146:938–942, 2002*

Ichthyosis follicularis with atrichia and photophobia (IFAP syndrome) *BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999*

Incontinentia pigmenti *AD 139:1163–1170, 2003*

Keratosis follicularis spinulosa decalvans – X-linked dominant and autosomal dominant; alopecia, xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, palmoplantar keratoderma *Ped Derm 22:170–174, 2005*

Keratosis–ichthyosis–deafness syndrome – hyperkeratotic papules and plaques of face, scalp, trunk, extremities; exaggerated diaper dermatitis *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990*

Lipoid proteinosis *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; Int J Derm 39:203–204, 2000; Ped Derm 14:22–25, 1997; AD 132:1239–1244, 1996*

Netherton's syndrome – hyperkeratosis of medial buttock

Neu–Laxova syndrome – rudimentary eyelids, polyhydramnios, growth retardation, microcephaly, ichthyosis, thick hyperkeratotic skin *Am J Med Genet 43:602–605, 1992*

Olmsted syndrome – periorificial hyperkeratosis *BJD 136:935–938, 1997*

Pachyonychia congenita – including thickened nails *Rook p.2865, 1998, Sixth Edition*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis; type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus; types II,III, and IV may also have nevus anemicus *Ped Derm 21:642–645, 2004; J Dermatol 26:834–836, 1999; Ped Derm 15:321–323, 1998; Ped Derm 13:33–35, 1996; AD 121:651–653, 1985; Jpn J Dermatol 52:1–3, 1947*

Proteus syndrome – epidermal nevi of trunk and neck, vascular malformations, lipomas, cerebriform connective tissue nevi of feet *JAAD 52:834–838, 2005*

Pseudohypoparathyroidism – dry, scaly, hyperkeratotic puffy skin; multiple subcutaneous osteomas, collagenoma *BJD 143:1122–1124, 2000*

Reiter's syndrome – keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp *Cutis 71:198–200, 2003; Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; hyperkeratotic lesions of hands, wrists, feet, and ankles *Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; JAAD 17:332–338, 1987*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Werner's syndrome – hyperkeratosis over elbows and knees which ulcerate *AD 124:90–101, 1988*

### TOXINS

Arsenical keratoses *Environ Health Perspect 107:687–689, 1999*

### TRAUMA

Amputation stump frictional callosity (lenticular button) or follicular hyperkeratosis *Rook p.905, 1998, Sixth Edition*

Chewing callosities in children ('gnaw warts') *Rook p.892, 1998, Sixth Edition*

Frictional callosities

Occupational callosities *Practitioner 210:507–512, 1973*

Physical trauma – onychauxis (hypertrophy of nail) *Ghatan p.82, 2002, Second Edition*

Thermal keratoses *JAAD 47:524–529, 2002*

### VASCULAR DISORDERS

Angiokeratoma – isolated lesion; associated with fucosidosis type II, galactosidosis type II, Kanzaki disease, aspartylglycosaminuria, sialidosis type II, adult onset gangliosidosis, beta mannosidase deficiency *JAAD 37:523–549, 1997*

Cutaneous hyperkeratotic capillary-venous malformation associated with familial cerebral cavernous malformations *Hum Molec Genet 9:1351–1355, 2000; Ann Neurol 45:250–254, 1999*

Familial cutaneo-cerebral capillary malformations – hyperkeratotic cutaneous vascular malformations *Hum Molec Genet 9:1351–1355, 2000; Ann Neurol 45:250–254, 1999*

Glomerulovenous malformation *AD 140:971–976, 2004*

Lymphangioma circumscriptum

Lymphostasis verrucosa cutis (chronic lymphedema, multiple causes) – brawny edema with overlying hyperkeratosis *Rook p.2285, 1998, Sixth Edition*

Spindle cell hemangioendothelioma – hyperkeratotic nodules of soles *BJD 142:1238–1239, 2000*

Verrucous hemangioma – linear along Blaschko's lines *JAAD 42:516–518, 2000*

## HYPERKERATOTIC LESIONS OF THE FEET

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Autoimmune progesterone dermatitis

Bullous pemphigoid – dyshidrosiform pemphigoid; pemphigoid nodularis *JAAD 27:863–867, 1992; AD 118:937–939, 1982*

Pemphigus vulgaris

### DEGENERATIVE DISEASES

Neurotrophic ulcers including those associated with neuropathies – begins as fissured callosity on metatarsal heads and heels *Rook p.2775, 1998, Sixth Edition*

### EXOGENOUS AGENTS

Foreign body – hair – granuloma of heel

### INFECTIONS

Blastomycosis-like pyoderma (pyoderma vegetans) – crusted or verrucous plaques which may weep, ulcerate or clear centrally, often involve the flexures, and do not respond to antibiotics

alone despite the regular presence of *Staphylococcus aureus* or group A streptococci *JAAD 20:691–693, 1989*

Candidal granuloma (CMCC) *JAAD 21:1309–1310, 1989;* chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981*

Chromoblastomycosis – feet, legs, arms, face, and neck;common causative organisms include *Phialophora verrucosa*, *Fonsecaea pedrosoi*, *F. compactum*, *Wangiella dermatitidus, Cladosporium carrionii* and *Aureobasidium pullulans*; diagnostic characteristic is the presence of large pigmented round thick walled bodies with septation in two planes (muriform cells) *AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Erythrasma – disciform erythrasma; intertriginous and perigenital; *Corynebacterium minutissimum*; red to brown irregularly shaped and sharply marginated scaly and slightly creased patches of toe webs; coral-red fluorescence with Wood's light examination due to coproporphyrin; toe clefts are most frequent location *Rev Infect Dis 4:1220–1235, 1982*

Herpes zoster in AIDS

Leprosy

Onychomycosis – thickened nails *Rook p.2865, 1998, Sixth Edition*

Osteomyelitis – with *painful* neuropathic callus

Pinta – tertiary (late phase) – hyperkeratoses of forearms, elbows, knees, ankles, legs, palms and soles *Rook p.1274, 1998, Sixth Edition*

Pitted keratolysis

Scabies, crusted (Norwegian scabies) *Dermatology 197:306–308, 1998; AD 124:121–126, 1988*

Syphilis, secondary; tertiary – tabes dorsalis – initial lesion is clavus over weight-bearing regions of soles *Arch Neurol 42:606–613, 1985*

Tinea pedis – resembling crusted scabies *Tyring p.346, 2002;* scutular favus-like tinea pedis – Microsporum gypseum

Tungiasis – verrucous plaque *BJD 144:118–124, 2001*

Warts

Yaws (mother yaw) – *Treponema pallidum* subsp. *pertenue*; 10–13 μm long by 0.15 μm wide; replicate in 30 hours; non-venereal; transmitted by skin contact; primarily in children; primary lesions on feet, legs, and buttocks; Africa, Asia, South and Central America, and Pacific Islands *JAAD 29:519–535, 1993; Cutis 38:303–305, 1986*

## INFILTRATIVE DISEASES

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

Juvenile xanthogranuloma *Ped Derm 17:460–462, 2000*

Lichen myxedematosus

## METABOLIC DISEASES

Diabetes mellitus – neuropathic hemorrhagic calluses of feet *Rook p.2675, 1998, Sixth Edition*

Necrobiosis lipoidica diabeticorum

Pellagra

Tyrosinemia type II – painful calluses *AD 130:507–512, 1994*

Zinc deficiency

## NEOPLASTIC DISEASES

Acquired fibrokeratoma of the heel *AD 121:386–388, 1985*

Bowen's disease – of the foot *AD 123:1517–1520, 1987;* of both feet *BJD 151:227–228, 2004*

Connective tissue nevus – purplish verrucous plantar plaque *BJD 146:164–165, 2002*

Eccrine syringofibroadenoma – diffuse unilateral plantar hyperkeratosis *BJD 149:885–886, 2003*

Epidermal nevus

Kaposi's sarcoma – verrucous nodules and plaques *Tyring p.223,376, 2002;* hyperkeratotic Kaposi's sarcoma in AIDS with massive lymphedema *BJD 142:501–505, 2000; JAAD 38:143–175, 1998*

Keratoacanthoma

Lymphoma – verrucous cutaneous T-cell lymphoma *Clin Exp Dermatol 21:205–208, 1996;* Woringer–Kolopp disease – hyperkeratotic plaque *AD 120:1045–1051, 1984*

Nevus comedonicus

Porokeratosis of Mibelli, linear porokeratosis

Seborrheic keratosis

Squamous cell carcinoma

Stucco keratosis

Subungual exostosis – hyperkeratotic nodule *Ped Derm 13:212–218, 1996*

Verrucous carcinoma – epithelioma cuniculatum *NEJM 352:488, 2005; AD 136:547–548, 550–551, 2000*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Acrodermatitis continua

Acrokeratoelastosis of Costa *J Cutan Pathol 25:580–582, 1998; Acta DV 60:149–153, 1980*

Acrokeratosis verruciformis of Hopf

Atopic hand–foot dermatitis *Ped Derm 18:102–106, 2001*

Callus *Br Med J 312:1403–1406, 1996;* overlying metatarsal heads, sides of arches, heels; over the talus anteromedial to lateral malleolus *Clin Exp Dermatol 16:118–120, 1991*

Chronic recalcitrant pustular eruption of palms and soles

Clavus, plantar or interdigital (between fourth and fifthe toes) *Clin Orthop 142:103–109, 1979*

Darier's disease (keratosis follicularis) – of foot *Caputo p.124, 2000*

Dyshidrosis

Ectopic plantar nail *BJD 149:1071–1074, 2003*

Epidermolysis bullosa; non-Herlitz junctional epidermolysis bullosa with collagen XVII mutation – palmoplantar callosities *JAAD 52:371–373, 2005; AD 122:704–710, 1986; Dermatologica 152:72–86, 1976*

Epidermolysis bullosa, epidermolytic type – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolysis bullosa simplex – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Erythema elevatum diutinum *JAAD 50:652–653, 2004*

Focal acral hyperkeratosis *AD 123:1225, 1228, 1987*

Ichthyosis bullosa of Siemens

Ichthyosis vulgaris palmaris et plantaris dominans – form of ichthyosis vulgaris *Dermatologica 165:627–635, 1982*

Juvenile plantar dermatosis *Acta DV 58:531–534, 1978*

Keratosis lichenoides chronica *JAAD 38:306–309, 1998*

Keratosis punctata – flexures

Lichen planus

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Lichen striatus

Marginal papular acrokeratodermas *Dermatology 203:63–65, 2001*

Music box spicules – spiny keratoderma, porokeratosis punctata palmaris et plantaris, multiple minute digitate hyperkeratoses *Cutis 54:389–394, 1994; AD 125:816–819, 1989; JAAD 18:431–436, 1988*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Onychogryphosis *JAAD 26:521–531, 1992;* acquired; inherited forms – autosomal dominant, congenital forms *Neonatal Dermatology, p.510, 2001*

Palmoplantar keratoderma

Palmoplantar pustulosis

Pityriasis rubra pilaris

Progressive symmetric erythrokeratoderma *AD 122:434–440, 1986*

Porokeratotic palmoplantar keratoderma discreta *Clin Exp Dermatol 21:451–453, 1996; JAAD 10:679–682, 1984; Cutis 20:711–713, 1977*

Prurigo nodularis – idiopathic or associated with lymphoma, peripheral T-cell lymphoma (Lennert's lymphoma) *Cutis 51:355–358, 1993;* Hodgkin's disease *Dermatologica 182:243–246, 1991; Ped Derm 7:136–139, 1990;* gluten sensitive enteropathy *BJD 95:89–92, 1976;* AIDS *JAAD 33:837–838, 1995;* uremia *South Med J 68:138–141, 1975;* depression, liver disease, alpha-1 antitrypsin deficiency *Australas J Dermatol 32:151–157, 1991;* malabsorption Dermatologica 169:211–214, 1984; *The Clinical Management of Itching; Parthenon; p.xvi, 2000*

Psoriasis *Tyring p.348–349, 2002*

Terra firme (dermatosis neglecta) *AD 135:728–729, 1999*

Tylosis

## SYNDROMES

Congenital malalignment of the great toenail – thickened nails *Rook p.2865, 1998, Sixth Edition*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 9:533–536, 1999; Aust Paediat J 13:114–118, 1977*

Epidermodysplasia verruciformis – spiny hyperkeratosis of palms and soles *Ped Derm 20:176–178, 2003*

Familial mandibuloacral dysplasia

Greither's syndrome – poikiloderma of face and extremities; warty keratoses over hands, feet, and legs; plantar keratoderma; normal nails and hair *Hautarzt 9:364–369, 1958*

Haim–Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon–Lefevre syndrome); palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, atrophic nails, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Hereditary (bullous) acrokeratotic poikiloderma of Weary (acrokeratotic poikiloderma) (Kindler's syndrome?) – autosomal dominant – vesiculopustular eruption of hands and feet in infancy and childhood; extensive dermatitis in childhood, persistent poikiloderma sparing face, scalp and ears, verrucous papules of hands, feet, elbows, and knees *AD 103:409–422, 1971;* pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997; AD 103:409–422, 1971*

Hereditary callosities – blisters at periphery of calluses *JAAD 11:409–415, 1984*

Hereditary sensory and autonomic neuropathy type I – calluses over metatarsal heads which blister, necrose, and ulcerate *Rook p.2779, 1998, Sixth Edition*

Incontinentia pigmenti: progressive persistent verrucous plaques; X-linked dominant. Xp28 or Xp11.21 locations; skin lesions present in 50% at birth and in 90% by 2 weeks of life; dental abnormalities in two-thirds of patients, ocular in 25–35%, and CNS defects in one-third *JAAD 47:169–187, 2002; AD 124:29–30, 1988*

Lipoid proteinosis (Urbach–Wiethe disease) – autosomal recessive; yellow verrucous plaques and nodules on extensor surfaces; asymptomatic visceral involvement of multiple organs; extracellular hyaline-like material in dermis; PAS positive and diastase resistant; probably represents glycoproteins and/or proteoglycan complexes *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998; Ped Derm 14:22–25, 1997; JAAD 21:599–601, 605, 1989*

Pachyonychia congenita *Ped Derm 14:491–493, 1997*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus (epidermal nevus) and a contralateral segmental lentiginous or papular speckled lentiginous nevus *Dermatology 194:77–79, 1997*

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; hyperkeratotic lesions of hands, wrists, feet, and ankles *Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; JAAD 17:332–338, 1987*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Werner's syndrome

## TOXINS

Arsenical keratoses

Foreign body granuloma

## TRAUMA

Dancers' calluses

Harpists' fingers – paronychia with calluses of the sides and tips of fingers with onycholysis and subungual hemorrhage *Rook p.903, 1998, Sixth Edition*

Mechanical hyperkeratosis of the soles *J Dermatol 18:291–294, 1991*

Scars – hyperkeratosis of scars in weight-bearing areas *Acta Chir Scand 131:269–273, 1966*

### VASCULAR DISEASES

Lymphostasis verrucosa cutis (chronic lymphedema, multiple causes) – brawny edema with overlying hyperkeratosis *Rook p.2285, 1998, Sixth Edition*

Pyogenic granuloma

Spindle cell hemangioendothelioma – hyperkeratotic nodules of soles *BJD 142:1238–1239, 2000*

## HYPERKERATOTIC LESIONS OF THE HANDS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis, chronic

Anti-synthetase syndrome – mechanics' hands, Raynaud's phenomenon, interstitial lung disease, anti-Jo-1 antibody *AD 141:779–784, 2005*

Autoimmune progesterone dermatitis

Bullous pemphigoid – dyshidrosiform pemphigoid; pemphigoid nodularis *JAAD 27:863–867, 1992; AD 118:937–939, 1982*

Dermatomyositis – hyperkeratotic cuticles *AD 110:866–867, 1995*

Graft vs. host disease – acral keratotic form simulating warts *Australas J Dermatol 40:161–163, 1999*

Lupus erythematosus – systemic lupus – psoriasiform and hyperkeratotic plaques of palms and soles *BJD 81:186–190,1969;* hyperkeratotic and ragged cuticles *Rook p.2474, 1998, Sixth Edition*

Mixed connective tissue disease – hyperkeratotic cuticles *Ghatan p.80, 2002, Second Edition*

Pemphigus vulgaris *Cutis 35:445–446, 1985*

Scleroderma – hyperkeratotic plaques over phalanges containing amyloid *Trans St John's Hosp Dermatol Soc 57:177–180, 1971;* hyperkeratotic cuticles *Ghatan p.80, 2002, Second Edition*

### DRUG-INDUCED

Piroxicam-induced dyshidrosis *Cutis 35:485–486, 1985*

### INFECTIONS AND INFESTATIONS

Chronic mucocutaneous candidiasis

Dermatophyte infection – resembling crusted scabies *Tyring p.346, 2002*

*Mycobacterium terrae* – hyperkeratotic plaque and osteomyelitis of fingertip following metal staple puncture *BJD 152:727–734, 2005*

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis *Int J Derm 39:856–858, 2000*

Onychomycosis – thickened nails

Osteomyelitis

Pinta – tertiary (late phase) – hyperkeratoses of forearms, elbows, knees, ankles, legs, palms and soles *Rook p.1274, 1998, Sixth Edition*

Pyoderma

Scabies, crusted (Norwegian scabies) *Tyring p.330, 2002; Dermatology 197:306–308, 1998; AD 124:121–126, 1988;* thickened nails

Syphilis, secondary

Warts *AD 138:405–410, 2002*

Yaws

### INFLAMMATORY DISEASES

Polymyositis – fingertip hyperkeratosis *AD 129:1207–1208, 1993*

Sarcoid – keratotic lesions of palms resembling psoriasis or syphilis *Rook p.2693, 1998, Sixth Edition;* keratotic spines and palmar pits *BJD 95:93–97, 1976*

### METABOLIC

Acromegaly – onychauxis (hypertrophy of nail) *Ghatan p.82, 2002, Second Edition*

Pellagra

Porphyria – erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Tyrosinemia type II (Richner–Hanhart syndrome) – erosions of palms on thenar and hypothenar eminences, soles, tips of fingers which later become hyperkeratotic *JID 73:530–532, 1979*

Zinc deficiency (acrodermatitis enteropathica)

### NEOPLASTIC

Acquired digital fibrokeratoma *JAAD 12:816–821, 1985*

Actinic keratoses *JAAD 37:392–394, 1997*

Bowen's disease

Epidermal nevus

Keratoacanthoma

Lymphoma – cutaneous T-cell lymphoma *BJD 136:617–619, 1997;* localized Pagetoid reticulosis (Woringer–Kolopp disease) *BJD 147:806, 2002*

Melanocytic nevus – keratotic melanocytic nevus *J Cutan Pathol 27:344–350, 2000*

Melanoma – developing in a palmoplantar keratoderma (Greither's disease) *J Dermatol 22:55–61, 1995*

Nevus comedonicus

Porokeratosis of Mibelli

Porokeratotic eccrine ostial and dermal duct nevus *Bolognia p.1753, 2003*

Punctate porokeratosis

Seborrheic keratosis

Squamous cell carcinoma

Stucco keratosis

Trichilemmal horn – palmar cutaneous horn *AD 120:386–387, 1984; BJD 100:303–309, 1979*

Verrucous carcinoma

### PARANEOPLASTIC

Palmar filiform hyperkeratosis *JAAD 33:337–340, 1995*
vs. Acanthosis nigricans
- Arsenical keratoses
- Lichen nitidus
- Pitted keratolysis
- Punctate porokeratosis
- Verruca vulgaris

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Acrodermatitis continua of Hallopeau

Acrokeratoelastoidosis *BJD 106:337–344, 1982*

Acrokeratosis verruciformis of Hopf

Aquagenic syringeal acrokeratoderma *JAAD 45:124–126, 2001*

Atopic hand–foot dermatitis *Ped Derm 18:102–106, 2001*

Darier's disease, including hemorrhagic acral Darier's disease *Hautarzt 51:857–861, 2000;* onychauxis (hypertrophy of nail) *Ghatan p.82, 2002, Second Edition*

Dyshidrosis (resolving)

Ectopic nail – cutaneous horn *JAAD 10:114–116, 1984;* usually of palmar aspect of fifth finger *Textbook of Neonatal Dermatology, p.509, 2001*

Epidermolysis bullosa; non-Herlitz junctional epidermolysis bullosa with collagen XVII mutation – palmoplantar callosities *JAAD 52:371–373, 2005; AD 122:704–710, 1986; Dermatologica 152:72–86, 1976*

Epidermolysis bullosa, epidermolytic type – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolysis bullosa simplex – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Focal acral hyperkeratosis *Dermatol Online J 1:10, 2001*; *AD 123:1225, 1228, 1987*

Hereditary papulotranslucent acrokeratoderma *Z Hautkr 60:211–214, 1985*

Hyperkeratotic dermatitis of the palms *BJD 107:195–201, 1982*

Ichthyosis bullosa of Siemens

Ichthyosis vulgaris palmaris et plantaris dominans *Dermatologica 165:627–635, 1982*

Id reaction

Keratolysis exfoliativa (acquired peeling of the palms) – recurrent *Rook p.652, 1998, Sixth Edition; Trans St John's Hosp Dermatol Soc 53:165–167, 1967*

Keratosis punctata of the palmar creases *Cutis 32:75–76, 1983*

Knuckle pads *Ped Derm 17:450–452, 2000*

Lichen planus *BJD 142:310–314, 2000*

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Lichen striatus

Music box spicules – spiny keratoderma, porokeratosis punctata palmaris et plantaris, multiple minute digitate hyperkeratoses *Cutis 54:389–394, 1994*; *AD 125:816–819, 1989; JAAD 18:431–436, 1988*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004; Int J Derm 35:252–256, 1996*

Onychogryphosis – acquired; inherited forms – autosomal dominant, congenital forms *Neonatal Dermatology, p.510, 2001*

Palmoplantar keratodermas

Pincer nail deformity

Pityriasis rubra pilaris

Porokeratotic palmoplantar keratoderma discreta *Clin Exp Dermatol 21:451–453, 1996*

Progressive symmetric erythrokeratoderma *AD 122:434–440, 1986*

Prurigo nodularis – idiopathic or associated with lymphoma, peripheral T-cell lymphoma (Lennert's lymphoma) *Cutis 51:355–358, 1993;* Hodgkin's disease *Dermatologica 182:243–246, 1991; Ped Derm 7:136–139, 1990;* gluten sensitive enteropathy *BJD 95:89–92, 1976;* AIDS *JAAD 33:837–838, 1995;* uremia *South Med J 68:138–141, 1975;* depression, liver disease, alpha-1 antitrypsin deficiency *Sustralas J Dermatol 32:151–157, 1991;* malabsorption *Dermatologica 169:211–214, 1984; The Clinical Management of Itching; Parthenon; p.xvi, 2000*

Psoriasis

Pustular eruptions of the palms and soles, chronic recalcitrant – including pustular bacterid, acrodermatitis of Hallopeau, pustular psoriasis

Symmetrical interdigital hyperkeratosis of the hands *Acta DV 73:459–460, 1993*

Terra firme (Diogenes syndrome) *Lancet i:366–368, 1975*

Transient reactive papulotranslucent acrokeratoderma *Australas J Dermatol 41:172–174, 2000*

Tylosis

Xerotic dermatitis (winter hand dermatitis)

## PSYCHOCUTANEOUS DISEASES

Bulemia – callosities of the hands *Am J Psychiatr 5:655, 1985*

## SYNDROMES

Apert's syndrome – circumferential nail at tip of fused digits *Textbook of Neonatal Dermatology, p.509, 2001*

Bannayan–Riley–Ruvulcaba syndrome – acral keratoses *AD 132:1214–1218, 1996*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 9:533–536, 1999; Aust Paediat J 13:114–118, 1977*

Deletion of long arm of chromosome 6 – circumferential nail *Textbook of Neonatal Dermatology, p.509, 2001*

Epidermodysplasia verruciformis – spiny hyperkeratosis of palms and soles *Ped Derm 20:176–178, 2003*

Familial multiple acral mucinous fibrokeratomas – verrucous papules of the fingers *JAAD 38:999–1001, 1998*

Greither's syndrome – poikiloderma of face and extremities; warty keratoses over hands, feet, and legs; plantar keratoderma; normal nails and hair *Hautarzt 9:364–369, 1958*

Haim–Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon–Lefevre syndrome); palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, atrophic nails, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Hereditary (bullous) acrokeratotic poikiloderma of Weary (acrokeratotic poikiloderma) (Kindler's syndrome?) – autosomal dominant – vesiculopustular eruption of hands and feet in infancy and childhood; extensive dermatitis in childhood, persistent poikiloderma sparing face, scalp and ears, keratotic verrucous papules of hands, feet, elbows, and knees *AD 103:409–422, 1971;* pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997; AD 103:409–422, 1971*

Hidrotic ectodermal dysplasia – thick nails

Lipoid proteinosis *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; Int J Derm 39:203–204, 2000; Ped Derm 14:22–25, 1997; AD 132:1239–1244, 1996*

Mal de Meleda

Pachyonychia congenita – subungual hyperkeratosis

Reiter's syndrome – keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp *Cutis 71:198–200, 2003; Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; hyperkeratotic lesions of hands, wrists, feet, and ankles *Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; JAAD 17:332–338, 1987*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Woolly hair, premature loss of teeth, nail dystrophy, acral hyperkeratosis, and facial abnormalities *BJD 145:157–161, 2001*

### TOXIN

Arsenical keratosis

Foreign body granuloma

### TRAUMA

Callosities

Chewing callosities in children ('gnaw warts') *Rook p.892, 1998, Sixth Edition*

Clavus

Occupational callosities *Practitioner 210:507–512, 1973*

### VASCULAR DISORDERS

Angiokeratoma

Lymphostasis verrucosa cutis

## HYPERKERATOTIC PAPULES OF THE NIPPLE

Acanthosis nigricans *JAAD 52:529–530, 2005; JAAD 31:1–19, 1994*

Darier's disease

Epidermal nevus *Paris Med 28:63–66, 1938*

Epidermolytic hyperkeratosis – verrucous plaques of nipples *Rook p.1506, 1998, Sixth Edition*

Erosive adenomatosis (papillary adenomatosis) of the nipple – blood-stained or serous discharge; enlarged nipple; eroded nipple; erythema, ulcer, crusted dermatitis, granular appearance, papule on nipple *JAAD 47:578–580, 2002; JAAD 43:733–751, 2000; JAAD 12:707–715, 1985*

Florid papillomatosis of the nipple *Ghatan p.51, 2002, Second Edition*

Hyperkeratosis of the nipple and areola (hyperkeratosis areolae mammae) *AD 137:1327–1328, 2001; JAAD 41:274–276, 1999; Eur J Dermatol 8:131–132, 1998; AD 126:687, 1990; JAAD 13:596–598, 1985;* estrogen-induced *Cutis 26:95–96, 1980;* associated with *CTCL JAAD 32:124–125, 1995; Int J Derm 29:519–520, 1990;* ichthyosis, ichthyosiform erythroderma, acanthosis nigricans, Darier's disease *Rook p.3157, 1998, Sixth Edition*

Ichthyosiform erythrodermas

Ichthyosis

Keratosis-ichthysosis-deafness (KID) syndrome – acanthosis nigricans-like change of the nipple *AD 123:777–782, 1987;* hypoplasia of nipples *Ped Derm 19:513–516, 2002*

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Lymphomas, including cutaneous T-cell lymphoma *JAAD 41:274–276, 1999; JAAD 37:124–125, 1995*

Nevoid hyperkeratosis of the nipple *JAAD 46:414–418, 2002; BJD 142:382–384, 2000; JAAD 41:325–326, 1999*

Paget's disease of the breast (nipple) *Rook p.1677–1678,2709, 1998, Sixth Edition; Dermatologica 170:170–179, 1985; Surg Gynecol Obstet 123:1010–1014, 1966*

Psoriasis *Rook p.3162, 1998, Sixth Edition*

Seborrheic keratoses *Rook p.3161, 1998, Sixth Edition*

## HYPERPIGMENTATION IN BLASCHKO'S LINES

***JAAD 31:157–190, 1994; J Pediatr 116:581–586, 1990***

Acquired dermal melanocytosis (acquired nevus of Ota-like macules) *JAAD 43:934–936, 2000*

Cutaneous amyloidosis, Partington type (X-linked reticulate pigmentary disorder)

Basaloid follicular hamartoma

Blaschkitis

Chondrodysplasia punctata (X-linked variant) *Ped Derm 13:1–4, 1996*

Chromosome X-autosome translocation

Epidermal nevus – early stage

Goltz's syndrome

Incontinentia pigmenti – third stage *Ped Derm 15:108–111, 1998; Curr Prob Derm VII:143–198, 1995; AD 112:535–542, 1976*

Linear and whorled nevoid hypermelanosis *Ped Derm 10:156–158, 1993; JAAD 19:1037–1044, 1988*

Linear atrophoderma of Moulin – acquired atrophic pigmented band-like lesions following Blaschko's lines *Eur J Dermatol 10:611–613, 2000; Int J Dermatol 39:850–852, 2000; JAAD 38:366–368, 1998; BJD 135:277–279, 1996; Ann DV 119:729–736, 1992*

McCune–Albright syndrome – melanotic macules *BJD 130:215–220, 1994*

Melanocytic nevi, café-au-lait macules, and nevi spili *Acta DV 78:378–380, 1998*

Mosaic 13q11 deletion

Mosaic tetrasomy 12p

Mosaic 15;22

Mosaic trisomy 18

Mosaicism/chimerism

Nevus comedonicus – areas of hyperpigmentation *AD 116:1048–1050, 1980*

Linear porokeratosis *AD 135:1544–1555,1547–1548, 1999; Ped Derm 4:209, 1987; AD 109:526–528, 1974*

Ring 10;45

Ring X/46

Ring X+ring

Scleroderma – linear scleroderma (en coup de sabre) *JAAD 38:366–368, 1998*

Trisomy 14

# HYPERPIGMENTATION, DIFFUSE

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis *Rook p.1782, 1998, Sixth Edition*

Graft vs. host reaction, chronic *AD 134:602–612, 1998*

Lupus erythematosus, systemic *Rook p.1782, 1998, Sixth Edition*

Morphea – generalized morphea – diffuse hyperpigmentation *Rook p.2511, 1998, Sixth Edition*

Pemphigus foliaceus

Rheumatoid arthritis *Rook p.1782, 1998, Sixth Edition*

Scleroderma (progressive systemic sclerosis) – diffuse cutaneous form; CREST syndrome, morphea *Rook p.1782, 2527, 1998, Sixth Edition*

Still's disease *Rook p.1782, 1998, Sixth Edition*

## CONGENITAL GENERALIZED HYPERPIGMENTATION

Carbon baby syndrome – universal acquired melanosis – entire skin deep black *Textbook of Neonatal Dermatology, p.381, 2001; AD 114:775–778, 1978*

Congenital adrenal hyperplasia – congenital generalized hyperpigmentation *JAAD 33:323–326, 1995*

Congenital diffuse pigmentation (Wende–Bauckus)

Epidermal melanocytosis *AD 86:412–418, 1962*

Familial pigmentation with nail dystrophy *AD 71:591–598, 1955*

Familial progressive hyperpigmentation *AD 103:581–8, 1971*

Green baby – due to intrauterine exposure to Evan's blue dye *Am J Perinatol 5:234–235, 1988*

## DRUG-INDUCED

***Cutis 59:77, 1977***

ACTH administration *Rook p.1780, 1998, Sixth Edition*

Adriamycin

Amiodarone *Bolognia p.980, 2003*

Argyria – slate-gray pigmentation of sun-exposed areas (forehead, nose, hands); entire skin may be hyperpigmented *NEJM 351:2349–2350, 2004; Am J Kidney Dis 37:1048–1051, 2001; BJD 104:19–26, 1981; AD 114:373–377, 1978*

Arsenic – brown diffuse macular hyperpigmentation *Ghatan p.231, 2002, Second Edition*

Atabrine (mepacrine) – greenish–yellow pigmentation of face, hands, feet; then diffuse *Am J Med Sci 192:645–650, 1936*

Bismuth – generalized hyperpigmentation resembling argyria and/or blue–black line at the gingival margin *JAAD 39:524–525, 1998; JAAD 37:489–490, 1997*

Bleomycin *AD 107:553–555, 1973*

Busulfan – diffuse *JAAD 9:645–663, 1983;* Addisonian *Arch Int Med 124:66–71, 1969*

Chemotherapy *JAAD 40:367–398, 1999*

Chloramphenicol overdose in infants – gray baby syndrome *Clin Pediatr 21:571–572, 1982*

Chloroquine *Ghatan p.6, 2002, Second Edition*

Chlorpromazine

Chrysiasis

Clofazimine – orange–red hyperpigmentation *JAAD 23:236–241, 1990*

Cyclophosphamide *Bolognia p.978, 2003*

Dactinomycin *Bolognia p.978, 2003*

Daunorubicin *JAAD 46:S1–3, 2002; JAAD 26:255–256, 1992*

5-fluorouracil

Hydantoin

Hydroxychloroquine

Hydroxyurea *JAAD 49:339–341, 2003; AD 135:818–820, 1999; JAAD 36:178–182, 1997; AD 111:183–187, 1975*

Immunosuppressive therapy in transplant recipients – diffuse hyperpigmented xerotic dermatitis *JAAD 44:932–939, 2001*

Lichenoid drug eruption

Methotrexate

Minocycline – diffuse hyperpigmentation *Arthr Rheum 50:3698–3701, 2004; JAAD 3:244–247, 1980*

MSH administration *Ghatan p.6, 2002, Second Edition*

Nitrogen mustard, topical *AD 113:1387–1389, 1977*

Oral contraceptives

Phenolphthalein – diffuse brown pigmentation (fixed drug) *Arch Dermatol Syphilol 32:915–921, 1935*

Phenothazines, including chlorpromazine *AD 90:471–476, 1964*

Phototoxic and photodynamic drug reactions *Rook p.1787, 1998, Sixth Edition; AD 106–148, 1972*

Psoralens (PUVA)

Quinidine *AD 122:1062–1064, 1986*

Quinine *AD 88:419–426, 1963*

Rifabutin

Silver sulfadiazine cream *JAAD 12:1112–1114, 1985*

Tetracosactrin *BJD 82:389–396, 1970*

Zidovudine *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Heavy metals
- Arsenic
- Gold
- Lead
- Mercury
- Bismuth

## INFECTIONS AND INFESTATIONS

AIDS *Tyring p.371, 2002;* lichenoid hyperpigmentation of AIDS

Chronic infection – malaria, kala-azar (black sickness, leishmaniasis) *J Inf Dis 173:758, 1996*, schistosomiasis, tuberculosis *Rook p.1781, 1998, Sixth Edition*

Chronic mucocutaneous candidiasis *J Clin Endocrinol 16:1374, 1956*

Erythrasma

Pediculosis *Rook p.1784, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloidosis – macular amyloid

Langerhans cell histiocytosis – bronze hyperpigmentation *Curr Prob Derm VI:1–24, 1994*

## INFLAMMATORY DISEASES

Eosinophilic fasciitis

## METABOLIC DISEASES

Acromegaly – Addisonian pattern *Rook p.1779,2704, 1998, Sixth Edition*

Addison's disease – diffuse, accentuated in flexures, palmar and plantar creases, nipples, genitalia, buccal mucosa, conjunctiva, vagina *Cutis 76:97–99, 2005; Rook p.1779,2706, 1998, Sixth Edition;* universal melanosis

Adrenalectomy *Ghatan p.6, 2002, Second Edition*

Adrenoleukodystrophy (Siemerling–Creutzfeld disease) *Am J Hum Genet 27:547–553, 1975*

Asthma melanodermica – prior to attack, diffuse darkening of skin and increase in size and number of nevi *AD 78:210–213, 1958*

Cachectic states

Central nervous system disease of diencephalon, substantia nigra – Addisonian pigmentation *Rook p.1781, 1998, Sixth Edition;* after emotional stress *Psychosom Med 19:89–98, 1957*

Congenital dyschromia with erythrocyte, platelet, and tryptophan metabolism abnormalities *JAAD 19:642–655, 1988*
vs. Asymmetric mosaics
- Congenital leukoderma
- Dyschromatosis universalis
- Familial progressive hyperpigmentation *AD 103:581–598, 1971*
- Lentiginosis

Cushing's disease – Addisonian pattern *Rook p.1779,2705, 1998, Sixth Edition; Ped Derm 15:253–258, 1998*

Familial adrenocorticotropin unresponsiveness syndrome (familial glucocorticoid deficiency) *J Pediatr Endocrinol Metab 14:1113–1118, 2001*

Folate deficiency *AD 112:562, 1976*

Gaucher's disease – glucocerebroside; yellow–brown pigmentation diffuse hyperpigmentation, easy tanning, pigmented macules *BJD 111:331–334, 1984*

Graves' disease – Addisonian hyperpigmentation; palms and soles, gingiva, buccal mucosa *JAAD 48:641–659, 2003*

Hemochromatosis – idiopathic (autosomal recessive) or secondary to chronic iron intoxication (Bantu hemachromatosis), chronic liver disease and iron overload, hepatic hemosiderosis in anemia with ineffective erythropoiesis, congenital transferrin deficiency – gray–brown hyperpigmentation especially of face, flexures, and exposed parts *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hepatic disease, including primary biliary cirrhosis

Hyperthyroidism – patchy hyperpigmentation or diffuse Addisonian hyperpigmentation sparing oral mucosa *JAAD 26:885–902, 1992*

Kwashiorkor

Liver disease, chronic – diffuse muddy gray hyperpigmentation; primary biliary cirrhosis *Rook p.2725, 1998, Sixth Edition*

Lysosomal storage disease – anterior and posterior dermal melanocytosis in Hurler's disease, GM, gangliosidosis type 1, Niemann–Pick disease, Hunter's disease, alpha-mannisidosis *AD 139:916–920, 2003*

Malabsorption – Addisonian hyperpigmentation or local pigmentation of face, neck, trunk *Rook p.1784,2653, 1998, Sixth Edition*

Malnutrition

Megaloblastic anemia *JAAD 12:914–917, 1985*

Myxedema

Nelson's syndrome – post-adrenalectomy diffuse hypermelanosis *Ann Intern Med 52:560–569, 1960*

Niemann–Pick disease – acid sphingomyelinase; diffuse pigmentation, especially of face *Rook p.1778–1779, 1998, Sixth Edition*

Ochronosis – generalized hyperpigmentation with accentuation over cheeks, forehead, axillae and genitalia, buccal mucosa, nails *Rook p.2649, 1998, Sixth Edition*

Pellagra – niacin deficiency; Addisonian hyperpigmentation; accentuated on face, hands *Rook p.1783, 1998, Sixth Edition*

Pernicious anemia (vitamin $B_{12}$ deficiency) – diffuse or mottled hyperpigmentation of face, hands, feet, and scrotum *Cutis 71:127–130, 2003; J Dermatol 28:282–285, 2001; JAAD 15:1263–1274, 1986; AD 12:896–899, 1986*

Porphyria cutanea tarda *Rook p.2590, 1998, Sixth Edition;* variegate porphyria *Rook p.2586–2587, 1998, Sixth Edition;* hepatoerythropoietic porphyria *AD 116:307–313, 1980*

Renal failure, chronic – muddy brown hyperpigmentation *Rook p.1782,2730, 1998, Sixth Edition*

Scurvy – Addisonian *Rook p.1784, 1998, Sixth Edition*

Sprue *Ghatan p.6, 2002, Second Edition*

Vitamin A deficiency *JAAD 41:322–324, 1999*

Whipple's disease *Rook p.2654, 1998, Sixth Edition*

Wilson's disease

## NEOPLASTIC DISEASES

Acquired generalized lentiginosis

ACTH and MSH producing tumors (pituitary and others) *BJD 126:286–289, 1992*

Carcinoid syndrome – flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *Rook p.1780, 1998, Sixth Edition; AD 77:86–90, 1958*

Epidermal nevus *JAAD 10:1–16, 1984*

Extrapituitary neuroendocrine melanoderma

Hodgkin's disease – Addisonian hyperpigmentation *Rook p.1781, 1998, Sixth Edition*

Lymphoma, including cutaneous T-cell lymphoma – diffuse progressive hyperpigmentation *JAAD 16:257–260, 1987*

Melanocytic nevus – giant congenital nevus

Melanoma – metastatic; diffuse melanosis; slate gray hyperpigmentation *Dermatology 197:338–342, 1998; JAAD 35:295–297, 1996; JAAD 20:261–266, 1989*

Mongolian spot, generalized *J Dermatol 22:330–333, 1995*

Neurocutaneous melanosis

Nevus sebaceus

Pheochromocytoma – Addisonian pigmentation *Rook p.1780, 1998, Sixth Edition*

Thymic carcinoids – Addisonian pigmentation *Cancer 71:106–111, 1993*

## PARANEOPLASTIC DISORDERS

Adenocarcinoma of the lung with ectopic adrenocorticotropic hormone syndrome *Arch Int Med 142:1387–1389, 1982*

Cachectic state associated with neoplasms *Rook p.1781, 1998, Sixth Edition*

Paraneoplastic corticotropin production *Ann Hematol 82:448–451, 2003*

## PHOTODERMATOSES

Bronze baby syndrome – gray–brown pigmentation after phototherapy for hyperbilirubinemia in neonates; requires liver disease; confused with central cyanosis, carbon baby syndrome, gray baby syndrome *Textbook of Neonatal Dermatology, p.110, 2001; JAAD 12:325–328, 1985; Ped Res 17:327–330, 1983; J Pediatr 88:461–464, 1976; JAMA 208:1703, 1969*

Phototherapy of neonatal jaundice – darkening of treated areas *J Pediatr 82:1042–1043, 1973*

Phytophotodermatitis

Tanning – immediate and prolonged tanning *Rook p.1786–1787, 1998, Sixth Edition*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, generalized *Ped Derm 18:213–216, 2001*

Confluent and reticulated papillomatosis

Disseminated dermal melanocytosis *BJD 101:197–205, 1979*

Epidermolysis bullosa simplex with mottled pigmentation; may be generalized or of neck, upper trunk, arms and leg with or without keratoderma (punctate keratoses); cutaneous atrophy, nail dystrophy *Clin Genet 15:228–238, 1979*

Human chimerae with pigment anomalies

Idiopathic eruptive macular hyperpigmentation *Ped Derm 13:274–277, 1996*; *JAAD 11:159, 1984*

Melanism – autosomal dominant; diffuse hyperpigmentation, especially of face and flexures *Bull Acadr Med Belg 13:397–428, 1948*

## SYNDROMES

Acquired generalized lentiginosis *Eur J Dermatol 8:183–185, 1998*

Berlin syndrome – mottled pigmentation and leukoderma

Breast hypertrophy, erythema annulare centrifugum, generalized melanoderma, verrucae vulgaris and SLE *Acta DV* (*Stockh*) *52:33, 1972*

Costello syndrome – diffuse hyperpigmentation; warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995*; *Aust Paediat J 13:114–118, 1977*

Cronkhite–Canada syndrome – diffuse hyperpigmentation with accentuationn of face, neck, extremities, palms and palmar aspects of fingers *Ann DV 112:951–958, 1985*

Degos–Touraine syndrome – incontinentia pigmenti with poikiloderma in photodistribution, bullae of face, extremities; chronic erythroderma with subsequent hyperpigmentation *Soc Gr Dermatol Syph 68:6–10, 1961*

Dermatopathia pigmentosa reticularis *J Dermatol 24:266–269, 1997*

Diffuse pigmentation of trunk and neck with subsequent white macules *Proc R Soc Med 48:179–180, 1955*

Diffuse pigmentation with macular depigmentation of trunk with reticulate pigmentation of neck *Hautarzt 6:458–460, 1955*

Dyschromatosis symmetrica hereditaria

Dyschromatosis universalis hereditaria *Ann DV 128:136–138, 2001*

Dyskeratosis congenita – X-linked recessive; reticulate hyperpigmentation (poikiloderma) of neck, chest, thighs; nail dystrophy, oral, ocular, and anal leukoplakia *J Med Genet 25:843–846, 1988*

Elejalde syndrome (neuroectodermal lysosomal disease) – bronze skin, silver hair *AD 135:182–186, 1999*

Epidermal melanocytosis – congenital generalized hyperpigmentation *AD 86:412–418, 1962*

Epidermolysis bullosa herpetiformis with mottled pigmentation and palmoplantar keratoderma *AD 122:900–908, 1986*

Familial pigmentation with nail dystrophy – congenital generalized hyperpigmentation *AD 71:591–598, 1955*

Familial progressive hyperpigmentation (congenital generalized hyperpigmentation, hereditary universal melanosis) *AD 125:1442–1443, 1989; AD 103:581–588, 1971*

Fanconi's syndrome (pancytopenia with congenital defects) – generalized olive-brown hyperpigmentation, especially of lower trunk, flexures, and neck with depigmented macules (rain drop-like); hypoplastic anemia, slender build, short broad thumbs, tapered fingers, microcephaly, hypogonadism *Semin Hematol 4:233–240, 1967*

Felty's syndrome

Franceschetti–Jadassohn–Naegeli syndrome – generalized reticulated hyperpigmentation, accentuated in neck and axillae; palmoplantar keratoderma; hypohidrosis *JAAD 10:1–16, 1984*

Hurler's (MPS I), Hurler–Scheie, Scheie syndromes – generalized hyperpigmentation and thickening of skin *Ped Derm 21:154–159, 2004*

Incontinentia pigmenti

Koraxitrachitic syndrome – self-healing collodion baby with residual dappled atrophy *Am J Med Genet 86:454–458, 1999*

Lawrence–Seip syndrome (lipoatrophic diabetes) *J Dermatol 19:246–249, 1992; Acta DV 66:173–174, 1986*

Neurocutaneous melanosis

Neurofibromatosis type I

Noonan's syndrome – diffuse hyperpigmentation following bilateral adrenalectomy *Rook p.1763, 1998, Sixth Edition*

Pachyonychia congenita with cutaneous amyloidosis and rippled hyperpigmentation *JAAD 16:935–940, 1987*

Pachyonychia congenita, Tidman–Wells–MacDonald type

Parana hard skin syndrome (stiff skin syndrome) *Ped Derm 20:339–341, 2003; Ped Derm 19:67–72, 2002*

Phakomatosis pigmentovascularis

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – generalized hyperpigmentation, osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism, cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, morphea-like changes, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998 ; JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985; AD 124:695–698, 1988*

Polyglandular autoimmune syndrome type II – Schmidt's syndrome

Proteus syndrome

Symmetric acropigmentation of Dohi (Addison's disease, thyroid disease with or without diabetes) *Cutis 59:77–80, 1997*

Tuberous sclerosis – diffuse bronzing

Universal dyschromatosis, small stature, and high tone deafness

Werner's syndrome (pangeria) – diffuse hyperpigmentation *Medicine 45:177–221, 1966*

Winchester syndrome – thickening, hyperpigmentation and hypertrichosis, gum and lip hypertrophy, corneal opacities, musculoskeletal abnormalities *Ped Derm 21:154–159, 2004*

Xeroderma pigmentosum *Rook p.1779, 1998, Sixth Edition*

### TOXINS

Arsenic – diffuse pigmentation, especially of trunk; with depigmentation yielding rain-drop appearance *Rook p.1785, 1998, Sixth Edition*

Eosinophilia myalgia syndrome – L-tryptophan

## HYPERPIGMENTATION, PARONYCHIAL

AIDS

Arsenic poisoning – at 3 months *BJD 149:757–762, 2003*

AZT

S/P biopsy

Bowen's disease

Chemotherapy

Congenital nevus

Ethnic pigmentation

Laugier–Hunziker syndrome

Malnutrition

Melanoma – Hutchinson's sign

Minocycline

Peutz–Jegher syndrome

Pseudo–Hutchinson's sign

Radiation therapy

Regressing nevoid melanosis of childhood

Subungual hematoma

Trauma

## HYPERPIGMENTATION, PATCHY

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – pigmented poison ivy; pigmentation due to optical whiteners *BJD 81:799–803, 1976;* azo-dye coupling agents *Contact Dermatitis 2:129–134, 1976;* fragrances, fungicides *Rook p.754, 1998, Sixth Edition*

Dermatitis herpetiformis *Rook p.1890, Sixth Edition*

Dermatomyositis

Graft vs. host disease, chronic – poikilodermatous hyperpigmentation *BJD 92:589, 1975;* hyperpigmented macules with scale (leopard skin) *AD 138:924–934, 2002*

Lupus erythematosus – melanonychia *JAAD 47:S187–188, 2002;* neonatal lupus erythematosus; discoid LE

Morphea – linear morphea; morphea profunda with overlying hyperpigmentation *Ped Derm 8:292–295, 1991*

Scleroderma, CREST syndrome

Sjögren's syndrome *Ghatan p.175, 2002, Second Edition*

### CONGENITAL LESIONS

Congenital melanosis and hyperpigmentation *Ped Derm 15:290–292, 1998*

Congenital smooth muscle hamartoma

Hyperpigmentation of vulva, scrotum, linea nigra, and nails *Eichenfeld p.97, 2001*

Normal racial linear brown pigmented bands of nails *Ghatan p.78, 2002, Second Edition*

Pigmentary mosaicism – phylloid mosaic pigmentation

Universal acquired melanosis (carbon baby)

### DEGENERATIVE DISORDERS

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996*

### DRUGS

ACTH administration

Actinomycin D – brown nails *Ghatan p.78, 2002, Second Edition*

Adriamycin *Ghatan p.6, 2002, Second Edition*

Amiodarone – blue–gray pigmentation of sun-exposed areas; also yellow–brown pigmentation of the cornea *JAAD 39:524–525, 1998*

Amodaquine

Anthralin – brown or orange nails *Ghatan p.78, 2002, Second Edition*

Antimalarials – blue–gray pigmentation of face, neck, forearms, lower legs *AD 88:419–426, 1963;* yellow and blue pigmentation of pretibial areas and hard palate *JAAD 39:524–525, 1998;* blue–black pigmentation of skin, face, hard palate, subungually *Rook p.3383, 1998, Sixth Edition*

Atabrine (mepacrine) – greenish–yellow pigmentation of face, hands, feet; then diffuse *Am J Med Sci 192:645–650, 1936*

AZT – nail and mucous membrane hyperpigmentation *Bolognia p.980, 2003*

BCNU topical – hyperpigmentation at site of application *Bolognia p.978, 2003*

Birth control pills

Bismuth – generalized hyperpigmentation resembling argyria and/or blue–black line at the gingival margin *JAAD 39:524–525, 1998*

Bleomycin – flagellate hyperpigmentation *JAAD 39:524–525, 1998;* focal hyperpigmentation on elbows, knees, and hands *AD 107:553–555, 1973;* palmar creases *JAAD 40:367–398, 1999;* limited to striae *JAAD 28:503–505, 1993;* brown nails *Ghatan p.78, 2002, Second Edition*

Busulfan *Bolognia p.978, 2003; Rook p.3383, 1998, Sixth Edition*

Capecitabine acral dysesthesia syndrome – hyperpigmentation and hyperkeratosis of the dorsal and palmar surfaces of the hands and feet of blacks *Cutis 73:101–106, 2004*

Carbidopa – darkening of hair *Clin Exp Dermatol 14:317–318, 1989*

Carotene *Rook p.3383, 1998, Sixth Edition*

Chemotherapy – under adhesive bandages after chemotherapy – linear, annular and diffuse hyperpigmentation *Ped Derm 8:231–235, 1991*

Chemotherapy-induced eccrine neutrophilic hidradenitis *JAAD 40:367–398, 1999*

Chloroquine

Chlorpromazine – slate-gray hyperpigmentation in sun-exposed areas *JAAD 39:524–525, 1998;* longitudinal pigment bands in neonates of mothers ingesting chlorpromazine *Textbook of Neonatal Dermatology, p.512, 2001*

Clofazamine – initially red, then violaceous brown pigmentation in lesional areas *BJD 81:794–795, 1969*

Coal tar, topical

Cyclophosphamide – black longitudinal or transverse bands of the nails, brown lines on the teeth, or widespread hyperpigmentation or limited to palms and soles *JAAD 39:524–525, 1998*

Cyclosporine – hair darkening; hyperpigmentation of nails, palms and soles, teeth *Bolognia p.978, 2003; Int J Derm 38:229–230, 1999*

Daunorubicin *Rook p.3383, 1998, Sixth Edition*

Desipramine *J Clin Psychopharmacol 13:76–77, 1993*

Diltiazem – reticulated, blue–gray, photodistributed hyperpigmentation in black patients *Cutis 73:239–240, 2004; JAAD 46:468–469, 2004; AD 137:179–182, 2001*

Doxorubicin – gray to black horizontal nail bands, hyperpigmentation of palmar creases, buccal mucosa, and face *JAAD 39:524–525, 1998*

Doxycyline – brown nails *Ghatan p.78, 2002, Second Edition*

Etretinate – darkening of hair *JAAD 34:860, 1996*

Fixed drug eruptions *Rook p.1785–1786, 1998, Sixth Edition*

5-fluoruracil – supravenous hyperpigmentation *JAAD 39:524–525, 1998*

Gold (chrysiasis) – slate-blue hyperpigmentation around the eyes and in sun-exposed areas *JAAD 39:524–525, 1998*; oral gold with laser therapy *AD 131:1411–1414, 1995*

Heavy metals

Hydantoin – melasma-like *Dermatologica 129:121–139, 1964*

Hydroxychloroquine

Hydroxyurea – nail pigmentation (brown nail discoloration) *AD 135:818–820, 1999;* longitudinal and/or diffuse *JAAD 47:146–147, 2002;* hyperpigmentation over pressure areas and back *Bolognia p.978, 2003; AD 111:183–187, 1975*

Imipramine – slate-gray hyperpigmentation in sun-exposed areas *JAAD 39:524–525, 1998*

Interferon and ribavirin therapy *BJD 149:390–394, 2003*

Intramuscular iron injections

Iron – intramuscular iron injections

Isoniazid

Ketoconazole – brown nails *Ghatan p.78, 2002, Second Edition*

Latanaprost (prostaglandin $F_2$ analog) eyedrops – eyelash darkening *Arch Ophthalmol 115:1206–1208, 1997*

Mechlorethamine, topical *Rook p.3383, 1998, Sixth Edition*

Melphalan – brown nails *Ghatan p.78, 2002, Second Edition*

Methotrexate *Rook p.3383, 1998, Sixth Edition*

Minocycline – gray or blue–gray hyperpigmentation in areas of previous inflammation, on mucous membranes, and pretibial areas *JAAD 44:342–347, 2001; JAAD 39:524–525, 1998;* brown nails *Ghatan p.78, 2002, Second Edition*

Mithramycin – prominent erythema of face followed by hyperpigmentaion *JAAD 39:524–525, 1998*

Mitomycin *Rook p.3383, 1998, Sixth Edition*

Nitrogen mustard – brown nails *Ghatan p.78, 2002, Second Edition*

*p*-amino benzoic acid – darkening of hair *Rook p.3395, 1998, Sixth Edition*

Pefloxacin – blue–black pigmentation of legs *AD 131:856–857, 1995*

Phenothiazines – blue–gray or brown photopigmentation *Rook p.3383, 1998, Sixth Edition*

Psoralen – brown nails *Ghatan p.78, 2002, Second Edition*

PUVA – darkening of hair *BJD 146:325–329, 2002*

Quinine – hyperpigmentation of arms *Cutis 75:114–116, 2005*

Radiation recall – erythema, vesiculation, erosions, hyperpigmentation; dactinomycin and doxorubicin *Mayo Clin Proc 55:711–715, 1980;* edatrexate, melphalan, etoposide, vinblastine, bleomycin, fluorouracil, hydroxyurea, methotrexate *Rook p.3469, 1998, Sixth Edition*

Stem cell factor – subcutaneous injections of human recombinant stem cell factors *Cutis 71:149–152, 2003; JAAD 33:577–583, 1995*

Sulfasalazine – reversible hyperpigmentation *Am J Gastroenterol 87:1654–1657, 1992*

Sulfonamides – brown nails *Ghatan p.78, 2002, Second Edition*

Sulfones

Tamoxifen – darkening of hair *BJD 132:483–484, 1995*

Tetracycline – teeth *Rook p.3051, 1998, Sixth Edition*; brown nails *Ghatan p.78, 2002, Second Edition*

Thiotepa *Rook p.3383, 1998, Sixth Edition;* pigmentation under bandages *AD 125:524–527, 1989*

Verapamil – darkening of hair *Lancet 338:1520, 1991*

Zidovudine *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Accidental tattoos

Argyria – silvery or slate-gray pigmentation of sun-exposed areas (forehead, nose, hands); may be generalized *Rook p.1794, 1998, Sixth Edition; Am J Kidney Dis 37:1048–1051, 2001; BJD 104:19–26, 1981; AD 114:373–377, 1978;* exogenous argyria *BJD 144:191–192, 2001*

Chloracne – halogenated aromatic hydrocarbons – chloronaphthalenes, chlorobiphenyls, chlorobiphenyl oxides used as dielectrics in conductors and insulators, chlorophenols in insecticides, fungicides, herbicides, and wood preservatives *Am J Ind Med 5:119–125, 1989*

Cigarette smoking – brown teeth, fingers *Rook p.3051, 1998, Sixth Edition*

Clothing dermatitis – pigmentation in flexures *Rook p.1794, 1998, Sixth Edition*

Coal tar products – pitch, asphalt, creosote – diffuse melanosis of exposed skin; evolves to atrophy, telangiectasia, lichenoid papules, follicular keratosis *Rook p.1791, 1998, Sixth Edition*

Collier's stripes

Copper – green hair from swimming-pool algicides, copper household pipes *Cutis 56:37–40, 1995;* green skin – copper bracelet, copper eyeglass frames

Drug abuse *NEJM 277:473–475, 1967;* soot tattooing *NY State J Med 68:3129–3134, 1968*

Ferric sulfate, ferric chloride – red–brown tattoo *Rook p.1813, 1998, Sixth Edition*

Formaldehyde – gray nails *Ghatan p.78, 2002, Second Edition*

Gentian violet – purple nails; gray nails *Ghatan p.79, 2002, Second Edition*

Green hair – copper exposure

Herbal potions *Int J Dermatol 30:186–189, 1991*

Hydroquinone – topical; exogeneous ochronosis; gray nails *Ghatan p.78, 2002, Second Edition*

Iodine – brown nails *Ghatan p.78, 2002, Second Edition*

Jewelry cleanser – hypo- and hyperpigmentation

Mercury – skin lightening creams in skin folds and eyelids *JAAD 39:524–525, 1998; Int J Dermatol 30:186–189, 1991*

Nail polish, nail hardeners – brown or orange hyperpigmentation *Ghatan p.78, 2002, Second Edition*

Ochronosis, exogenous – due to benzene-containing substances, hydroquinone, mercury, phenol, quinine injections, resorcinol, antimalarials *Am J Clin Dermatol 2:213–217, 2001; JAAD 42:869–871, 2000; JAAD 39:527–544, 1998; Cutis 62:11–12, 1998; BJD 93:613–622, 1975;* hydroquinones – speckled hyperpigmentation *JAAD 29:662–664, 1993*

Riehl's melanosis – pigmented contact dermatitis due to fragrances *JAAD 21:1057–1060, 1989;* hyperpigmentation of face (forehead and temples), chest, neck, scalp, hands, forearms – tar compounds and cosmetics *Rook p.1790, 1998, Sixth Edition*

Silver nitrate – gray nails *Ghatan p.78, 2002, Second Edition*

Stain

Tattoo, accidental; tattoo pigment fanning – periorbital hyperpigmentation *Cutis 68:53–55, 2001*

Tea – brown stained teeth *Rook p.3051, 1998, Sixth Edition*

## INFECTIONS AND INFESTATIONS

AIDS – photodermatitis, lichenoid dermatitis

*Aspergillus* – green nails *Ghatan p.78, 2002, Second Edition*

*Candida*

*Epidermophyton floccosum* – green nails *Ghatan p.78, 2002, Second Edition*

Erythrasma – intertriginous and perigenital; *Corynebacterium minutissimum*; red to brown irregularly shaped and sharply marginated scaly and slightly creased patches of groin, axillae, intergluteal, submammary flexures, toe webs coral-red fluorescence with Wood's light examination due to coproporphyrin; toe clefts are most frequent location; acanthosis nigricans and normal follicular openings of face and trunk may show coral pink fluorescence *Rev Infect Dis 4:1220–1235, 1982*

HTLV-1 – hyperpigmented facial dermatitis

Leishmaniasis – kala-azar; *Leishmania donovani* – pedal edema; primary ulcer; hyperpigmented skin of face, hands, feet abdomen *Rook p.1419, 1998, Sixth Edition;* post-kala-azar leishmaniasis

Lyme borreliosis *(Borrelia burgdorferi)* – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees *BJD 121:263–269, 1989:Int J Derm 18:595–601, 1979*

Millipede defensive secretions – mahogany pigmentation *Cutis 67:452, 2001; Ped Derm 8:25–27, 1991;* periorbital hyperpigmentation *JAAD 50:819–842, 2004*

Onchocerciasis – inflammatory rash with hyperpigmentation (mal morado) *Rook p.1383, 1998, Sixth Edition*

Pediculosis – body louse (Vagabond's disease)

Pinta – tertiary (late phase) – gray, steel, ashy, bluish spotted hyperpigmentation *Rook p.1274, 1998, Sixth Edition*

Portuguese man-of-war sting

Pseudomonas – green nails *Ghatan p.78, 2002, Second Edition*

Rubella, congenital – hyperpigmentation of forehead, cheeks, umbilical area; seborrhea, cutis marmorata *JAAD 46:161–183, 2002; J Pediatr 71:311–331, 1967*

Syphilis, secondary – diffuse hyperpigmentation of neck and shoulders with depigmented macules (mottled) *Rook p.1786, 1998, Sixth Edition;* brown nails *Ghatan p.78, 2002, Second Edition*

Tinea corporis

Tinea nigra palmaris – *Phaeoannelomyces werneckii Ped Derm 20:315–317, 2003; AD 11:904–905, 1975*

Tinea versicolor *Semin Dermatol 4:173–184, 1985*

Yaws

## INFILTRATIVE DISEASES

Amyloidosis, macular *BJD 145:851–852, 2001; Rook p.2628–2630, 1998, Sixth Edition*; primary cutaneous amyloidosis – periorbital hyperpigmentation *Clin Exp Derm 8:195–197, 1983;* lichen and macular amyloidosis *AD 133:381–386, 1997; BJD 84:199–209, 1971;* primary localized cutaneous amyloid *AD 123:1557–1562, 1987*

Mastocytosis – urticaria pigmentosa *Ghatan p.6, 2002, Second Edition*

## INFLAMMATORY DISEASES

Celiac disease – darkening of hair *BJD 146:325–329, 2002*

Interstitial granulomatous dermatitis – hyperpigmented and/or poikilodermatous plaques *JAAD 46:892–899, 2002; Am J Dermatopathol 21:320–323, 1999*

Post-inflammatory hyperpigmentation – in blacks especially in acne vulgaris, dermatitis, lichenification, sarcoidosis, psoriasis, CTCL, lichen planus, fixed drug eruptions, lupus erythematosus *Rook p.1786, 1998, Sixth Edition; Cutis 32:352–360, 1983;* post-inflammatory darkening of hair *BJD 146:325–329, 2002;* vulvar *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.189*

Sarcoid *Am J Med 35:67–89, 1963*

## METABOLIC DISEASES

Addison's disease – darkening of hair and nevi *Rook p.1779,2706, 1998, Sixth Edition;* perianal hyperpigmentation *Rook p.3179, 1998, Sixth Edition;* linear brown hyperpigmention of nails *Ghatan p.78, 2002, Second Edition*

Androgen excess – hyperpigmentation of areolae, axillae, external genitalia, perineum *Ghatan p.165, 2002, Second Edition*

Carcinoid syndrome – pellagrous dermatitis (skin fragility, erythema, and hyperpigmentation over knuckles), flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *BJD 152:71–75, 2005; AD 77:86–90, 1958*

Cirrhosis – circumscribed areas of hyperpigmentation with accentuation of freckling, areolar pigmentation, perioral and periorbital pigmentation *JAAD 43:1–16, 2000*

Cryoglobulinemia – reticulated pigmentation due to resolved livedo reticularis

Fanconi's anemia

Folic acid deficiency – hyperpigmentation of the flexures; finger and palmar creases, knuckles; spotty pigmentation of palms and soles *JAAD 12:914–917, 1985*

Gaucher's disease – melasma-like pigmentation of face, neck, hands; symmetric pigmentation of lower legs with sharp lower margin and irregular upper margin; hyperpigmented wedge-shaped thickening of bulbar conjunctiva *Rook p.1778–1779, 1998, Sixth Edition*

Hemochromatosis *Medicine 34:381–430, 1955*

Hemolytic anemia – hyperpigmentation and hemosiderosis of lower legs *Rook p.1783,1794, 1998, Sixth Edition*

Hyperthyroidism – patchy hyperpigmentation or diffuse Addisonian hyperpigmentation sparing oral mucosa *JAAD 26:885–902, 1992;* hyperpigmentation of eyelids (Jellinek's sign); melasmic hyperpigmentation *BJD 76:126–139, 1964*

Idiopathic thrombocytopenic purpura with iron overload – legs

Kwashiorkor – facial pigmentation; vitamin B complex deficiency, folic acid deficiency, iron deficiency, tryptophan *Cutis 67:321–327, 2001*

Liver disease, chronic – diffuse muddy gray hyperpigmentation with accentuation in perioral, periorbital, and areolar regions *Rook p.2725, 1998, Sixth Edition*

Malabsorption

Malnutrition – brown bands of nails *Ghatan p.78, 2002, Second Edition*

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; Rook p.2306, 1998, Sixth Edition; JAAD 18:530–537, 1988*

Nutritional deficiencies, including vitamin $B_{12}$ *Cutis 61:229–232, 1998*

Ochronosis – generalized hyperpigmentation with accentuation over cheeks, forehead, axillae, and genitalia, buccal mucosa, nails; chromhidrosis *Rook p.2649, 1998, Sixth Edition;* brown eyelids *Rook p.2985, 1998, Sixth Edition*

Pancreatic panniculitis – heal with post-inflammatory hyperpigmented spots *Rook p.2414,2727, 1998, Sixth Edition; JAAD 34:362–364, 1996; Arthritis Rheum 22:547–553, 1979; Am J Gastroenterol 83:177–179, 1988*

Pellagra – after acute photosensitivity subsides, dusky red–brown hyperpigmentation remains *Rook p.2659, 1998, Sixth Edition*

Pernicious anemia (vitamin $B_{12}$ deficiency) – diffuse or mottled of face, hands, and feet *J Dermatol 28:282–285, 2001;* – hyperpigmentation of the flexures; finger and palmar creases, knuckles; pigmented bands of nails *AD 122:896–899, 1986*

Porphyrias – hereditary coproporphyia, congenital erythropoietic porphyria *Semin Liver Dis 2:154–63, 1982*; porphyria cutanea tarda – hyperpigmentation limited to the legs *AD 125:297–299, 1989;* darkening of hair *BJD 146:325–329, 2002;* variegate porphyria *Wien Klin Wochenschr 50:830–831, 1937; BMJ ii:89, 1955;* hepatoerythropoietic porphyria *AD 116:307–313, 1980*

Pregnancy – hyperpigmentation including melasma, linea nigra, neck, nipples, anogenital skin *Rook p.1780,3269, 1998, Sixth Edition;* brown nails *Ghatan p.78, 2002, Second Edition*

Scurvy

Sickle cell anemia – hemosiderin deposition of legs *Rook p.1794,2736, 1998, Sixth Edition*

Thalassemia – leg ulcers with shiny pigmented skin *Rook p.2266, 1998, Sixth Edition*

Vitamin $B_6$ deficiency – scrotal hyperpigmentation *Ped Derm 16:95–102, 1999*

## NEOPLASTIC DISEASES

Anal intraepithelial neoplasia – perianal hyperpigmented patches, white and/or red plaques *JAAD 52:603–608, 2005*

Becker's nevus *Arch Dermatol Syphilol 60:155–160, 1949*

Benign vulvar melanosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.187, 1998*

Blue nevus, cellular – periorbital pigmentation *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.89, 1999*

Bowen's disease – linear longitudinal melanonychia *JAAD 39:490–493, 1998; AD 129:1043–1048, 1993;* vulvar Bowen's disease *Ann DV 109:811–812, 1982; Cancer 14:318–329, 1961*

Breast cancer – pigmented breast carcinoma *AD 125:536–539, 1989*

Café au lait macule
- Ataxia telangiectasia *JAAD 10:431–438, 1984*
- Bloom's syndrome
- Cafe au lait macules and pulmonary stenosis – Watson's syndrome
- Cafe au lait macules and ring chromosome 11
- Cafe au lait macules and temporal dysrhythmia (Verner's syndrome)
- Cardio-facio-cutaneous syndrome *AD 129:446–447, 1993*
- McCune-Albright syndrome
- Neurofibromatosis
  - Segmental
  - Solitary

Dermal dendrocyte hamartoma – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004*

Eccrine nevus – macular or depressed brown patch *JAAD 51:301–304, 2004*

Ephelides

Eruptive vellus hair cysts

Fat-storing hamartoma of dermal dendrocytes – patch of lumbosacral hyperpigmentation *AD 126:794–796, 1990*

Kaposi's sarcoma in AIDS – flat lesions *JAAD 38:143–175, 1998; JAAD 22:1237–1250, 1990*

Large-cell acanthoma – macular hyperpigmentation *Cutis 47:97–100, 1991*

Large plaque parapsoriasis

Lentigines – generalized lentiginosis, zosteriform, eruptive, LEOPARD syndrome, central facial, Peutz–Jeghers syndrome, Cronkhite–Canada syndrome; genital lentigines in the presence of lichen sclerosus *JAAD 50:690–694, 2004*

Lentigo maligna

Leukemia cutis mimicking stasis dermatitis *Cutis 35:47–8, 1985*

Lymphoma – cutaneous T-cell lymphoma *Dermatology 192:360–363, 1996*; evolving from pigmented purpuric eruptions; $CD8^+$ CTCL – focal hyperpigmentation *AD 138:199–203, 2002;* lymphomatoid granulomatosis (angiocentric lymphoma) – red, brown, or violaceous plaques with epidermal atrophy and purpura *JAAD 20:571–578, 1989; AD 124:571–576, 1988;* Hodgkin's disease – Addisonian pigmentation of nipples, axillae, groin; widespread or patchy *Rook p.2392, 1998, Sixth Edition*

Melanoacanthoma

Melanocytic agminated nevus of the sole *BJD 146:154, 2002*

Melanocytic nevi – melanocytic nevi of genitalia in the presence of lichen sclerosus *JAAD 50:690–694, 2004;* congenital melanocytic nevus epidermolysis bullosa nevi *BJD 153:97–102, 2005*

Melanoma – *in situ* melanoma; lentigo maligna; acral lentiginous melanoma; melanoma of the vulva *JAAD 50:293–298, 2004; Int J Gynecol Cancer 11:359–364, 2001; Cancer 86:1273–1284, 1999;* metastatic melanoma – periorbital gray pigmentation *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.83, 1999*

Metastatic breast carcinoma – brown nails *Ghatan p.78, 2002, Second Edition*

Mongolian spot *Eichenfeld p.96, 2001; Rook p.1791–1792, 1998, Sixth Edition*

Neurilemmomatosis – nodule *JAAD 10:344–354, 1984*

Nevus of Ito (nevus fuscoceruleus acromio-deltoideus) *Rook p.1731–1732, 1998, Sixth Edition; Tohou J Exp Med 60:10–20, 1954*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *BJD 67:317–319, 1955*

Nevus spilus (speckled and lentiginous nevus) *Ped Derm 13:250–252, 1996; AD 114:895–896, 1978*

Paget's disease – vulvar pigmented extramammary Paget's disease; hyperpigmented plaque *BJD 142:1190–1194, 2000*

Pagetoid dyskeratosis *JAAD 50:483–484, 2004*

Plexiform neurofibroma – patchy hyperpigmentation of overlying skin *Textbook of Neonatal Dermatology, p.402, 2001*

Seborrheic keratosis

Smooth muscle hamartoma *JAAD 46:477–490, 2002*

Vulvar lentigines *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.187, 1998*

Waldenström's macroglobulinemia – red–brown or violaceous macules – neoplastic B-cell infiltrates *AD 120:778–781, 1984*

## PHOTODERMATOSES

Actinic lichen planus – hyperpigmented patches of the face *AD 135:1543–1548, 1999;* tropical lichen planus (lichenoid melanodermatitis) *BJD 101:651–658, 1979;* mimicking melasma *JAAD 18:275–278, 1988*

Berloque dermatitis *AD 90:572–576, 1964*

Ephelides (freckles) – autosomal dominant *Rook p.1771, 1998, Sixth Edition*

Melasma – upper lip, cheeks, forehead, chin *Rook p.3383, 1998, Sixth Edition; JAAD 15:894–899, 1986; JAAD 4:698–710, 1981*

Phototherapy of neonatal jaundice – darkening of treated areas *J Pediatr 82:1042–1043, 1973*

Phytophotodermatitis, including lime phototoxicity *Rook p.1787, 1998, Sixth Edition*

Poikiloderma of Civatte *Ann Dermatol Syphilol 9:381–420, 1938*

Sunburns

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *Am J Public Health 84:1839–1842, 1994*

Acquired dermal melanocytosis – blue–black *JAAD 45:609–613, 2001*

Acrogeria – mottled hyperpigmentation of acral skin *BJD 142:178–180, 2000*

Acromelanosis – black patients *JAAD 2:128–131, 1980; Cutis 5:1119–1120, 1969*

Acromelanosis progressiva *AD 86:412–418, 1962*

Atrophoderma of Moulin – acquired atrophic pigmented band-like lesions following Blaschko's lines *JAAD 49:492–498, 2003; Ann DV 119:729–736, 1992*

Atrophoderma of Pasini and Pierini *Dermatol 190:203–206, 1995; JAAD 30:441–446, 1994; Int J Derm 10:643–645, 1984*

Axillary apocrine chromhidrosis *AD 124:494–496, 1988*

Chromhidrosis – black, violet, blue, brown, yellow, green, rarely red *Rook p.2001, 1998, Sixth Edition*

Confluent and reticulated papillomatosis

Cutis tricolor – hyper- and hypopigmented lesions with a background of normal skin *Eur J Pediatr 159:745–749, 2000*

Dentinogenesis imperfecta – brown stained hypoplastic teeth *Rook p.3051, 1998, Sixth Edition*

Dowling–Degos disease (reticulated pigmentary anomaly of the flexures) *AD 114:1150–1157, 1978*

Dyschromatosis universalis

Epidermolysis bullosa simplex herpetiformis (Dowling–Meara) with mottled pigmentation *Ped Derm 13:306–309, 1996*

Epidermolysis bullosa simplex with mottled pigmentation of neck, upper trunk, arms and leg with or without keratoderma (punctate palmoplantar keratoses); cutaneous atrophy, nail dystrophy *BJD 150:609–611, 2004; JAAD 15:1289–1291, 1986; Clin Genet 15:228–238, 1979*

Erythema annulare centrifugum – hyperpigmentation, rarely *Rook p.2088, 1998, Sixth Edition; Bull Soc Fr Dermatol Syphiligr 71:450–452, 1964*

Erythema dyschromicum perstans (ashy dermatosis) – blue–gray patches with red raised margins; coalesce over face, trunk, and extremities; hypo- and hypermelanotic macules resembling late pinta *Cutis 68:25–28, 2001; AD 124:1258–1260, 1988; Int J Derm 24:630–633, 1985*

Erythema elevatum diutinum – healed *Rook p.2194, 1998, Sixth Edition;* giant annuli *BJD 143:415–420, 2000*

Erythromelanosis follicularis of face and neck – red–brown pigmentation with telangiectasias, follicular papules *JAAD 32:863–866, 1995*

Erythrose peribuccale pigmentaire of Brocq – diffuse brown pigmentation around mouth with narrow perioral sparing; central face, forehead, angles of jaw, temples *Rook p.1791, 1998, Sixth Edition*

Facial hyperpigmentation in Africans – bleaching creams, mercury, photosensitizing herbs, fixed drug eruptions, melasma *Int J Derm 30:186–191, 1991*

Familial progressive hyperpigmentation

Follicularis faciei et colli

Hematohidrosis *Rook p.2001, 1998, Sixth Edition*

Human chimera with pigment anomalies *BJD 103:489–498, 1980*

Hyperpigmented macules of palms and soles in blacks *Int J Dermatol 18:222–225, 1979*

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition;* lichen planus pigmentosus *JAAD 21:815, 1989; Dermatologica 149:43–50, 1974;* lichen planus tropicus

Lichen simplex chronicus – in blacks *Rook p.3247, 1998, Sixth Edition;* vulvar lichen simplex chronicus *JAAD 23:982–984, 1990*

Linear and whorled nevoid hypermelanosis *JAAD 19:1037–1044, 1988; Ped Derm 10:156–158, 1993*
vs. Chimerism
- Conradi–Hünermann syndrome (streaked hyperpigmentation and hyperkeratosis) *JAAD 21:248–256, 1989*
- Dyschromatosis universalis
- Early epidermal nevus
- Familial progressive hyperpigmentation
- Hypomelanosis of Ito
- Incontinentia pigmenti

Lichen sclerosus et atrophicus

Notalgia paresthetica *JAAD 18:25–30, 1988; Cutis 23:471–473, 1973*

Occupational melanosis

Periorbital hyperpigmentation *Rook p.2984–2985, 1998, Sixth Edition; AD 100:169–174, 1969*
- Familial
- Lichen planus
- Mercurial preparations – blue or gray–brown
- Post-traumatic
- Psoralens in cosmetics
- Silver preparations – blue or gray–brown

Pigmentary lines of demarcation
- Type A – Futcher's lines, Voigt's lines – dorsoventral line on the upper anterior aspects of the arms
- Type B – posteromedial aspect of legs
- Type C – pair of vertical hypopigmented lines over the presternal region
- Type D – posteromedian line, hyperpigmented over midback in Asians
- Type E – periareolar hypopigmentation in black children

Pigmentary mosaicism – phylloid hyperpigmentation *BJD 149:414–416, 2003*

Pityriasis rotunda

Progressive cribriform and zosteriform hyperpigmentation *AD 114:98–99, 1978*

Prurigo pigmentosa *Cutis 63:99–102, 1999; BJD 120:705–708, 1989; AD 125:1551–1554, 1989; JAAD 12:165–169, 1985*

Pseudo-ochronosis

Scleredema of Buschke (pseudoscleroderma) – with IgG-lambda paraproteinemia; hyperpigmentation of involved skin *AD 123:629–632, 1987*

Subcorneal pustular dermatosis of Sneddon–Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998*; *JAAD 19:854–858, 1988; BJD 68:385–394, 1956*

Terra firme (Diogenes syndrome) – self-neglect *Lancet i:366–368, 1975*

Transient neonatal pustular melanosis

Vitiligo, pigmented

Zosteriform reticulate hyperpigmentation

## PSYCHOCUTANEOUS DISORDERS

Factitial chromhidrosis *Rook p.2804, 1998, Sixth Edition;* factitial pigmentation (dermatitis simulata) *J R Coll Physicians Lond 17:199–205, 1983*

## SYNDROMES

Acromelanosis progressiva – autosomal recessive; sharply demarcated pigmented patches of the dorsal fingers of infants, spread to head, neck, perineum, and extremities *JAAD 10:1–16, 1984*

Albright's syndrome

Anonychia with bizarre flexural pigmentation – autosomal dominant, absent nails, dry peeling palmoplantar skin, coarse and sparse frontal hair; mottled hyper- and hypopigmentation of the axillae, groin, and natal cleft *BJD 92:469–474, 1975*

Ataxia telangiectasia *Ghatan p.6, 2002, Second Edition*

Bannayan–Riley–Ruvulcaba syndrome – pigmented macules (CALMs) on penis and vulva *AD 132:1214–1218, 1996*

Bazex syndrome

Bazex–Dupre–Christol syndrome – congenital hypotrichosis, follicular atrophoderma, basal cell nevi and basal cell carcinomas, facial milia, hypohidrosis, pinched nose with hypoplastic alae, atopy with comedones, keratosis pilaris, joint hypermobility, scrotal tongue, hyperpigmentation of the forehead *BJD 153:682–684, 2005; Dermatol Surg 26:152–154, 2000; Hautarzt 44:385–391, 1993*

Beare–Stevenson syndrome – cutis gyrata (furrowed skin), corrugated forehead, acanthosis nigricans, macular hyperpigmentation of antecubital and popliteal fossae, hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and umbilical herniation *Ped Derm 20:358–360, 2003*

Becker's syndrome – discrete or confluent brown macules of neck, forearms *Arch Dermatol Syphilol 40:987–998, 1939*

Bloom's syndrome – irregular hyperpigmentation of trunk and extremities *Syndromes of the Head and Neck p.298, 1990*

Cantu's syndrome – autosomal dominant; hyperpigmented macules of face, forearms, and feet, hyperkeratotic palms and soles *Clin Genet 14:165–168, 1978*

Carney syndrome

Centrofacial lentiginosis *Ghatan p.6, 2002, Second Edition*

Congenital reticular ichthyosiform erythroderma (ichthyosis variegata) *BJD 139:893–896, 1998*

Cowden's syndrome – acromelanosis *Ghatan p.213, 2002, Second Edition*

Cronkhite–Canada syndrome – lentigo-like macules of face, extremities, and diffuse pigmentation of palms; gastrointestinal polyposis, malabsorption, alopecia, dystrophic nails *AD 135:212, 1999; Cutis 61:229–232, 1998*

Crouzon's syndrome – hyperpigmentation and hyperelasticity

Dyskeratosis congenita

Familial Becker's nevus *Dermatologica 176:275–276, 1988*

Familial mandibuloacral dysplasia – mottled hyperpigmentation of hands, feet, trunk, and extremities

Familial melanopathy with gigantic melanocytes

Familial multiple café au lait macules *AD 130:1425–1426, 1994*

Familial periorbital hyperpigmentation *AD 100:169–174, 1969; Cutis 5:579, 1969*

Familial progressive hyperpigmentation – macular hyperpigmentation of skin, oral, and ocular mucosa, whorls, streaks, and retiform patches *Curr Prob Derm VII:143–198, 1995*

Familial sea-blue histiocytosis – autosomal recessive; patchy gray pigmentation of face, upper chest, shoulders; eyelid edema, facial nodules *Dermatologica 174:39–44, 1987*

Familial transverse nasal hyperpigmentation *J Hered 65:157–159, 1974*

Generalized nevoid hyperpigmentation *J Cutan Dis 37:687–701, 1919*

Glucagonoma syndrome – resolution leaves pigmentation

Goltz's syndrome (focal dermal hypoplasia) – patchy hyperpigmentation *Ped Derm 20:249–253, 2003*

Hermansky–Pudlak syndrome – freckling in sun-exposed skin *Rook p.1797, 1998, Sixth Edition; JAAD 19:217–255, 1988*

Hutchinson–Gilford syndrome

Incontinentia pigmenti *Am J Dis Child 139:711–712, 1985; AD 112:535–542, 1976*

Juvenile hyaline fibromatosis – hyperpigmentation of metacarpophalangeal joints and malleoli *Ped Derm 21:154–159, 2004*

Laugier–Hunziger syndrome

LEOPARD syndrome – CALMs *Ped Derm 13:100–104, 1996*

Localized hereditary pruritus

McCune–Albright syndrome (polyostotic fibrous dysplasia) – giant café au lait macules *Ped Derm 8:35–39, 1991; Dermatol Clin 5:193–203, 1987*

MELAS syndrome – mitochondrial encephalomyopathy with lactic acidosis – reticulated hyperpigmentation *JAAD 41:469–473, 1999*

Mitochondrial DNA syndrome – mottled hyperpigmentation *Pediatrics 103:428–433, 1999; JAAD 39:819–823, 1998*

Mottled pigmentation of neck and elbows *Z Haut-u Geschl Krankh 32:33–44, 1962*

Moynahan's syndrome – lentigines, congenital mitral stenosis, dwarfism, mental retardation, genital hypoplasia *Ghatan p.6, 2002, Second Edition*

Multiple mucosal neuroma syndrome (MEN IIB) – perioral or periocular hyperpigmentation, lentigines, or freckles NAME/LAMB syndromes; MEN IIA – hyperkeratosis and hyperpigmentation in localized pruritic patch between the scapulae *JAAD 42:939–969, 2000*

Neurofibromatosis, including enlarging hyperpigmented plaque; plaque type neurofibroma *AD 140:751–756, 2004*

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency; indurated hyperpigmented patches of cheeks *Am J Dis Child 136:650–651, 1982*

Noonan's syndrome – early onset stasis dermatitis

Pallister–Killian syndrome – i (12p) (tetrasomy 12p); tissue mosaicism; pigmentary mosaicism and localized alopecia *Ped Derm 22:270–275, 2005*

Parry–Romberg syndrome *Ped Derm 21:48–50, 2004; JAAD 22:531–533, 1990*

Peutz–Jeghers syndrome – lentigines; brown pigmented bands of nails *Ghatan p.78, 2002, Second Edition*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus (epidermal nevus) and a contralateral segmental lentiginous or papular speckled lentiginous nevus *Dermatology 194:77–79, 1997*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis (Mongolian spot); type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus *J Dermatol 26:834–836, 1999; AD 121:651–653, 1985*

Piebaldism – autosomal dominant; white forelock, white patches on upper chest, abdomen, extremities with islands of hyperpigmentation within *JAAD 44:288–292, 2001;* mutations and deletions of c-*kit* (steel factor receptor) *Am J Hum Genet 56:58–66, 1995*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – generalized or patchy hyperpigmentation, osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism *JAAD 40:507–535, 1999; Cutis 61:329–334, 1998*; *JAAD 21:1061–1068, 1989*

Prader–Willi syndrome – hypopigmentation, mental retardation *Am J Med Genet 40:454, 1991*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Punctate acrokeratoderma with pigmentary disorder *BJD 128:693–695, 1993*

Reticulate acropigmentation of Dohi

Reticulate acropigmentation of Kitamura

Rosai–Dorfman syndrome – hyperpigmented plaques *BJD 145:323–326, 2001*

Rothmund–Thomson syndrome *AD 75:236–244, 1957*

Russel–Silver syndrome

Tay syndrome *Ghatan p.6, 2002, Second Edition*

Tricho-odonto onycho-ectodermal dysplasia (linear dermal hypoplasia) – hypotrichosis, hypodontia, focal linear dermal hypoplasia of the tip of the nose, irregular hyperpigmentation of the back, bilateral amastia and athelia, nerve hearing loss *AD 122:1047–1053, 1986*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – hyperpigmented eyelids, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Trisomy 14 mosaicism syndrome – patchy reticulated hyperpigmentation resembling that of incontinentia pigmenti *Syndromes of the Head and Neck, p.89, 1990*

Unusual facies, vitiligo, canities, and progressive spastic paraplegia – hyperpigmentation of exposed areas *Am J Med Genet 9:351–357, 1981*

Werner's syndrome

Winchester syndrome

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies (basal cell carcinoma, squamous cell carcinoma, keratoacanthoma, melanoma); photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

## TOXINS

Arsenic – macular bronze pigmentation of the trunk; stippled hyper and hypopigmentation *JAAD 39:524–525, 1998; JAAD 38:179–185, 1998;* brown nails *Ghatan p.78, 2002, Second Edition,* darkening of hair *BJD 146:325–329, 2002;* paronychial hyperpigmentation with arsenic poisoning at 3 months *BJD 149:757–762, 2003*

Lead – lead line of gums; pallor and lividity *Rook p.1794, 1998, Sixth Edition*

Mustard gas exposure *AD 129:245, 1993*

PCB exposure – brown-gray nails *Textbook of Neonatal Dermatology, p.513, 2001*

## TRAUMA

Biting of buccal mucosa – symmetric hyperpigmentation of chin *BJD 82:40–41, 1970*

Chewing trauma in mentally disabled *Arch Dermatol Syphilol 65:458–463, 1952*

Electron beam – darkening of hair *BJD 146:325–329, 2002*

Frictional hyperpigmentation *JAAD 42:442–445, 2000*

Intravenous drug abuse *BJD 150:1–10, 2004*

Nails – physical trauma, habit tic deformity, radiation *Ghatan p.78, 2002, Second Edition*

Radiation dermatitis, acute *Acta DV 49:64–71, 1969*

Sympathectomy, surgical – localized hyperpigmentation *Clin Exp Dermatol 5:349–350, 1980*

## VASCULAR DISEASES

Angiosarcoma of the breast post-irradiation for breast cancer – hyperpigmentation of breast with late thickening, edema, or induration *JAAD 49:532–538, 2003*

Arteritis – cutaneous arteritis – round, linear, reticulated hyperpigmentation *JAAD 49:519–522, 2003*

Lipodermatosclerosis – chronic venous insufficiency with hyperpigmentation, induration, inflammation *Lancet ii:243–245, 1982*

Pigmented purpuric eruptions including lichenoid pigmented purpuric eruption of Gougerot and Blum, Schamberg's pigmented purpuric eruption, Majocchi's, and others – hemosiderin *Rook p.1794, 1998, Sixth Edition;* lichen aureus

Post-phlebitic syndrome – pain, edema, night cramps, hemosiderin deposition, dermatitis *Phlebology 11:2–5, 1996*

Stasis dermatitis – hemosiderin

Urticarial vasculitis *Clin Rev Allergy Immunol 23:201–216, 2002*

# HYPERPIGMENTATION, SEGMENTAL OR ZOSTERIFORM

## CONGENITAL LESIONS

Congenital segmental dermal melanocytosis *AD 128:521–525, 1992*

## DRUG-INDUCED

Fixed drug eruption, linear

## EXOGENOUS AGENTS

Silver nitrate stain

Walnut stain

## INFECTIONS AND INFESTATIONS

Erythrasma

Herpes zoster – post-zoster hyperpigmentation

Tinea versicolor

## NEOPLASTIC DISEASES

Acquired nevus of Ota

Becker's nevus

Café au lait macules
- Ataxia telangiectasia *JAAD 10:431–438, 1984*
- Bloom's syndrome
- Café au lait macules and pulmonary stenosis (Watson's syndrome)
- Café au lait macules and ring chromosome 11
- Café au lait macules and temporal dysrhythmia (Verner's syndrome)
- Cardio-facio-cutaneous syndrome *AD 129:446–447, 1993*
- McCune Albright syndrome
- Neurofibromatosis
  - Segmental
  - Solitary

Dermatofibrosarcoma protuberans

Congenital nevocytic nevus

Lentiginosis *Am J Dermatopathol 14:323–327, 1992;* with ocular involvement *JAAD 44:387–390, 2001;* partial unilateral lentiginosis *JAAD 44:387–390, 2001;* agminated lentiginosis *Ped Derm 11:241–245, 1994*

Lentiginous nevus *BJD 98:693–698, 1978*

Melanocytic nevi – congenital, Spitz, blue, speckled lentiginous *Acta DV 78:378–380, 1998; JAAD 27:853–854, 1992*; congenital agminated segmental nevi *BJD 133:315–316, 1995;* congenital melanocytic nevus

Melanoma *JAAD 32:854–857, 1995*

Nevus of Ito (nevus fuscoceruleus acromio-deltoideus) *Rook p.1731–1732, 1998, Sixth Edition; Tohou J Exp Med 60:10–20, 1954*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *BJD 67:317–319, 1955*

Nevus spilus (zosteriform lentiginous nevus) (speckled and lentiginous nevus) *Curr Prob Derm VII:143–198, 1995*; *AD 107:902–905, 1973*

Smooth muscle hamartoma

Spitz nevi, agminated

## PHOTODERMATOSES

Berloque dermatitis

Ephelides

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, nevoid – unilateral and localized *Int J Dermatol 30:452–453, 1991*

Acquired dermal melanocytosis (acquired nevus of Ota-like macules) *JAAD 43:934–936, 2000*

Lichen planus

Partial unilateral lentiginosis *JAAD 44:387–390, 2001; JAAD 29:693–695, 1993*

Pigmentary mosaicism

Progressive cribriform and zosteriform hyperpigmentation *AD 114:98–99, 1978*

Segmental dyschromatosis

Segmental pigment disorder *Acta DV 63:167–169, 1983*

Zosteriform reticulate hyperpigmentation *BJD 121:280, 1989;* in children *BJD 117:503–17, 1987; AD 114:98–99, 1978;* unilateral dermatomal pigmentary dermatosis *Semin Cut Med Surg 16:72–80, 1997; JAAD 27:763–764, 1992*

## SYNDROMES

Atrophoderma of Moulin – unilateral acquired atrophic pigmented band-like lesions following Blaschko's lines *Int J Dermatol 39:846–852, 2000; BJD 135:277–279, 1996; Ann DV 119:729–736, 1992*

Familial progressive hyperpigmentation

Gastrocutaneous syndrome

LEOPARD (multiple lentigines) syndrome

McCune–Albright syndrome

Neurofibromatosis, segmental *Neurology 56:1433–1443, 2001; JAAD 37:864–869, 1997*; *Ped Derm 10:43–45, 1993; JAAD 23:866–869, 1990; AD 113:837–838, 1977*

Russell–Silver syndrome

Tuberous sclerosis

Westerhof's syndrome

Xeroderma pigmentosum

## VASCULAR DISEASES

Lymphangioma circumscriptum

Pigmented purpuric eruptions – lichen aureus *Cutis 69:145–148, 2002; Hautarzt 49:135–138, 1998; Int J Derm 30:654–657, 1991; Int J Dermatol 30:654–655, 1991; Dermatologica 180:93–95, 1990; Hautarzt 40:373–375, 1989;* unilateral Schamberg's disease *BJD 144:190–191, 2001*

# HYPERPIGMENTED LESIONS, DISCRETE ANNULAR

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bullous pemphigoid – figurate lesions, resolved *Rook p.1869–1870, 1998, Sixth Edition*

Dermatitis herpetiformis *Rook p.1890, Sixth Edition*

Linear IgA disease

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; lupus profundus; neonatal LE *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* subacute cutaneous LE; bullous dermatosis of SLE *JAAD 27:389–394, 1992; Arthritis Rheum 21:58–61, 1978*; subacute

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

## CONGENITAL

Pre-auricular skin defects *AD 133:1551–1554, 1997*

Congenital smooth muscle hamartoma *Curr Prob Derm 14:41–70, 2002*

Transient neonatal pustular melanosis *Eichenfeld, 2001, p.93; Int J Dermatol 18:636–638, 1979; J Pediatr 88:831–835, 1976*

## DRUG-INDUCED

AZT pigmentation

Antimalarial pigmentation (atabrine)

Bleomycin

Chemotherapy – under adhesive bandages after chemotherapy – linear, annular and diffuse hyperpigmentation *Ped Derm 8:231–235, 1991*

Clofazamine pigmentation within lesions of Hansen's disease

Doxorubicin (liposomal) – melanotic macules *AD 136:1475–1480, 2000*

Fixed drug eruptions

Gold – chrysiasis – periorbital hyperpigmentation *Cutis 68:53–55, 2001*

Insulin reactions – itchy nodule evolves into hyperpigmentation *Int J Derm 23:567–583, 1984*

Minocycline hyperpigmentation

Polyethylene glycol-coated liposomal doxorubicin – melanotic macules *AD 136:1475–1480, 2000*

Prostaglandin $F_{2\alpha}$ analog (latanoprost) eyedrops – hyperpigmentation and trichomegaly (eyelash hypertrichosis) *JAAD 44:721–723, 2001; Cutis 67:109–110, 2001*

Stem cell factors, injected

Tattoo pigment fanning – periorbital hyperpigmentation *Cutis 68:53–55, 2001*

Vitamin K allergy

## EXOGENOUS

Tar burns

## INFECTIONS AND INFESTATIONS

AIDS – pruritic papular eruption with HIV in Uganda *JAMA 292:2614–2621, 2004*

*Borrelia burgdorferi* – morphea-like lesions of annular hyperpigmentation *JAAD 48:376–384, 2003*

Erythrasma

Herpes simplex virus infection

Impetigo – post-inflammatory hyperpigmentation

Leishmaniasis – kala-azar *Ghatan p.5, 2002, Second Edition*

Millipede defensive secretions – periorbital hyperpigmentation *JAAD 50:819–842, 2004*

Pinta – tertiary (late phase) – gray, steel, ashy, bluish spotted hyperpigmentation *Rook p.1274, 1998, Sixth Edition*

Tinea nigra palmaris (plantaris) – *Phaeoannelomyces werneckii Ped Derm 20:315–317, 2003; Cutis 64:199–201, 1999; Ped Derm 15:233–234, 1998; AD 11:904–905, 1975*

Tinea versicolor

Yaws

## INFILTRATIVE DISEASES

Amyloidosis *AD 123:1557–1562, 1987;* periorbital hyperpigmentation *Clin Exp Derm 8:195–197, 1983*

Pretibial myxedema

Mastocytosis – urticaria pigmentosa; *Rook p.2341–2344, 1998, Sixth Edition; Acta DV (Stockh) 42:433–439, 1962*

## INFLAMMATORY DISEASES

Post-inflammatory hyperpigmentation

Sarcoid

## METABOLIC DISEASES

Androgen excess – hyperpigmentation of areolae, perineum *Ghatan p.165, 2002, Second Edition*

Diabetic dermopathy *Rook p.2010,2674, 1998, Sixth Edition*

Gaucher's disease

GM-1 gangliosidosis – atypical Mongolian spots

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; Rook p.2306, 1998, Sixth Edition; JAAD 18:530–537, 1988*

Pancreatic panniculitis – heal with post-inflammatory hyperpigmented spots *Rook p.2414,2727, 1998, Sixth Edition; JAAD 34:362–364, 1996; Arthritis Rheum 22:547–553, 1979*; *Am J Gastroenterol 83:177–179, 1988*

Wilson's disease

## NEOPLASTIC

Atypical melanocytic hyperplasia

Basal cell carcinoma

Becker's nevus

Bowen's disease *AD 129:1043–1048, 1993*

Bowenoid papulosis (penile intraepithelial neoplasia *Rook p.1046–1047, 1998, Sixth Edition; Cancer 57:823–836, 1986*

Cafe au lait macule

Castleman's disease

Congenital melanocytic nevus *Rook p.1733–1735, 1998, Sixth Edition*

Dermal dendrocyte hamartoma – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004*

Dermatofibrosarcoma protuberans

Granular cell Schwannoma

Kaposi's sarcoma in AIDS *JAAD 22:1237–1250, 1990*

Keloid

Large cell acanthoma (macule) *Cutis 47:97–100, 1991*

Large plaque parapsoriasis

Lentigines – generalized lentiginosis, zosteriform, eruptive, LEOPARD syndrome, central facial, Peutz–Jeghers syndrome, Cronkhite–Canada syndrome; genital lentigines in the presence of lichen sclerosus *JAAD 50:690–694, 2004*

Lentiginous nevoid anomaly

Lentigo

Lymphoma, including cutaneous T-cell lymphoma *Dermatology 192:360–363, 1996*

Lymphocytoma cutis

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* congenital melanocytic nevus

Melanoma – melanoma *in situ*; superficial spreading melanoma; melanoma of the vulva *JAAD 50:293–298, 2004; Int J Gynecol Cancer 11:359–364, 2001; Cancer 86:1273–1284, 1999;* metastatic melanoma – periorbital gray pigmentation *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.83, 1999*

Mongolian spot *Eichenfeld p.96, 2001; Rook p.1730, 1791–1792, 1998, Sixth Edition*

Nevus of Ito

Nevus of Ota

Nevus spilus (speckled and lentiginous nevus) *Ped Derm 13:250–252, 1996; AD 114:895–896, 1978*

Periaxillary and perigenital pigmentation

Plasmacytomas – primary cutaneous plasmacytosis – brown–red macules *Dermatol 189:251, 1994; JAAD 31:897, 1994; AD 122:1314, 1986*

Porokeratosis with or without Bowen's disease

Seborrheic keratosis

Solar lentigo

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia

## PHOTODERMATITIS

Ephelides (freckles) – autosomal dominant *Rook p.1771, 1998, Sixth Edition*

Solar elastosis

Sunburns

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Annular erythema of infancy *JAAD 14:339–343, 1986*

Atrophoderma of Pasini and Pierini *Dermatol 190:203–206, 1995; JAAD 30:441–446, 1994; Int J Derm 10:643–645, 1984*

Chromhidrosis – black, violet, blue, brown, yellow, green, rarely red *Rook p.2001, 1998, Sixth Edition*

Epidermolysis bullosa simplex herpetiformis (Dowling–Meara) *JAAD 28:859–861, 1993*

Erythema annulare centrifugum – hyperpigmentation, rarely *Rook p.2088, 1998, Sixth Edition; Bull Soc Fr Dermatol Syphiligr 71:450–452, 1964*

Erythema dyschromicum perstans (ashy dermatosis) – blue–gray patches with red raised margins; coalesce over face, trunk, and extremities; hypo- and hypermelanotic macules resembling late pinta *Cutis 68:25–28, 2001; AD 124:1258–1260, 1988; Int J Derm 24:630–633, 1985*

Erythema elevatum diutinum – giant annuli *BJD 143:415–420, 2000; AD 132:1524–1525, 1996*

Granuloma annulare, disseminated

Hyperpigmented macules of palms and soles in blacks *Int J Dermatol 18:222–225, 1979*

Idiopathic eruptive macular hyperpigmentation *JAAD 49:S280–282, 2003; JAAD 44:351–353, 2001; JAAD 11:159, 1984*

Lichen amyloid

Lichen planus – lichen planus in blacks *Rook p.3247, 1998, Sixth Edition;* annular atrophic lichen planus *Dermatology 195:402–403, 1997;* lichen planus actinicus – annular blue–gray or brown hyperpigmented plaques *Cutis 72:377–381, 2003; Rook p.1904–1912, 1998, Sixth Edition;* hypertrophic lichen planus

Lichen sclerosus et atrophicus

Notalgia paresthetica

Periorbital hyperpigmentation *Rook p.2984–2985, 1998, Sixth Edition; AD 100:169–174, 1969*
- Familial
- Lichen planus
- Mercurial preparations – blue or gray–brown
- Post-traumatic
- Psoralens in cosmetics
- Silver preparations – blue or gray–brown

Pityriasis rotunda

Pseudo-acanthosis nigricans

Psoriasis

Subcorneal pustular dermatosis of Sneddon–Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998*; *JAAD 19:854–858, 1988; BJD 68:385–394, 1956*

Terra firme

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis

Neurotic excoriations

## SYNDROMES

ADULT (acro-dermato-ungual-lacrimal-tooth) syndrome – closely resemble EEC syndrome; hypodontia, ectrodactyly, obstruction of lacrimal ducts, onychodysplasia, freckling *Am J Med Genet 45:642–648, 1993*

Ataxia telangiectasia – hyperpigmented macules, hypopigmented macules, café au lait macules *BJD 144:369–371, 2001*

Bannayan–Riley–Ruvalcaba–Zonana syndrome – hemangiomas, genital hyperpigmentation, supernumerary nipples *AD 132:1214–1218, 1996; Am J Med Genet 44:307–314, 1992*

Cafe au lait macules (CALMs) and temporal dysrhythmia

Centrofacial lentiginosis *Ghatan p.6, 2002, Second Edition*

Cronkhite–Canada syndrome – lentigo-like macules of face, extremities, and diffuse pigmentation of palms; gastrointestinal polyposis, malabsorption, alopecia, dystrophic nails *AD 135:212, 1999; Cutis 61:229–232, 1998*

Familial multiple café au lait macules *AD 130:1425–1426, 1994*

Familial periorbital melanosis (hyperpigmentation) *AD 100:169–174, 1969; Cutis 5:579, 1969*

Fanconi's anemia – freckle-like hyperpigmentation in sun-exposed areas, abdomen, flexures, and genitals *Dermatol Clin 13:41–49, 1995*

Hermansky–Pudlak syndrome – freckling in sun-exposed skin *Rook p.1797, 1998, Sixth Edition; JAAD 19:217–255, 1988*

Laugier–Hunziker syndrome

LEOPARD syndrome

Localized hereditary pruritus

Moynahan's syndrome – lentigines, congenital mitral stenosis, dwarfism, mental retardation, genital hypoplasia *Ghatan p.6, 2002, Second Edition*

Multiple mucosal neuroma syndrome (MEN IIB) – perioral or periocular hyperpigmentation, lentigines, or freckles

NAME/LAMB syndromes; MEN IIA – hyperkeratosis and hyperpigmentation in localized pruritic patch between the scapulae *JAAD 42:939–969, 2000*

Neurofibromatosis type I – axillary freckling (Crowe's sign) *J Med Genet 26:712–721, 1989; Ann Intern Med 61:1142–1143, 1964;* CALMs

Peutz–Jeghers syndrome – lentigines; brown pigmented bands of nails *Ghatan p.78, 2002, Second Edition*

Phakomatosis spilorosea (form of phakomatosis pigmentovascularis) – nevus spilus with a telangiectatic nevus *AD 141:385–388, 2005*

Piebaldism

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Tuberous sclerosis – CALM

Watson's syndrome – CALM and pulmonic stenosis

Westerhof syndrome – hypo and hypermelanotic macules on the trunk and extremities

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

### TRAUMA

Mechanical trauma

Radiation dermatitis

### VASCULAR

Arteritis – cutaneous arteritis – round, linear, reticulated hyperpigmentation *JAAD 49:519–522, 2003*

Atrophie blanche

Erythema induratum

Lipodermatosclerosis

Nevus flammeus

Pigmented purpuric eruptions, including lichen aureus

Urticarial vasculitis *Clin Rev Allergy Immunol 23:201–216, 2002*

## HYPERTRICHOSIS, GENERALIZED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – also in Native Mexicans and those of Spanish descent *JAAD 31:383–387, 1994*; longstanding dermatomyositis – lipodystrophy-like appearance (hirsutism, loss of subcutaneous tissue, acanthosis nigricans); congenital dermatomyositis; juvenile dermatomyositis *JAAD 33;691, 1995; JAAD 31:383–387, 1994*

Lupus erythematosus *Clin Rheumatol 19:245–246, 2000*

Polymyositis – acquired hypertrichosis lanuginosa *Int J Derm 32:227–228, 1993*

### CONGENITAL DISORDERS

Congenital generalized terminal hypertrichosis with gingival hyperplasia *Ped Derm 19:114–118, 2002*

Congenital hypertrichosis lanuginosa (congenital generalized hypertrichosis) *Ped Derm 19:64–66, 2002; Rook p.2890—2891, 1998, Sixth Edition; J Genet Humaine 17:10–13, 1969*

Congenital macrogingivae – profuse hypertrichosis of lower face, trunk, and extremities with acromegalic features *Plast Reconstr Surg 27:608–612, 1962*

Preterm neonate – lanugo of face, limbs, and trunk *AD 83:175–198, 1961*

Transient congenital hypertrichosis universalis *Clin Genet 57:157–158, 2000*

### DRUG-INDUCED

Acetozolamide *JAAD 48:161–179, 2003*

ACTH *Ghatan p.68, 2002, Second Edition*

Anabolic steroids *Ghatan p.68, 2002, Second Edition*

Benoxaprofen – pseudo-PCT *J R Soc Med 76:525–527, 1983*

Chemotherapy – hypertrichosis lanuginosa *Clin Oncol (R Coll Radiol) 4:267–268, 1992*

Corticosteroids – systemic or topical *Rook p.3395, 1998, Sixth Edition*

Cyclosporine *JAAD 48:161–179, 2003; JAAD 44:932–939, 2001*

Danazol *Rook p.3395, 1998, Sixth Edition*

Diazoxide *Ann DV 115:191–193, 1988; BJD 93:707–711, 1975*

Erythropoietin *Am J Kidney Dis 18:619, 1991*

Hexachlorobenzene *Bolognia p.1053, 2003; Ghatan p.69, 2002, Second Edition*

Isotretinoin

Latanoprost *JAAD 48:161–179, 2003; JAAD 44:721–723, 2001*

Minoxidil – generalized hypertrichosis with topical minoxidil *BJD 136:118–120, 1997;* face, shoulders, and extremities *South Med J 70:442–443, 1977;* congenital generalized hypertrichosis due to maternal ingestion of minoxidil *Pediatrics 79:434–436, 1987*

Oral contraceptives *Ghatan p.69, 2002, Second Edition*

Penicillamine *Rook p.3395, 1998, Sixth Edition*

Phenytoin *JAAD 48:161–179, 2003; Rook p.3395, 1998, Sixth Edition*

Phenothiazine *Ghatan p.68, 2002, Second Edition*

Psoralens – PUVA therapy *Cutis 41:199–202, 1988; Arch Dermatol Res 278:82–83, 1985; BJD 109:657–660, 1983*

Streptomycin *JAAD 48:161–179, 2003; Rook p.3395, 1998, Sixth Edition*

Tamoxifen *Ghatan p.68, 2002, Second Edition*

Testosterone proprionate *Ghatan p.68, 2002, Second Edition*

Thiouracil

Verapamil *Lancet 338 (8776) 1215–1216, 1991*

Zidovudine *JAAD 46:284–293, 2002; AIDS 5:1395–1396, 1991*

## INFECTIONS

Post-encephalitis *Ped Derm 18:57–59, 2001; Rook p.2893, 1998, Sixth Edition*

Post-mumps *Rook p.2890–2891, 1998, Sixth Edition*

## INFLAMMATORY DISEASES

Cerebral abnormalities *JAAD 48:161–179, 2003*

Multiple sclerosis *Ped Derm 18:57–59, 2001*

## METABOLIC DISEASES

Acromegaly *Ghatan p.69,165, 2002, Second Edition*

Cushing's syndrome

Hypothyroidism – back and extensor extremities *Arch Dis Child 60:763–766, 1985; JAMA 157:651–652, 1955*

Malnutrition or starvation – hypertrichosis; trichomegaly *Ped Derm 18:57–59, 2001; Acta Paediatr Scand 40:59–69, 1951*

Porphyria – porphyria cutanea tarda *Rook p.2590, 1998, Sixth Edition;* congenital erythropoietic porphyria *Ped Derm 20:498–501, 2003*; harderoporphyria, hepatoerythropoietic porphyria – blisters and prominent hypertrichosis – uroporphyrinogen decarboxylase deficiency (8–18% of normal values); differential diagnosis includes infantile PCT (clinically indistinguishable), erythropoietic protoporphyria (no hypertrichosis or bullae), and Gunther's disease (severe mutilation, erythrodontia, splenomegaly and hemolytic anemia) *Ped Derm 4:229–233, 1987*; variegate porphyria *JAAD 2:36–43, 1980;* hereditary coproporphyria *BJD 96:549–554, 1977; Q J Med 46:229–241, 1977; BJD 84:301–310, 1971*

Starvation *Ghatan p.68, 2002, Second Edition*

Stein–Leventhal syndrome – polycystic ovarian disease

## NEOPLASTIC DISORDERS

Epidermal nevus – secreting LHRH – hirsutism

Melanocytic nevus – giant congenital melanocytic nevus *Ped Derm 18:369–377, 2001*

Giant nevoid hypertrichosis *Ped Derm 19:64–66, 2002*

## PARANEOPLASTIC DISORDERS

Hypertrichosis lanuginosa acquisita (malignant down) – 41 cases; lung, colon carcinomas most common; also breast, gall bladder, uterus, urinary bladder if accompanied by acanthosis nigricans; the malignancy is always an adenocarcinoma *J Surg Oncol 68:199–203, 1998; AD 122:805–808, 1986*

## PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa, dystrophic *Bolognia p.1053, 2003*

Prepubertal hypertrichosis *Textbook of Neonatal Dermatology, p.495–496, 2001*

Primary generalized hypertrichosis (hypertrichosis lanuginosa congenital, congenital generalized hypertrichosis, universal hypertrichosis) *AD 137:877–884, 2001; Clin Genet 10:303–306, 1976*

## PSYCHOCUTANEOUS DISORDERS

Eating disorders – anorexia nervosa, bulemia nervosa – increased lanugo body hair *Ped Derm 18:57–59, 2001; Int J Derm 39:348–353, 2000; Ped Derm 16:90–94, 1999*

Schizophrenia *Ghatan, Second Edition, 2002, p.69*

## SYNDROMES

Acromegaloid facial appearance and generalized hypertrichosis *J Med Genet 33:972–974, 1996*

Acro-osteolysis (Hajdu–Cheney syndrome) *Birth Defects 10:106–123, 1974*

Ambras syndrome – unique hypertrichosis universalis congenita *Clin Genet 44:121–128, 1993*

Barber–Say syndrome – macrostomia, hypertelorism, atrophic skin, hypertrichosis, ectropion *Am J Med Genet 73:366–367, 1997; Am J Med Genet 47:20–23, 1993*

Berardinelli's (Berardinelli–Seip) syndrome – lipodystrophy with muscular hypertrophy; coarse hypertrichotic skin *J Clin Endocrinol Metab 14:193–204, 1954*

Cantu syndrome – congenital hypertrichosis, cardiomegaly, osteochondrodysplasia, coarse facial features, deep plantar creases *Am J Med 92:191–194, 2000; Am J Med Genet 94:421–427, 2000; Am J Med Genet 69:138–151, 1997*

Cataract, hypertrichosis, and mental retardation – autosomal recessive *Am J Med Genet 41:432–433, 1991*

Cerebral malformation, seizures, hypertrichosis, distinct face, claw hands, and overlapping fingers *Am J Med Genet 47:698–701, 1993*

Coffin–Siris syndrome – hypertrichosis of the face and body, bushy eyebrows, lumbosacral hirsutism; coarse facial features, low birthweight, retarded growth, mental retardation, hypoplastic or absent fifth fingernails and toenails *J Med Genet 27:333–336, 1990; Am J Dis Child 132:1044, 1978*

Cone–rod congenital amaurosis associated with congenital hypertrichosis *J Med Genet 26:504–510, 1989*

Congenital cataracts, sensorineural deafness, hypogonadism, hypertrichosis, short stature *Clin Dysmorphol 4:283–288, 1995*

Cornelia de Lange (Brachmann–de Lange) syndrome – generalized hypertrichosis, confluent eyebrows, low hairline, hairy forehead and ears, hair whorls of trunk, cutis marmorata, single palmar crease, physical and mental retardation *Am J Med Genet 47:959–964, 1993*

Costello syndrome – generalized hypertrichosis; warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature,

craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995*; *Aust Paediat J 13:114–118, 1977*

Craniodysostosis with extremity bands

Craniofacial dysostosis and patent ductus arteriosus – severe hypertrichosis of extremities and back, multiple defects of eyes and teeth, ocular and cardiac defects, hypoplasia of labia majora *J Paediatr 56:778–785, 1960*

CRIE syndrome – congenital reticulated ichthyosiform erythroderma *Dermatology 188:40–45, 1994*

Cytochrome C oxidase-deficient Leigh syndrome *Mol Genet Metab 73:34–343, 2001*

Depigmented hypertrichosis with dilated follicular pores, short stature, scoliosis, short broad feet, macrocephaly, dysmorphic facies, supernumery nipple, and mental retardation (cerebral-ocular malformations) *BJD 142:1204–1207, 2000*

Dermatospiraxis (Ehlers–Danlos type VII-C) – facial vellus hairs – autosomal recessive; lack of Type 1 procollagen N-proteinase; irregular circular collagen fibres on electron microscopy; premature rupture of membranes; extreme skin fragility and laxity; vellus hairs, micrognathia with increased jowls and prominent puffy eyelids, shortened extremities, prominent visible vasculature, ecchymoses, excessive skin folds, blue sclerae, umbilical hernia, hyperconvex nails, delayed closure of fontanelles *AD 129:1310–1315, 1993*

Dup (3q) syndrome *Acta Paediatr Scand 73:281–284, 1984*

Fetal alcohol syndrome – hypertrichosis, small face, capillary hemangiomas, physical and mental retardation *JAAD 48:161–179, 2003; JAAD 46:161–183, 2002; JAMA 235:1458–1460, 1976*

Fetal hydantoin syndrome – hypertrichosis, broad depressed nasal bridge, large lips, wide mouth, short webbed neck, short stature, hypoplastic distal phalanges *JAAD 48:161–179, 2003; JAAD 46:161–183, 2002*

Gingival fibromatosis-hypertrichosis syndrome (Byars–Jurkiewicz syndrome) hypertrichosis of face, trunk, and eyebrows, mental retardation and seizures (resembles diphenylhydantoin syndrome) fibroadenomas of breast *AD 137:877–884, 2001; J Oral Maxillofacial Surg 46:415–420, 1988; J Pediatr 67:499–502, 1965*

Gingival fibromatosis–hypertrichosis syndrome

Goltz's syndrome *AD 137:1095–1100, 2001*

Gorlin–Chaudhry–Moss syndrome – short and stocky with craniosynostosis, midface hypoplasia, hypertrichosis of the scalp, arms, legs, and back, anomalies of the eyes, digits, teeth, and heart, and genitalia hypoplasia *Am J Med Genet 44:518–522, 1992*

Hammerschlag–Telfer syndrome *Bolognia p.1053, 2003*

Hemihyperplasia *Syndromes of the Head and Neck p.329, 1990*

Hyperostotic internal craniopathy (Morgani's syndrome) *Ghatan p.69, 2002, Second Edition*

Hypertrichosis, coarse face, brachydactyly, obesity, mental retardation, broad proximal phalanges *Clin Dysmorphol 5:223–229, 1996*

Hypertrichosis osteochondrodysplasia *Hum Genet 60:36–41, 1982*

Hypertrichosis, pigmentary retinopathy, and facial anomalies *Am J Med Genet 62:386–390, 1996*

Hypomelanosis of Ito

Insulin-resistant diabetes mellitus with acanthosis nigricans and hypertension – autosomal recessive; severe hyperinsulinemia, amenorrhea, hirsutism; mutation in muscle-specific regulatory subunit of protein phosphatase 1 (PPAR-gamma and PP1R3A) *BJD 147:1096–1011, 2002*

Julia Pastrana syndrome – congenital generalized hypertrichosis terminali – facial deformities and gingival hyperplasia *Am J Med Genet 47:198–212, 1993*

Krabbe's disease (globoid leukodystrophy) *AD 111:230–236, 1975*

Laband syndrome (Zimmermann–Laband syndrome) – aplasia or dysplasia of fingernails, hypertrophy of nasal tip and ears, hypermobility, limb asymmetry *Am J Med Genet 31:691–695, 1988*

Lawrence–Seip syndrome (congenital generalized lipodystrophy) – lipoatrophic diabetes – generalized hypertrichosis with luxuriant scalp hair *AD 91:326–334, 1965*

Leprechaunism (Donohue syndrome) – extensive hypertrichosis, thick lips, redundant skin, physical and mental retardation *Acta Paediatr 83:18, 1994; AD 117:531–535, 1981*

Macrostomia, ectropion, atrophic skin, hypertrichosis, and growth retardation

Marshall–Smith syndrome *Am J Med Genet 20:559–562, 1985*

MELAS syndrome – mitochondrial encephalopathy with lactic acidosis and strokelike episodes *JAAD 41:469–473, 1999*

Melnick–Needles syndrome *J Pediatr Orthoped 3:387–391, 1983*

Michelin tire baby syndrome – smooth muscle hamartomas or increase in fat *JAAD 28:364–370, 1992; Ped Derm 6:329–331, 1989*

Mitochondrial respiratory chain disorders *Bolognia, p.873, 2003; Pediatrics 103:428–433, 1999*

Morquio's syndrome – mucopolysaccharidosis with bone changes, hypertrichosis and corneal opacities *Rook p.2624–2625, 1998, Sixth Edition*

Mucolipidoses (pseudo-Hurler polydystrophy) *BJD 130:528–533, 1994*

Mucopolysaccharidoses (Hurler's, Hurler-Schei, Sanfilippo, Morquio, Maroteaux–Lamy, Sly syndromes) – coarse facies; Hunter's syndrome *NEJM 284:221–222, 1971;* Hurler's syndrome – face, trunk, and extremities; bushy eyebrows with synophrys *Rook p.2624–2625, 2892–2893, 1998, Sixth Edition; NEJM 284:221–222, 1971;* Schei syndrome *Syndromes of the Head and Neck, p.104–105, 1990*

Noonan's syndrome *Am J Dis Child 116:359–366, 1968*

Osteochondrodysplasia with hypertrichosis *Hum Genet 60:36–41, 1982*

Parana hard skin syndrome (congenital fascial dystrophy – hirsutism, stiff skin, knuckle pad-like thickening of fingers, limited joint mobility, localized areas of stony hard skin of buttocks and legs *Ped Derm 20:339–341, 2003; Ped Derm 19:67–72, 2002; JAAD 21:943–950, 1989; Ped Derm 3:48–53, 1985; Ped Derm 2:87–97, 1984*

Patterson–David syndrome – redundant skin, hypertrichosis *Birth Defects 5:117–121, 1969*

POEMS syndrome (Crow–Fukase syndrome) – polyneuropathy, organomegaly, endocrinopathies, M-spike, skin changes including hyperpigmentation, sclerodermatous thickening, hirsutism, hypertrichosis, angiomas *JAAD 40:507–535, 1999; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998; AD 124:695–698, 1988*

Rabson–Mendenhall syndrome (pineal hyperplasia syndrome – autosomal recessive, pineal hyperplasia, insulin-resistant diabetes mellitus, unusual coarse facies, dental precocity, hypertrichosis, acanthosis nigricans, and premature sexual development

Ramon syndrome – cherubism, gingival fibromatosis, epilepsy, cherubism, mental and somatic retardation, hypertrichosis, and stunted growth *Develop Med Child Neurol 31:538–542, 1989; Am J Med Genet 25:433–442, 1986*

Rubinstein–Taybi syndrome (broad thumb – hallux syndrome) – hypertrichosis of trunk, limbs, and face *Ped Derm 11:21–25, 1994*

Schinzel–Giedion syndrome – autosomal recessive – ectodermal dysplasia; midface retraction, hirsutism, telangiectasias of nose and cheeks, skeletal anomalies, mental retardation *Hum Genet 62:382, 1982; Am J Med Genet 1:361–375, 1978*

Scott syndrome (craniodigital syndrome) *J Pediatr 78:658–663, 1971*

Seckel syndrome (bird-headed dwarfism) *Am J Med Genet 12:7–21, 1982*

Short stature, mental retardation, ocular abnormalities – hypertrichosis *Helv Paediat Acta 27:463–469, 1972*

Trisomy 18 *Rook p.2890–2891, 1998, Sixth Edition*

Waardenburg syndrome *Bolognia p.1053, 2003*

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004; AD 111:23–236, 1975*

X-linked dominant hypertrichosis *Textbook of Neonatal Dermatology, p.496, 2001; Hum Genet 66:66–70, 1984*

### TOXINS

Acrodynia – face, trunk, limbs *Ped Derm 18:57–59, 2001; Acta Paediatr Scand 40:59–69, 1951*

Hexachlorobenzene

Toxic oil syndrome (chronic phase) *JAAD 18:313–324, 1988*

### TRAUMA

S/P head injuries *Rook p.2890–2891, 1998, Sixth Edition*

S/P traumatic shock *AD 71:401–402, 1955*

## HYPERTRICHOSIS, LOCALIZED

### ACQUIRED AUTOIMMUNE OR IMMUNE DYSREGULATION

Dermatomyositis, especially juvenile dermatomyositis *Rook p.2561, 1998, Sixth Edition; JAAD 33:691, 1995; JAAD 31:383–387, 1994; Arch Dermatol Syphilol 57:725–732, 1948;* infrapatellar hypertrichosis *Ped Derm 19:132–135, 2002*

Linear melorheostotic scleroderma – cutaneous lesions resemble linear morphea with hypertrichosis overlying bony lesions (hyperostosis); indurated skin overlying melorheostotic scleroderma; pain and stiffness, contracture and deformity; cutaneous changes overlying these bony lesions are of two types: (1) proliferation and malformation of blood vessels and lymphatics; (2) sclerodermatous changes; linear melorheostotic scleroderma with hypertrichosis sine melorheostosis *BJD 141:771–772, 1999; AD 115:1233–1234, 1979*

Lupus erythematosus – localized hypertrichosis overlying lupus panniculitis *JAAD 50:799–800, 2004*

Scleroderma, linear *Acta DV 80:62–63, 2000;* with or without melorrheostosis

### CONGENITAL AND INHERITED DISORDERS

Aarskog syndrome – widow's peak *J Pediatr 77:856–861, 1970*

Ablepharon with follicular ichthyosis and hairy pinnae *Clin Genet 2:111–114, 1971*

Accessory tragus – vellus hairs on the surface; ear papule – isolated, Treacher Collins syndrome (mandibulofacial dysostosis; autosomal dominant), Goldenhaar syndrome ((oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies), Nagers syndrome, Wolf–Hirschhorn syndrome (chromosome 4 deletion syndrome), oculocerebrocutaneous syndrome *Ped Derm 17:391–394, 2000;* Townes–Brocks syndrome *Am J Med Genet 18:147–152, 1984;* VACTERL syndrome *J Pediatr 93:270–273, 1978*

Acrofrontofacionasal dysostosis – widow's peak *Am J Med Genet 20:631–638, 1985*

Ambras syndrome – facial hypertrichosis of forehead, cheeks, preauricular region, nose *Clin Genet 57:157–158, 2000*

Anterior cervical hypertrichosis – autosomal dominant *JAAD 48:161–179, 2003; Am J Med Genet 55:498–499, 1995*

Aplasia cutis congenital; hair collar sign and vascular stain *Ped Derm 22:200–205, 2005*

Ataxia telangiectasia (Louis-Bar disease) – hirsutism; autosomal recessive; oculocutaneous telangiectasias with cerebellar ataxia, choreoathetosis, and recurrent pulmonary infections; low IgA; skin may become sclerodermoid; high alpha fetoprotein and carcinoembryonic antigen; defects in DNA repair; 11q22–23; solid tumors and lymphoreticular malignancies are associated *JAAD 10:431–438, 1984*

Atretic encephalocoele

Atretic meningocoele

Bald cyst with surrounding hypertrichosis ('hair collar sign') *AD 125:1253–1256, 1989*
- Aplasia cutis congenita, membranous *AD 137:45–50, 2001*
- Atretic encephalocoele
- Atretic meningocoele
- Cutaneous meningioma (psammoma)
- Encephalocoele *AD 137:45–50, 2001*
- Herniated brain tissue with connection to brain; associated with local defect in cranial bones.
- Heterotopic brain tissue – bald cyst of scalp with surrounding hypertrichosis; extracranial brain tissue; presents in neonates as circular bald lesions 2–4 cm on scalp; cystic or solid, red–blue; occur on occiput; needs to be differentiated from neurofibroma, porokeratosis of Mibelli, triangular alopecia, epithelial nevi and tumors, vascular nevi (including lymphangioma), and cephalohematoma, and other lesions associated with localized hypertrichosis *AD 137:45–50, 2001; BJD 129:183–185, 1993; AD 125:1253–1256, 1989*
- Intracranial dermal sinus tract
- Oculocerebral cutaneous syndrome
- Pre-auricular skin defects *AD 133:1551–1554, 1997*
- Rudimentary meningocoele and membranous aplasia cutis congenita *AD 137:45–50, 2001; AD 131:1427–1431, 1995*
- Subcutaneous meningocoele

Barber–Say syndrome – hypertrichosis of back and neck, eyebrows, eyelashes, large mouth, abnormal external ears, wrinkled, lax, atrophic skin *JAAD 48:161–179, 2003*

Becker's nevus *JAAD 48:161–179, 2003; Rook p.2892, 1998, Sixth Edition;* congenital *Ped Derm 14:373–375, 1997*

Benign fibrous tumor – hair collar sign and vascular stain *Ped Derm 22:200–205, 2005*

Berardinelli–Seip syndrome – autosomal recessive; lipoatrophic diabetes mellitus *JAAD 48:161–179, 2003*

Brachycephalofrontonasal dysplasia – widow's peak *Am J Med Genet 28:581–591, 1987*

Cantu syndrome – osteochondrodysplasia with hypertrichosis – autosomal recessive, autosomal dominant *JAAD 48:161–179, 2003*

Centrofacial lentiginosis – synophrys, high arched palate, sacral hypertrichosis, spina bifida, scoliosis *Rook p.1719, 1998, Sixth Edition; BJD 94:39–43, 1976*

Cephalocoele – includes meningocoele (rudimentary meningocoele), meningoencephalocele, meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Coffin–Siris syndrome – autosomal recessive; hypertrichosis of eyelashes, eyebrows, and lumbosacral areas *JAAD 48:161–179, 2003*

Congenital adrenal hyperplasia – hirsutism *Ghatan p.68, 2002, Second Edition*

Congenital generalized hypertrichosis – X-linked *JAAD 48:161–179, 2003*

Congenital hairy elbows (hypertrichosis cubiti) *Cutis 36:69–85,* Congenital hairy malformation of the palms and soles

Congenital hypertrichosis lanuginosa – autosomal dominant *JAAD 48:161–179, 2003*

Congenital hypertrichosis lanuginosa and dental anomalies *Clin Genet 10:303–306, 1976*

Congenital macrogingivae

Congenital melanocytic nevus

Congenital melanosis and hyperpigmentation *Ped Derm 15:290–292, 1998*

Congenital smooth muscle hamartoma *JAAD 48:161–179, 2003; JAAD 46:477–490, 2002; Curr Prob Derm 14:41–70, 2002; Ped Derm 13:431–433, 1996; AD 125:820–822, 1989; AD 121:1200–1201, 1985; AD 114:104–106, 1978*

Cornelia de Lange (Brachmann–de Lange) syndrome – specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata, skin around eyes and nose with bluish tinge, red nose *Ped Derm 19:42–45, 2002; Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997; J Pediatr Ophthalmol Strabismus 27:94–102, 1990*

Craniofacial dysostosis *JAAD 48:161–179, 2003*

Craniofrontonasal dysplasia – widow's peak *Birth Defects 15:85–89, 1979*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Cutaneous heterotopic meningeal nodule – Type I cutaneous meningioma

Depigmented hypertrichosis with dilated follicular orifices following Blaschko's lines associated with cerebral and ocular malformations *BJD 142:1204–1207, 2000*

Dermal dendrocyte hamartoma – pedunculated red nodule with stubby white hair *JAAD 32:318–321, 1995*

Dermatofibrosarcoma protuberans – congenital; hair collar sign *AD 139:207–211, 2003*

Dermoid cyst – central tuft of hair

Distichiasis (double row of eyelashes) – autosomal dominant *J Med Genet 13:514–515, 1976*

Distichiasis and congenital anomalies of the heart and peripheral vasculature *Am J Med Genet 20:283–294, 1985*

Distichiasis–lymphedema syndrome – double row of eyelashes *BJD 142:148–152, 2000; AD 135:347–348, 1999; Hum Genet 53:309–310, 1980*

Donohue syndrome (leprechaunism) – forehead and cheeks *JAAD 48:161–179, 2003*

dup (3q) syndrome – synophrys *Birth Defects 14:191–217, 1978*

Duplication of eyebrows, stretchable skin and syndactyly

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, blue–brown, yellow, brown, skin-colored plaque or macule *JAAD 51:301–304, 2004; Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 13:139–142, 1996*

Edward's syndrome (trisomy 18) – hypertrichosis of forehead

Encephalocoele *Textbook of Neonatal Dermatology, p.498, 2001;* anterior encephalocele – facial nodule *JAAD 51:577–579, 2004*

Epidermal nevus, linear

Epidermolysis bullosa, dystrophic – face and extremities *Rook p.2892, 1998, Sixth Edition*

Erythrokeratoderma variabilis

Erythropoietic porphyria *Rook p.2892, 1998, Sixth Edition*

Erythropoietic protoporphyria *Rook p.2892, 1998, Sixth Edition*

Familial cervical hypertrichosis with underlying kyphoscoliosis *JAAD 20:1069–1072, 1989*

Familial congenital anterior cervical hypertrichosis associated with peripheral sensory and motor neuropathy

Familial hypertrichosis of the palms and soles

Familial X/Y translocation *Clin Genet 24:380–383, 1983*

Faun tail nevus with underlying meningocoele, diastematomyelia, spina bifida, kyphoscoliosis, scoliosis, chest deformities (primary faun tail deformity) (lumbosacral hypertrichosis) (spina bifida occulta) *Curr Prob Dermatol 13:249–300, 2002; AD 137:877–884, 2001*

Fetal alcohol syndrome *JAAD 48:161–179, 2003*

Fetal folate antagonists syndrome (methotrexate) – widow's peak *J Pediatr 72:790–795, 1968*

Fetal hydantoin syndrome *JAAD 48:161–179, 2003*

Fetal trimethadione syndrome – synophrys *Teratology 3:349–362, 1970*

FG syndrome – widow's peak *Am J Med Genet 19:383–386, 1984*

Fibrous hamartoma of infancy – hairy plaque on arm *JAAD 41:857–859, 1999*

Focal facial dermal dysplasia without other facial anomalies – autosomal dominant; oval symmetrical scarred areas on temples, cheeks, rim of fine lanugo hairs *BJD 84:410–416, 1971*

Fronto-facio-nasal dysplasia – widow's peak *Am J Med Genet 10:409–412, 1981*

Frontometaphyseal dysplasia – hypertrichosis of buttocks and thighs *Radiol Clin N Am 10:225243, 1972*

Fucosidosis

Gingival fibromatosis, hypertrichosis, cherubism, mental and somatic retardation, and epilepsy (Ramon syndrome) *Am J Med Genet 25:433–442, 1986*

Gingival fibromatosis–hypertrichosis syndrome (Byars–Jurkiewicz syndrome) – autosomal dominant, autosomal recessive; giant fibroadenomas of breast; hypertrichosis of face, upper extremities, midback; secondary kyphosis, hypertrichosis, gingival fibromatosis *JAAD 48:161–179, 2003; Ped Derm 18:534–536, 2001; J Pediatr 67:499–502, 1965; Plast Reconstr Surg 27:608–612, 1961*

Gingival fibromatosis with distinctive facies – autosomal recessive; macrocephaly, hypertelorism, bushy eyebrows, synophrys, downslanted palpebral fissures, flat nasal bridge with hypoplastic nares, cupid-bow mouth, high arched palate *Ped Derm 18:534–536, 2001*

Hair collar sign

Hair collar sign and vascular stain – benign fibrous tumor, meningothelial hamartoma, aplasia cutis congenita *Ped Derm 22:200–205, 2005*

Hairy cutaneous malformation of the palms and soles *JAAD 48:161–179, 2003*

Hajdu–Cheney syndrome (osteolysis) – broad eyebrows (synophrys) *J Periodontol 55:224–229, 1984*

Hemihypertrophy with hypertrichosis *JAAD 48:161–179, 2003*

Hemimaxillofacial dysplasia (segmental odontomaxillary dysplasia) (HATS – hemimaxillary enlargement, asymmetry of face, skin findings) – facial asymmetry, hypertrichosis of the face, unilateral maxillary enlargement, partial anodontia, delayed eruption of teeth, gingival thickening of affected segment, Becker's nevus, hairy nevus (hypertrichosis), lip hypopigmentation, depression of cheek, erythema, hypoplastic teeth *Ped Derm 21:448–451, 2004; JAAD 48:161–179, 2003; Oral Surg Oral Med Oral Pathol 64:445–448, 1987*

Hermansky–Pudlak syndrome – hypertrichosis of the eyebrows, and trichomegaly of the arms and legs *AD 135:774–780, 1999*

Heterotopic brain tissue *Textbook of Neonatal Dermatology, p.498,500, 2001*

Heterotopic meningeal tissue *Textbook of Neonatal Dermatology, p.498, 2001*

Hirsutism

Hunter's syndrome *JAAD 48:161–179, 2003*

Hurler's syndrome *JAAD 48:161–179, 2003*

Hypertrichosis cubiti (hairy elbow) *JAAD 48:161–179, 2003; AD 137:877–884, 2001*; *Clin Exp Dermatol 24:497–498, 1999*

Hypertrichosis, pigmentary retinopathy, and facial anomalies – lipoatrophy of buttocks *Am J Med Genet 62:386–390, 1996*

Hypertrichosis pinnae in babies of diabetic mothers *JAAD 48:161–179, 2003; Indian Pediatr 24:87–89, 1987; Pediatr 68:745–6, 1981*

Hypomelanosis of Ito – focal hypertrichosis *JAAD 48:161–179, 2003; Dermatology 193:63–64, 1996;* of genital area or back *Ped Derm 19:536–540, 2002*

Kabuki makeup syndrome – long eyelashes *J Pediatr 105:849–850, 1984*

Lumbar hypertrichosis

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution; hairy palms and soles *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Mandibulofacial dysostosis – distichiasis

Mannosidosis – autosomal recessive; gingival hypertrophy, macroglossia, coarse features, prognathism, thick eyebrows, low anterior hairline, deafness, lens opacities, hepatosplenomegaly, recurrent respiratory tract infections, muscular hypotonia, mental retardation *Ped Derm 18:534–536, 2001*

Melanocytic nevus, congenital *JAAD 48:161–179, 2003; Rook p.1733–1735,2892, 1998, Sixth Edition; JAAD 36:409–416, 1997*

MELAS syndrome – mitochondrial encephalomyopathy with lactic acidosis – hypertrichosis of the legs *JAAD 48:161–179, 2003; JAAD 41:469–473, 1999*

Meningioma – nodule with overlying alopecia or hypertrichosis *JAAD 46:934–941, 2002*; *Eur J Pediatr Surg 10:387–389, 2000*

Meningocoele, cranial *Textbook of Neonatal Dermatology, p.498, 2001*

Meningothelial hamartoma – hair collar sign and vascular stain *Ped Derm 22:200–205, 2005*

Mitochondrial disorders – hypertrichosis of the back or diffusely on the back, forearms, and forehead; erythematous photodistributed eruptions followed by mottled or reticulated hyperpigmentation; alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Mucopolysaccharidoses types I, II, III, IV, VI – thick eyebrows with synophrys *JAAD 37:295–297, 1997;* Sanfilippo syndrome (mucopolysaccharidosis III) *JAAD 48:161–179, 2003; Dur J Pediatr 130:251–258, 1979*

Neurofibromatosis – plexiform neurofibroma *Curr Prob Dermatol 13:249–300, 2002*

Neurofibroma *JAAD 48:161–179, 2003*

Nevoid hypertrichosis *JAAD 48:161–179, 2003; JAAD 39:114–115, 1998; Am J Med Genet 79:195–196, 1998; Clin Exp Dermatol 16:74, 1991*

Nevus lipomatosis superficialis *BJD 87:557–564, 1972*

Noonan's syndrome – downy hypertrichosis on cheeks and shoulders *AD 114:929–930, 1978*

Occult spinal dysraphism – faun tail nevus; dermoid cyst or sinus, myelomeninocele, diastematomyelia, vertebral abnormalities, subdural or extradural lipoma, meningioma *JAAD 48:161–179, 2003; Textbook of Neonatal Dermatology, p.498, 2001; Ped Clin North Am 47:813–823, 2000*

Oliver–McFarlane syndrome – trichomegaly with mental retardation, dwarfism, and pigmentary degeneration of the retina *JAAD 37:295–297, 1997*; *Can J Ophthalmol 28:191–193, 1993*

Opitz trigonocephaly syndrome – hypertrichosis of forehead; widow's peak *Am J Dis Child 129:1348, 1975*

Oral hair *Oral Surg 49:530–531, 1980*

Penchaszadeh syndrome (nasopalpebral lipoma-coloboma syndrome) *Am J Med Genet 11:397–410, 1982*

Periorbital neurofibroma *Ophthalmology 103:942–948, 1996*

Peripheral sensory and motor neuropathy *JAAD 25:767–770, 1991*

Phenylketonuria – long eyelashes *Rook p.2812, 1998, Sixth Edition*

Plexiform neurofibroma *Textbook of Neonatal Dermatology, p.498, 2001*

Polycystic ovarian disease

Porphyria – porphyria cutanea tarda – decreased hepatic uroporphyrinogen decarboxylase in sporadic and toxic forms, and decreased enzyme in all tissues in the hereditary form; accumulation of water soluble 8-, 7-, 6-, 5-, and 4-carboxylporphyrins; hypertrichosis of cheeks, forehead, and periorbital regions in about 2/3 of patients with PCT *JAAD 48:161–179, 2003; Rook p.2590,2892, 1998, Sixth Edition;* hepatoerythropoietic porphyria *AD 138:957–960, 2002; AD 116:307–313, 1980*; variegate porphyria *JAAD 48:161–179, 2003*; *Rook p.2892, 1998, Sixth Edition* hereditary coproporphyria *BJD 96:549–554, 1977; Q J Med 46:229–241, 1977; BJD 84:301–310, 1971;* congenital erythropoietic porphyria – lanugo hair on extremities, terminal hair on face *Semin Liver Dis 2:154–63, 1982*

Primary cutaneous meningioma – including rudimentary meningocoele with tuft of hair over vertebral column *J Neurosurg 60:1097–1098, 1984; AD 130:775–777, 1994; JAAD 30:363–366, 1994*

Primary cervical hypertrichosis (anterior cervical and/or midline posterior cervical) (nevoid hypertrichosis) *AD 137:877–884, 2001*

Pigmented hairy epidermal nevus syndrome *Sem Derm 14:111–121, 1995*

Primary multifocal hypertrichosis *Eur J Dermatol 11:35–37, 2001*

Proteus syndrome *AD 140:947–953, 2004*

Rubinstein–Taybi syndrome (broad thumb hallux syndrome) – chromosome 16p; mutation in gene encoding cyclic adenosine monophosphate response element-binding protein *Nature 376:348–351, 1995;* mental deficiency, small head, broad thumbs and great toes, beaked nose, malformed low-set ears, capillary nevus of forehead, hypertrichosis of back, shoulders, and eyebrows, synophrys, keloids, cardiac defects *JAAD 48:161–179, 2003; JAAD 46:161–183, 2002; JAAD 37:295–297, 1997; Cutis 57:346–348, 1996; Am J Dis Child 105:588–608, 1963;* hirsutism of shoulders and back *Am J Med Genet Suppl 6:17–29, 1990*

Rudimentary meningocoele and membranous aplasia cutis *AD 131:1427–31, 1995*

Sequestrated meningocoele – either tuft of hair or annular array of hair *Ped Derm 14:315–318, 1994*

Schinzel–Gideon syndrome – localized hypertrichosis of face and digits *JAAD 48:161–179, 2003*

Scrotal hair *Textbook of Neonatal Dermatology, p.498, 2001*

Setleis syndrome (focal facial dermal dysplasia) – autosomal recessive; aged leonine appearance, bi-temporal scar-like defects, absent or multiple rows of upper eyelashes, eyebrows slanted up and out, scar-like median furrow of chin *Ped Derm 21:82–83, 2004; BJD 130:645–649, 1994; Pediatrics 32:540–548, 1963*

Stiff skin syndrome – hypertrichosis of eyebrows *JAAD 48:161–179, 2003; Dermatology 190:148–151, 1995*

Striated muscle hamartoma *AD 136:1263–1268, 2000; Ped Derm 3:153–157, 1986*

Supernumerary nipple (polythelia pilosa) – supernumerary nipple without the nipple *Cutis 71:344–346, 2003*

Tented eyebrows *JAAD 37:295–297, 1997*

Thoracic hypertrichosis

Treacher Collins syndrome (mandibulofacial dysostosis) – partial or total alopecia of lower eyelashes, scarring alopecia, characteristic facies, malformed pinnae, extension of scalp hair onto cheeks; blind fistulae between ear and angle of mouth *Am J Dis Child 113:405–410, 1967*

Tricho-rhino-phalangeal syndrome (Langer–Giedion syndrome) – broad eyebrows

Waardenburg's syndrome – synophrys; widow's peak *JAAD 37–295–297, 1997*

Widow's peak, ptosis, and skeletal abnormalities *Am J Med Genet 33:357–363, 1989*

Winchester syndrome – hypertrichosis of shoulders and arms, joint contractures, corneal opacities, systemic hyalinosis *JAAD 48:161–179, 2003*

## DEGENERATIVE DISEASES

Peripheral neuropathy; anterior cervical hypertrichosis associated with motor and sensory neuropathy *JAAD 25:767–770, 1991*

## DRUGS

Drug-induced – face, trunk, hands *Clinics in Dermatol 11:99–106, 1993*
- Accutane – 13-*cis*-retinoic acid
- Acetazolamide – hirsutism *Am J Ophthalmol 78:327–328, 1974*
- ACTH *Ghatan p.68, 2002, Second Edition*
- Anabolic steroids – hirsutism *Ghatan p.68, 2002, Second Edition; Cutis 44:30–35, 1989*
- Benoxaprofen – face and extremities *Br Med J 248:1228–1229, 1982*
- Corticosteroids, topical *Ped Derm 18:57–59, 2001*
- Cyclosporine *Dermatologica 172:24–31, 1986*
- Danazol – facial hirsutism *Cutis 74:301–303, 2004*
- Diazoxide – hirsutism *Ann NY Acad Sci 150:373, 1982*
- Dilantin *JAAD 18:721–741, 1988*
- Interferon *NEJM 311:1259, 1984;* eyelashes *J Interferon Cytokine Res 20:633–634, 2000*
- Iodine *JAAD 48:161–179, 2003*
- Latanoprost – topical – eyelash hypertrichosis *Cutis 67:109–110, 2001*
- Methoxsalen
- Minoxidil *BJD 101:593–595, 1979*
- Penicillin
- Penicillamine
- Progesterone
- Prostaglandin $F_{2\alpha}$ analog (latanoprost) eyedrops – trichomegaly (eyelash hypertrichosis) *JAAD 44:721–723, 2001; Cutis 67:109–110, 2001*
- PUVA *Ped Derm 18:57–59, 2001*
- Spironolactone
- Streptomycin *Ann Paediatr 174:389–392, 1950*
- Tacrolimus, topical *Ped Derm 22:86–87, 2005*
- Testosterone, topical or systemic – hirsutism *Ghatan p.68, 2002, Second Edition*

## EXOGENOUS AGENTS

Cast application *Ped Derm 18:57–59, 2001*

Chloracne *Dermatol Clin 12:569–576, 1994*

Skin graft

## INFECTIONS OR INFESTATIONS

AIDS – trichomegaly of eyelashes *J Eur Acad Dermatol Venereol 11:89–91, 1998; Arch Ophthalmol 115:557–558, 1997; JAAD 25:801–804, 1991*; hairy pinnae *JAAD 28:513, 1993*

Leishmaniasis – kala-azar – Pitaluga's sign – trichomegaly

Post-encephalitis *Ghatan p.69, 2002, Second Edition*

Vaccination sites *JAAD 48:161–179, 2003*

Varicella – transient circumscribed hypertrichosis *Pediatrics 50:487–488, 1972*

## INFILTRATIVE LESIONS

Lichen amyloidosis

## INFLAMMATORY DISORDERS

Inflammation – hypertrichosis overlying any site of chronic inflammation or friction (napsack, chewing *Arch Dermatol Syphilol 65:458–460, 1952;* vaccination – hairy scar following smallpox vaccination *Indian J Pediatr 35:283–284, 1968;* after measles vaccine *Ped Derm 18:457–458, 2001;* BCG, diphtheria; overlying wound, surgical excision, chronic venous insufficiency *Postgrad Med 43:545–546, 1967;* around burn *Br J Plast Surg 32:93–95, 1979;* excoriated insect bites *AD 117:129–131, 1981;* gonococcal arthritis, overlying osteomyelitis, with dermatitis, following varicella *Paediatrics 50:487–488, 1972;* linear overlying thrombophlebitis *AD 124:30–31, 1988; Rook p.2894, 1998, Sixth Edition;* insect bites *Ped Derm 18:57–59, 2001;* following radical lymphadenectomy *Ped Derm 18:57–59, 2001;* overlying arthritis

Stevens–Johnson syndrome – acquired distichiasis *Rook p.2994, 1998, Sixth Edition; Am J Med Genet 65:109–112, 1996*

## METABOLIC

Acromegaly – hirsutism in females *Rook p.2704, 1998, Sixth Edition*

Adrenal hirsutism *Bolognia p.1054, 2003*

Chronic illnesses – liver disease, malnutrition

Cushing's syndrome – hirsutism *Semin Dermatol 3:287–294, 1984;* iatrogenic Cushing's syndrome – lanugo hair of cheeks *Rook p.2705, 1998, Sixth Edition*

Hirsutism – hormonal (congenital adrenal hyperplasia, polycystic ovarian disease, excess ovarian androgen release syndrome), racial, pregnancy (androgen secreting tumor, luteoma, lutein cysts) *Bolognia, p.1054, 2003; Rook p.2895–2899, 1998, Sixth Edition; Obstet Gynecol 44:511–521, 1974; NEJM 288:118–122, 1973*

Hyperandrogenism – ovarian source – polycystic ovarian disease, ovarian tumors; adrenal source – congenital adrenal hyperplasia – 21-hydroxylase deficiency most common *J Clin Endocrinol Metab 63:418–423, 1986;* Cushing's disease, adrenal carcinoma, adrenal adenoma *Cancer 44:239–249, 1979;* prolactinoma; gonadal dysgenesis (46 XY) – female genitalia with male skeletal characteristics *Obstet Gyncecol 58:17–23, 1981*; androgen therapy, idiopathic hirsutism *Metabolism 37:281–286, 1988; Am J Obstet Gynecol 146:602–610, 1983; Rook p.2897–2899, 1998, Sixth Edition; Steroids 63:308–313, 1998; Q Med J 43:603–614, 1974*

Hyperprolactinemia *Bolognia p.1053, 2003*

Hypothyroidism, childhood – hypertrichosis of upper back and shoulders *Rook p.2708, 1998, Sixth Edition*

Liver disease, chronic – trichomegaly

Malnutrition

Menopause – hirsutism *Ghatan p.68, 2002, Second Edition*

Multiple sclerosis *Ghatan p.69, 2002, Second Edition*

Polycystic ovarian disease *NEJM 352:1223–1236, 2005; Clin Endocrinol 30:459–464, 1989*

Porphyria – porphyria cutanea tarda – decreased hepatic uroporphyrinogen decarboxylase in sporadic and toxic forms, and decreased enzyme in all tissues in the hereditary form; accumulation of water soluble 8-, 7-, 6-, 5-, and 4-carboxylporphyrins; hypertrichosis of cheeks, forehead, and periorbital regions in about 2/3 of patients with PCT *JAAD 48:161–179, 2003; Rook p.2590, 1998, Sixth Edition;* hepatoerythropoietic porphyria *AD 116:307–313, 1980*; variegate porphyria – protoporphyrinogen oxidase deficiency *JAAD 48:161–179, 2003; Wien Klin Wochenschr 50:830–831, 1937; BMJ ii:89, 1955*, hereditary coproporphyria *BJD 96:549–554, 1977; Q J Med 46:229–241, 1977; BJD 84:301–310, 1971;* congenital erythropoietic porphyria – lanugo hair on extremities, terminal hair on face *Semin Liver Dis 2:154–63, 1982*

Precocious puberty – premature adrenarche with molecular defects of CYP21 gene *J Clin Endocrinol Metab 84:1570–1574, 1999;* 37 patients with NF I – optic chasm tumors *J Pediar 126:364–367, 1995*

Pregnancy – hirsutism *Ghatan p.68,297, 2002, Second Edition*

Pretibial myxedema *JAAD 46:723–726, 2002; Rook p.2707, 1998, Sixth Edition; AD 122:85–88, 1986*

Starvation *Ghatan p.69, 2002, Second Edition*

Thyrotoxicosis

## NEOPLASTIC

ACTH-producing non-endocrine tumors – *Ghatan p.68, 2002, Second Edition*

Adrenal adenoma – hirsutism *Ghatan p.68, 2002, Second Edition*

Adrenal carcinoma – hirsutism *Ghatan p.68, 2002, Second Edition*

Becker's nevus – occurs in 0.5% of young men *Derm Surg 24:1032–1034, 1998; AD 92:249–251, 1965*

Dermal dendrocyte hamartoma with stubby white hair *JAAD 32:318–21, 1995*

Dermatofibroma

Eccrine angiomatous nevus (hamartoma) *JAAD 51:301–304, 2004*

Epidermal nevus – secreting LHRH – hirsutism – *AAD 97; Ped Derm section*

Hairy Pacinian neurofibroma (nerve sheath myxoma) *JAAD 18:416–419, 1988*

Melanocytic nevus – compound, intradermal, congenital

Neurofibromas, periorbital *Ophthalmology 103:942–948, 1996*

Nevoid hypertrichosis (hair follicle nevus, hairy nevus)

Ovarian tumors – arrhenoblastoma, granulosa-theca cell tumor, hilus cell tumor, metastatic ovarian carcinoma – hirsutism *Ghatan p.68, 2002, Second Edition*

Smooth muscle hamartoma

Trichofolliculoma

Unilateral nevoid hypertrichosis

## PARANEOPLASTIC DISEASES

Hypertrichosis lanuginosa acquisita (malignant down) – in mild forms, confined to face; lung, colon carcinomas most common; also breast, gall bladder, uterus, urinary bladder if accompanied by acanthosis nigricans; the malignancy is always an adenocarcinoma *Can Med Assoc 118:1090–1096, 1978;* circumscribed in acute myelogenous leukemia *Dtsch Med Wochenschr 126:845–846, 2001;* synophrys *JAAD 37:295–297, 1997*

## PRIMARY CUTANEOUS DISEASE

Atopic dermatitis – friction *JAAD 48:161–179, 2003*

Distichiasis – isolated anomaly; autosomal dominant *Am J Med Genet 65:109–112, 1996*

Epidermolysis bullosa, dystrophic types *Ann Ital Dermatol 10:195–196, 1995*

Hairy elbows/hypertrichosis cubitus *Clin Exp Dermatol 24:497–498, 1999; Ped Derm 13:303–305, 1996; AD 132:589, 1996; AD 131:858–859, 1995*

Hairy malformation of the palms and soles

Hairy neck – anterior cervical hypertrichosis; posterior cervical hypertrichosis

Hairy nose tip

Hairy palms and soles *AD 111:1146–1149, 1975*

Hairy pinnae – Indians, Mediterraneans; autosomal dominant sex-linked trait; acquired hairy pinna and eyebrows in HIV disease *JAAD 28:513, 1993; Hum Hered 20:486–492, 1970;* AIDS, XYY, babies of diabetic mothers, diabetes mellitus *JAAD 48:161–179, 2003;* carried on Y chromosome *Rook p.3014, 1998, Sixth Edition*

Hypertrichosis singularis (single long hair) *JAAD 48:161–179, 2003*

Lichen sclerosus et atrophicus – hypertrichosis of labia majora in children *Trans St John's Hosp Dermatol Soc 57:9–30, 1951; Rook p.2549–2551, 1998, Sixth Edition*

Lichen simplex chronicus *JAAD 48:161–179, 2003; Rook p.2895, 1998, Sixth Edition*

Oral mucosal hair *JAAD 15:1301–1302, 1986*

Trichomegaly – HIV, SLE, latanoprost *JAAD 48:161–179, 2003*

## PSYCHOCUTANEOUS DISORDERS

Anorexia nervosa *Ghatan p.68, 2002, Second Edition*

Habit tic

Trichotillomania with trichophagia – presence of hairs within the mouth *JAAD 15:614–621, 1986*

## SYNDROMES

Blepharocheilodontic syndrome – distichiasis *Am J Med Genet 65:109–112, 1996*

Edward's syndrome (trisomy 18) – cutis laxa of neck, hypertrichosis of the forehead and back, hemangiomas *J Med Genet 15:48–60, 1978*

Familial hirsutism *Bolognia p.1054, 2003*

Familial virilization *Bolognia p.1054, 2003*

HAIR-AN syndrome – acne, muscular physique, alopecia (hyperandrogenism), hidradenitis suppurativa, insulin-resistance, acanthosis nigricans *AD 133:431–433, 1997*

Hereditary gingival fibromatosis – autosomal dominant; hirsutism *Oral Surg 78:452–454, 1994*

Hermansky–Pudlak syndrome – trichomegaly of eyelashes, eyebrows, and arms

Hurler syndrome and other mucopolysaccharidoses

Hypertrichosis, coarse face, brachydactyly, obesity, and mental retardation *Clin Dysmorphol 5:223–229, 1996*

Hypomelanosis of Ito *Dermatology 195:71–72, 1997*

Lymphedema–distichiasis syndrome – double row of eyelashes; periorbital edema, vertebral abnormalities, spinal arachnoid cysts, congenital heart disease, thoracic duct abnormalities, hemangiomas, cleft palate, microphthalmia, strabismus, ptosis, short stature, webbed neck *Ped Derm 19:139–141, 2002; Hum Genet 39:113–6, 1977*

Neurofibromatosis type I – precocious puberty – 3% of patients with NF I have optic chiasm tumors *J Pediatr 126:364–367, 1995*

Neurofibromatosis type II – schwannomas

Oculocerebral cutaneous syndrome

Pachyonychia congenita – bushy eyebrows *Ped Derm 14:491–493, 1997*

Persistent adrenarche syndrome – hirsutism *Bolognia p.1054, 2003*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – hirsutism, osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism; sclerodermoid changes (thickening of skin), either generalized or localized (legs), cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998; JAAD 21:1061–1068, 1989; AD 124:695–698, 1988; JAAD 12:961–964, 1985*

Reflex sympathetic dystrophy – increased hair growth *Cutis 68:179–182, 2001; JAAD 35:843–845, 1996; Arch Neurol 44:555–561, 1987*

Rubinstein–Taybi syndrome – hypertrichosis of back and shoulders *JAAD 46:159, 2002*

Schwartz–Jampel syndrome – distichiasis *Am J Med Genet 65:109–112, 1996*

Treacher Collins syndrome – facial hypertrichosis

## TOXINS

Acrodynia – limbs *Acta Paediatr Scand 40:59–69, 1951*

## TRAUMA

Burn *Ghatan p.68, 2002, Second Edition*

Chewing trauma in mentally disabled *Arch Dermatol Syphilol 65:458–463, 1952*

Dermatophagia ('wolf-biter') *Cutis 59:19–20, 1997*

Fractures *JAAD 48:161–179, 2003*

Friction – sack bearers, habitual biting *Ped Derm 18:57–59, 2001*

Hypertrophic scars following knee replacement surgery *JAAD 50:802–803, 2004*

Irritation *Ped Derm 18:57–59, 2001*

Occlusion – (beneath a cast) *Ped Derm 18:57–59, 2001*

Post-traumatic

Radiation *Ghatan p.68, 2002, Second Edition*

Shock *AD 71:401–402, 1955*

Status/post surgery, burn, insect bites, vaccination, eczema in children, thrombophlebitis, healed epidermolysis bullosa, occlusion with orthopedic plaster casting

## VASCULAR

Arteriovenous fistulae

Cutaneous hyperemia

Klippel–Trenaunay–Weber syndrome *Cutis 60:127–132, 1997*

Lymphedema – lower extremity lymphedema with hypertrichosis in lymphatic filariasis *Trans R Soc Trop Med Hyg 90:671–674, 1996*

Post-phlebitic linear hypertrichosis *AD 124:30, 1988*

Pseudo-Kaposi's sarcoma due to arteriovenous fistula (Stewart–Bluefarb syndrome) – ulcerated purple plaque *Ped Derm 18:325–327, 2001; AD 121:1038–1040, 1985*

Venous malformation *JAAD 48:161–179, 2003*

Tufted angioma – red plaque with hypertrichosis; slowly enlarging benign vascular tumor of young people; mottled dull red macules and plaques, some with papules and nodules; neck, upper chest, and shoulders *Ped Derm 19:388–393, 2002; AD 136:905–914, 2000; Ped Derm 14:53–55, 1997;* lanugo hair *Clin Exp Dermatol 17:344–345, 1992*

## SYNOPHRYS

*Rook p.2979, 1998, Sixth Edition*

Aging

Drug-induced – diazoxide

Familial

Broad thumb hallux syndrome – synophrys *JAAD 37:295–297, 1997*

Centrofacial lentiginosis – synophrys, high arched palate, sacral hypertrichosis, spina bifida, scoliosis *Rook p.1719, 1998, Sixth Edition; BJD 94:39–43, 1976*

Cornelia de Lange syndrome – specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata, skin around eyes and nose with bluish tinge, red nose *Ped Derm 19:42–45, 2002; Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*; *J Pediatr Ophthalmol Strabismus 27:94–102, 1990*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Del (3p) syndrome *Am J Med Genet 32:269–273, 1990*

Distichiasis–lymphedema syndrome *BJD 142:148–152, 2000*

Dup (3q) syndrome *Birth Defects 14:191–217, 1978*

Fetal trimethadione syndrome *Teratology 3:349–362, 1970*

Frydman syndrome – autosomal recessive; prognathism, syndactyly, short stature, blepharophimosis, weakness of extraocular and frontal muscles, synophrys *Clin Genet 41:57–61, 1992*

Hajdu–Cheney syndrome (osteolysis) – broad eyebrows with synophrys *J Periodontol 55:224–229, 1984*

Hypertrichosis lanuginosa

Infantile systemic hyalinosis – autosomal recessive; synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004*

Kwashiorkor

Mucopolysaccharidoses types I, II, III, IV, VI – thick eyebrows with synophrys *JAAD 37:295–297, 1997*

Pachyonychia congenita

Pigmented hairy epidermal nevus syndrome – unilateral brown hyperpigmented plaques with hypertrichosis; generalized checkerboard pattern, ipsilateral hypoplasia of the breast, skeletal abnormalities *JAAD 50:957–961, 2004*

Porphyrias – congenital erythropoietic porphyria, porphyria cutanea tarda

Waardenburg's syndrome – synophrys; widow's peak *JAAD 37:295–297, 1997*

### TRICHOMEGALY

*Arch Ophthalmol 115:557–558, 1997; Principles and Practice of Ophthalmol, p.1852, 1994; AD 123:1599–1601, 1987*

Acrodynia

AIDS *AIDS 17:1695–1696, 2003; J Eur Acad Dermatol Venereol 11:89–91, 1998; Arch Ophthalmol 115:557–558, 1997; JAAD 28:513, 1993; AD 123:1599–1601, 1987*

AIDS and alopecia areata *Dermatology 193:52–53, 1996*

Allergic diseases – children *Ped Derm 21:534–537, 2004*

Anorexia nervosa

Bimatoprost *JAAD 51:S77–78, 2004*

Cataract and spherocytosis *Am J Ophthalmol 73:333–335, 1972*

Coffin–Siris syndrome – autosomal recessive; hypertrichosis of eyelashes, eyebrows, and lumbosacral areas *JAAD 48:161–179, 2003*

Cone–rod congenital amaurosis associated with congenital hypertrichosis *J Med Genet 26:504–510, 1989*

Cornelia de Lange syndrome (Brachmann–de Lange) – trichomegaly, synophrys, low hairline, low birth weight, mental deficiency, abnormal speech development, malformed upper limbs *Am J Med Genet 47:940–946, 1993; J Pediatr Ophthalmol Strabismus 27:94–102, 1990; Syndromes of the Head and Neck Gorlin p.300–304, 1990*

Cyclosporin A *Am J Ophthalmol 109:293–294, 1990*

Dermatomyositis *Dermatology 205:305, 2002*

Drug-induced – benoxaprofen, corticosteroids, cyclosporine *Ann Ophthalmol 24:465–469, 1992; Nephrol Dial Transplant 11:1159–1161, 1996;* diazoxide, interferon-α *Lancet 359, 1107, March, 2002; J Interferon Cytokine Res 20:633–634, 2000; Eye 13:241–246, 1999;* latanaprost *Cutis 67:109–110, 2001; Clin and Exp Ophthalmol 29:272–273, 2001;* minoxidil, penicillamine, phenytoin, psoralen, streptomycin, zidovudine

Familial trichomegaly *Arch Ophthalmol 115:1602–1603, 1997*

Gefitinib (epidermal growth factor receptor inhibitor) *BJD 151:1111–1112, 2004; Acta Oncol 42:345–346, 2003*

Hermansky–Pudlak syndrome *AD 135:774–780, 1999*

Hypertrichosis lanuginose, congenital *Rook p.2890–2891, 1998, Sixth Edition; J Genet Humaine 17:10–13, 1969*

Hypothyroidism

Interferon – interferon A *NEJM 311:1259, 1984;* interferon α 2B *Lancet 359:1107, 2002*

Kabuki makeup syndrome – long eyelashes *J Pediatr 105:849–850, 1984*

Liver disease, chronic

Leishmaniasis – Kala-azar (Pitaluga's sign) *Rook p.2994, 1998, Sixth Edition*

Lupus erythematosus, systemic *Clin Rheumatol 19:245–246, 2000*

Malnutrition

Metastatic adenocarcinoma *Clin Exp Dermatol 20:237–239, 1995*

Oliver–McFarlane syndrome – autosomal recessive; trichomegaly, pigmentatary degeneration of retina, mental and growth retardation, peripheral neuropathy, anterior pituitary deficiencies *Br J Ophthalmol 87:119–120, 2003; Can J Ophthalmol 28:191–193, 1993; Genet Couns 2:115–118, 1991; Am J Med Genet 34:199–201, 1989; Am J Ophthalmol 101:490–491, 1986; Am J Dis Child 121:344–345, 1971; Arch Ophthalmol 74:169–171, 1965*

Phenylketonuria *Rook p.2812, 2994, 1998, Sixth Edition*

Porphyria

Pregnancy

Pretibial myxedema coma

Vitreochorioretinal degeneration *Ann Ophthalmol 8:811–815, 1976*

## HYPOHIDROSIS (ANHIDROSIS)

***See XEROSIS, ICHTHYOSIS JAAD 24:1010–1014, 1991***

### DISORDERS OF ECCRINE GLANDS

AEC syndrome (Hay–Wells syndrome) – vaginal erosions, mild hypohidrosis *Ped Derm 16:103–107, 1999*

Acrodermatitis chronica atrophicans *Rook p.1997, 1998, Sixth Edition*

Acquired disorders of eccrine gland

Alopecia–onychodysplasia–hypohidrosis–deafness syndrome – small teeth, thick dystrophic toenails, hypohidrosis, hyperkeratosis of palms and soles, elbows and knees, sensorineural deafness *Human Hered 27:127–337, 1977*

Amelo-cerebro-hypohidrotic syndrome (Kohlschutter syndrome) – X-linked or autosomal recessive; hypohidrosis, hypoplastic yellow tooth enamel, epilepsy, spasticity, mental retardation *Helv Paediatr Acta 29:283–294, 1974*

Anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome) *J Dermatol 26:44–47, 1999;* X-linked recessive – absent or reduced sweating, hypotrichosis, and total or partial anodontia with conical pointed teeth *J Med Genet 28:181–185, 1991;* autosomal recessive *Ped Derm 7:242, 1990*

ANOTHER syndrome – alopecia, nail dystrophy, ophthalmic complications, thyroid dysfunction, hypohidrosis, ephelides and enteropathy, respiratory tract infections *Clin Genet 35:237–242, 1989; J Pediatr 108:109–111, 1986*

Aplasia of sweat glands *Rook p.1997, 1998, Sixth Edition*

Atopic dermatitis

Bazex–Dupre–Christol syndrome *J Med Genet 33:493–497, 1996; Clin Exp Dermatol 6:31–41, 1981;* Bazex–Dupre–Christol-like syndrome – basal cell carcinomas, hypohidrosis, hypotrichosis, milia *Derm Surg 26:152–154, 2000*

Cockayne syndrome – anhidrosis

Congenital absence of eccrine glands

Congenital erosive and vesicular dermatosis with reticulate scarring *JAAD 45:946–948, 2001; Ped Derm 15:214–218, 1998; JAAD 32:873–877, 1995*

Congenital ichthyosis, follicular atrophoderma, hypotrichosis, and hypohidrosis *Am J Med Geneet 13:186–189, 1998*

Congenital insensitivity to pain with anhidrosis – secondary acquired generalized anhidrosis *BJD 150:589–593, 2004*

Congenital poikiloderma, traumatic bullae, anhidrosis, keratoderma *Acta DV 59:347–351, 1979*

Dermal inflammatory conditions

Dermatopathia pigmentosa reticularis – autosomal dominant, reticulate hyperpigmentation of trunk, onychodystrophy, alopecia, oral hyperpigmentation, punctate hyperkeratosis of palms and soles, hypohidrosis; atrophic macules over joints with hypertrophic scarring *Semin Cut Med Surg 16:72–80, 1997; AD 126:935–939, 1990; Hautarzt 6:262, 1960*

Diabetes mellitus secondary acquired generalized anhidrosis *BJD 150:589–593, 2004*

Ectodermal dysplasias, including EEC syndrome (ectrodactyly, ectodermal dysplasia, and cleft palate) *BJD 94:277–289, 1976*

Ectodermal dysplasia with cataracts and hearing defects (Marshall's syndrome) – dental defects, cataracts, deafness *Am J Ophthalmol 45:143–156, 1958*

Ectodermal dysplasia – ankyloblepharon, absent lower eyelashes, hypoplasia of upper lids, coloboma, seborrheic dermatitis, cribriform scrotal atrophy, ectropion, lacrimal duct hypoplasia, malaligned great toenails, gastroesophageal reflux, ear infections, laryngeal cleft, dental anomalies, scalp hair coarse and curly, sparse eyebrows, xerosis, hypohidrosis, short nose absent philtrum, flat upper lip *BJD 152:365–367, 2005*

Exfoliative dermatitis *Clin Exp Derm Mar 3 (1):99–101, 1978*

Fabry's disease – secondary acquired generalized anhidrosis *AD 140:1440–1446, 2004; BJD 150:589–593, 2004*

Familial simple hypohidrosis with abnormal palmar dermal ridges *Am J Med Genet 31:591–596, 1988*

Franceschetti–Jadassohn–Naegeli syndrome – generalized reticulated hyperpigmentation, accentuated in neck and axillae; palmoplantar keratoderma; hypohidrosis *JAAD 10:1–16, 1984*

Hutchinson–Gilford syndrome (progeria) *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Hydroxyurea – long term therapy *Rinsho Kesueki 41:1214–1219, 2000*

Hypohidrosis and diabetes insipidus (Fleck syndrome) – hypohidrosis, hypotrichosis, diabetes insipidus, syndactyly, coloboma, disturbed hematopoiesis *Dermatol Wochenschr 132:994–1007, 1955*

Hypohidrosis with neurolabyrinthitis (Helwig–Larsen–Ludwigsen syndrome) *AD 95:456–459, 1967*

Hypohidrotic ectodermal dysplasia *Syndromes of the Head and Neck, p.451, 1990*

Hypoplastic enamel–onycholysis–hypohidrosis (Witkop–Brearley–Gentry syndrome) – marked facial hypohidrosis, dry skin with keratosis pilaris, scaling and crusting of the scalp, onycholysis and subungual hyperkeratosis, hypoplastic enamel of teeth *Oral Surg 39:71–86, 1975*

Ichthyosis – congenital ichthyosiform erythroderma *Rook p.1997, 1998, Sixth Edition*

Idiopathic acquired generalized anhidrosis *BJD 150:589–593, 2004; Dermatologica 178:123–125, 1989; J Neurol 235:428–431, 1988*

Incontinentia pigmenti – third stage; anhidrotic and achromic areas *JAAD 47:169–187, 2002; BJD 116:839–849, 1987*

Inflammatory or hyperkeratotic conditions

Kirman syndrome – anhidrosis, almost total alopecia, severe mental retardation *BJD 67:303–307, 1953*

Leprosy – lepromatous, borderline – anhidrosis overlying plaques *Rook p.1225, 1998, Sixth Edition*

Lichenoid drug eruption – sequela *Rook p.1917, 1998, Sixth Edition*

Lymphoma – adnexotropic (syringotropic) T-cell lymphoma – generalized anhidrosis, alopecia, pruritus, Sjögren's syndrome *BJD 151:216–226, 2004; JAAD 38:493–497, 1998; BJD 130:765–769, 1994; BJD 110:95–101, 1984; Proc R Soc Med 62:157–159, 1969*

Miliaria

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

Myelomatosis *Rook p.1997, 1998, Sixth Edition*

Naegeli syndrome–Franceschetti–Jadassohn syndrome *JAAD 28:942–950, 1993; Clin Exp Dermatol Jun;1* (*2*)*:127–140, 1976;* Naegeli–Franceschetti–Jadassohn syndrome variant – reticulate pigmentary dermatosis with hypohidrosis and short stature *Int J Dermatol 34:30–31, 1995*

Necrobiosis lipoidica diabeticorum *BJD 108:705–709, 1983*

Neonatal anhidrosis *Rook p.1997, 1998, Sixth Edition*

Olmsted syndrome – periorificial keratotic plaques; congenital diffuse sharply marginated transgradient keratoderma of palms and soles, onychodystrophy, constriction of digits, diffuse alopecia, thin nails, chronic paronychia, leukokeratosis of oral mucosa, linear keratotic streaks, follicular keratosis, constriction of digits (ainhum), anhidrosis, small stature; differential diagnostic considerations include Clouston hidrotic ectodermal dysplasia, pachyonychia congenita, acrodermatitis enteropathica, Vohwinkel's keratoderma, mal de Meleda, and other palmoplantar keratodermas *Ped Derm 20:323–326, 2003; AD 132:797–800, 1996; JAAD 10:600–610, 1984*

Pachydermoperiostosis (Touraine–Solente–Gole syndrome) *JAAD 31:941–953, 1994; AD 124:1831–1834, 1988*

Panhypopituitarism *Ghatan p.165, 2002, Second Edition*

Pinta – tertiary (late phase) – hypohidrosis and atrophy with thinning and wrinkling of skin overlying large joints *Rook p.1274, 1998, Sixth Edition*

Poland's syndrome *Scand J Plast Reconstr Surg 20:313–318, 1986*

Porokeratotic eccrine ostial and dermal duct nevus – resemble nevus comedonicus; linear keratotic papules with central

plugged pit; may be verrucous; filiform; anhidrotic or hyperhidrotic; most common on palms and soles *JAAD 43:364–367, 2000; JAAD 24:300–1, 1991; Cutis 46:495–497, 1990*

Radiation

Rapp–Hodgkin ectodermal dysplasia – autosomal dominant; sparse hair, nails narrow and dystrophic, small stature, cleft lip or palate, hypospadias, conical teeth and hypodontia; distinctive facies *Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Ross syndrome *Ghatan p.238, 2002, Second Edition*

Rosselli–Gulinetti syndrome – autosomal recessive, hypohidrosis, fine, dry, sparse scalp hair, dystrophic nails and teeth, cleft lip and palate, syndactyly, defects of external genitalia *J Plast Surg 14:190–204, 1961*

Rothmund–Thomson syndrome *Dermatology 196:260–263, 1998*

Sandmann–Andra syndrome – autosomal dominant, hypohidrosis, hypodontia *Z Kinderheilk 82:238–255, 1959*

Scleroderma *Rook p.1997, 1998, Sixth Edition*

Simple anhidrosis *Am J Dis Child 113:477–479, 1967*

Sjögren's syndrome – secondary acquired generalized anhidrosis *BJD 150:589–593, 2004*; *Clin Rheumatol 19:396–397, 2000; JAAD 16:233–235, 1987;* with syringolymphoid hyperplasia *JAAD 35:350–352, 1996*

Sunstroke

Sweat gland fatigue *Rook p.1997, 1998, Sixth Edition*

Systemic disorders

Toxic

Typhoid fever – post-typhoid anhidrosis *Postgrad Med J 71:435–436, 1995*

Xeroderma–talipes–enamel defect (Moynahan syndrome) – hypohidrosis, nail dystrophy, cleft palate, bilateral talipes, mental deficiency *Proc R Soc Med 63:447–448, 1970*

X-linked reticulate pigmentary disorder with systemic manifestations (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation (dyschromatosis) with hypopigmented corneal dystrophy (dyskeratosis), coarse unruly hair, unswept eyebrows, silvery hair, hypohidrosis, recurrent pneumonia with chronic obstructive disease, clubbing; failure to thrive, female carriers with linear macular nevoid Blascko-esque hyperpigmentation *Ped Derm 22:122–126, 2005; Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65, 1981*

## CAUSED BY PORAL OCCLUSION

Amyloidosis, familial *Rinsho Shinkeigaku 36:1183–1185, 1996*

Atopic dermatitis *Rook p.1997, 1998, Sixth Edition*

Dermatitis, various causes *Rook p.1997, 1998, Sixth Edition*

Ichthyosiform eruptions

Lamellar ichthyosis – marked hypohidrosis *Rook p.1500, 1998, Sixth Edition*

Lichen planus *Rook p.1997, 1998, Sixth Edition*

Miliaria – post-miliaria anhidrosis *Rook p.1997, 1998, Sixth Edition*

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; at birth collodion baby or ichthyosiform erythroderma; thereafter pattern resembles non-bullous ichthyosiform erythroderma; hypohidrosis; ectropion; palmoplantar hyperkeratosis, WBC vacuoles, myopathy, fatty liver, CNS disease, deafness *JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive – sweat duct obstruction by hyperkeratosis *AD 121:477–488, 1985*

Papulosquamous diseases, including psoriasis *Rook p.1997, 1998, Sixth Edition*

Tropical anhidrotic asthenia

Xerosis

## CAUSED BY ABSENCE OF SWEAT GLANDS

Anhidrotic ectodermal dysplasias

Congenital absence of eccrine glands

Generalized idiopathic anhidrosis

Segmental anhidrosis

## PAUCITY OF SWEAT GLANDS

Fabry's disease

Idiopathic acquired generalized anhidrosis *BJD 150:589–593, 2004; Dermatologica 178:123–125, 1989; J Neurol 235:428–431, 1988*

Morphea

Progressive systemic sclerosis

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Tumors *Ghatan p.238, 2002, Second Edition*

Ulcers *Ghatan p.238, 2002, Second Edition*

## NEUROPATHY

Adie's syndrome

Alcoholism *Lancet ii:721–722, 1989*

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive; skin dry or anhidrotic due to peripheral nervous system disease *JAAD 46:161–183, 2002; Clin Auton Res 6:107–110, 1996; JAAD 17:883–887, 1987; NEJM 276:1163–1167, 1967*

Autonomic insufficiency syndrome

Bronchial carcinoma – unilateral anhidrosis; with hyperhidrosis of opposite side *Eur J Dermatol 11:257–258, 2001*

Botulinum toxin injection – inhibits regional sweating *Clin Auton Res 6:123–124, 1996*

Chronic idiopathic anhidrosis *Ann Neurol 18:344–348, 1985*

Congenital insensitivity to pain with anhidrosis *Am J Med Genet 99:164–165, 2001; JID 112:810–814, 1999; Cutis 60:188–190, 1997*

Congenital sensory neuropathy (Riley–Day syndrome) with anhidrosis *J Oral Maxillofac Surg 45:331–334, 1987*

Diabetic neuropathy – hypohidrosis of legs with compensatory hyperhidrosis elsewhere *Mayo Clin Proc 64:617–628, 1989*

Ectrodactyly–ectodermal dysplasia–cleft lip/palate syndrome (EEC syndrome) *Ped Derm 20:113–118, 2003*

Familial dysautonomia (Riley–Day syndrome) *Ghatan p.238, 2002, Second Edition*

Ganglion blocking and anticholinergic drugs *Rook p.1997, 1998, Sixth Edition*

Guillain–Barré syndrome

Hereditary sensory and autonomic neuropathy type II – acral hypohidrosis (congenital insensitivity to pain with anhidrosis *Ped Derm 19:333–335, 2002; Rook p.2780, 1998, Sixth Edition*

Horner's syndrome – medullary infarction, syringomyelia, multiple sclerosis, intraspinal tumors, aortic aneurysm, cervical lymphadenopathy, surgery, regional anesthesia, tumors – transient unilateral hyperhidrosis and vasoconstriction of the face with subsequent anhidrosis *Rook p.2782, 1998, Sixth Edition*

Hyperthermia *Rook p.1997, 1998, Sixth Edition*

Hysteria *Rook p.1997, 1998, Sixth Edition*

Idiopathic orthostatic hypotension

Inflammation or tumors of hypothalamus

Leprosy *Rook p.1997, 1998, Sixth Edition*

Multiple sclerosis

Organic brain lesion *Rook p.1997, 1998, Sixth Edition*

Peripheral nerve lesion

Progressive isolated segmental anhidrosis without tonic pupils

Quadriplegia

Reflex sympathetic dystrophy *Cutis 68:179–182, 2001*

Ross' syndrome – progressive segmental anhidrosis with compensatory hyperhidrosis, Adies' pupils, loss of reflexes *Neurology 32:1041–1042, 1982*

Segmental hyperhidrosis with areflexia – diffuse loss of sweating *Neurophysiol Clin 23:363–369, 1993*

Sjögren's syndrome-associated peripheral neuropathy *Neurology 43:1820–1823, 1993*

Sympathectomy *Rook p.1997, 1998, Sixth Edition*

### CENTRAL NERVOUS SYSTEM LESIONS

Brainstem infarction *Stroke 24:100–104, 1993*

Diabetes insipidus *Neurology 49:1708–1710, 1997*

Hyperthermia

Hysteria

Organic lesion

Parkinson's disease *Clin Auton Res 9:139–144, 1999*

Syringomyelia – loss of sweating over face and upper arms *Rook p.1997, 2777, 1998, Sixth Edition*

### OTHER CAUSES

Anticholinergic drugs

Bazex syndrome *Ghatan p.238, 2002, Second Edition*

Chemical agents

Chemotherapy

Cholinergic urticaria – acquired generalized hypohidrosis *BJD 143:1064–1066, 2000*

Dehydration

Dermotrichic syndrome – X-linked recessive, congenital atrichia, ichthyosis, hypohidrosis *Am J Med Genet 44:233–236, 1992*

Endoscopic thoracic sympathectomy (T2–T4) – facial and axillary anhidrosis *Cutis 71:68–70, 2003*

Hypothyroidism – absence of sweating *JAAD 26:885–902, 1992*

Leukemia *Rook p.2397, Sixth Edition*

Mepacrine eruption *Rook p.1997, 1998, Sixth Edition*

### LOCALIZED HYPOHIDROSIS

Adnexotropic T-cell lymphoma *JAAD 38:493–497, 1998*

Bazex–Dupre–Cristol syndrome – vermiculate or follicular atrophoderma of the face, elbows and hands, hypohidrosis of face and head *JAAD 39:853–857, 1998; AD 130:337–342, 1994*

Carbon monoxide poisoning

Clove oil spillage – local anesthesia and anhidrosis *Lancet Apr16:1 (8329):882, 1983*

Damage to sweat glands by infection, irradiation, granuloma, trauma, tumors, morphea, scars, inflammation, localized denervation, vitiligo

Incontinentia pigmenti – anhidrotic and achromians lesions *BJD 116:839–849, 1987*

Progressive isolated segmental anhidrosis *Arch Neurol 39:172–175, 1982*

Scleroatrophic syndrome of Huriez – 50% of patients with hypohidrosis *Ped Derm 15:207–209, 1998*

Scleroderma

Sjögren's syndrome *JAAD 16:233–235, 1987*

Sympathetic nerve dystrophy – anhidrosis with xerosis *JAAD 49:1177–1180, 2003; Rook p.2780, 1998, Sixth Edition*

Syringolymphoid hyperplasia with alopecia and anhidrosis *JAAD 45:127–130, 2001*

Vasculitis

Vitiligo – segmental

## HYPOPIGMENTED PATCHES OR PLAQUES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – facial hypopigmentation in juvenile dermatomyositis *Ped Derm 19:132–135, 2002*

Graft vs. host disease – hypopigmented patches or total leukoderma *BJD 134:780–783, 1996*

Lupus erythematosus – systemic lupus – large areas of hypopigmentation *Rook p.2475, 1998, Sixth Edition;* vitiligo-like patches after resolution of subacute cutaneous LE *JAAD 44:925–931, 2001;* SCLE *JAAD 33:828–830, 1995; Z. Hautkr 69:123–126, 1994;* discoid LE *Rook p.3249, 1998, Sixth Edition*; neonatal LE *Rook p.3009, 1998, Sixth Edition; Clin Exp Dermatol 19:409–411, 1994;* papulonodular mucinosis of SLE – hypopigmented or skin-colored papules and nodules *AD 140:121–126, 2004*

Mixed connective tissue disease

Morphea *Rook p.2504–2508, 1998, Sixth Edition;* generalized morphea *Rook p.2511, 1998, Sixth Edition;* linear morphea *Int J Derm 35:330–336, 1996;* morphea profunda with overlying hyper- or hypopigmentation *Ped Derm 8:292–295, 1991;* pansclerotic morphea – mutilating form of morphea *AD 116:169–173, 1980*

Scleroderma *Clin Dermatol 7:1–10, 1989*

Sjögren's syndrome *Ghatan p.175, 2002, Second Edition*

### DRUG-INDUCED

Ammoniated mercury *Rook p.3249, 1998, Sixth Edition*

Chloroquine – hypopigmentation of hair *AD 121:1164–1166, 1985*

Corticosteroids – injected; topical fluorinated *Rook p.3249, 1998, Sixth Edition*

Etretinate – lightening of hair *JAAD 34:860, 1996*

Hydroxychloroquine *Ghatan p.248, 2002, Second Edition*

Mephenesin – lightening of hair *Br Med J i:997–998, 1963*

Pityriasis rosea-like drug eruption

Retinoids *Ghatan p.248, 2002, Second Edition*

Toxic epidermal necrolysis – depigmentation after toxic epidermal necrolysis *JAAD 10:106–109, 1984*

## EXOGENOUS AGENTS

Betel leaves – mottled hyperpigmentation evolving into confetti-like hypopigmentation *JAAD 40:583–589, 1999*

Chemical leukoderma *Rook p.1807, 1998, Sixth Edition*
- Hydroquinone *Rook p.3249, 1998, Sixth Edition*
- Monobenzyl ether of hydroquinone
- Monoethyl ether of hydroquinone
- Monomethyl ether of hydroquinone
- *p*-isopropylcatechol
- *p*-methylcatechol
- *p-tert*-butylcatechol
- p-*tert*-butylphenol
- p-*tert*-amylphenol
- Mercaptoamines
- N,N′N″-triethylenethiophosphoramide (thiotepa)

Condoms – chemical hypopigmentation *Rook p.2295, 1998, Sixth Edition*

Facial dressings of betel pepper (piper beetle) *JAAD 40:583–589, 1999*

Irritant contact dermatitis to toothpaste

Mercaptoethylamines *Ghatan p.248, 2002, Second Edition*

## INFECTIONS AND INFESTATIONS

AIDS – premature canities *Tyring p.367, 2002*

Herpes zoster *Rook p.3249, 1998, Sixth Edition*

Leishmaniasis – post-kala-azar dermal leishmaniasis *BJD 143:136–143, 2000; JAAD 34:257, 1996*

Leprosy – indeterminate – hypopigmented macules of face, arms, buttocks, or trunk *Clin Inf Dis 32:930–937, 2001; Rook p.1222, 1998, Sixth Edition;* tuberculoid or borderline tuberculoid – hypopigmented macule with dry, hairless anesthetic surface with fine wrinkling *Int J Lepr Other Mycobact Dis 67:388–391, 1999;* lepromatous leprosy *Rook p.1224, 1998, Sixth Edition;* borderline lepromatous *Rook p.1227, 1998, Sixth Edition;* dermatomal hypopigmented macular lesions *Experientia 39:723–725, 1983*

Millipede secretions – red eyes and mahogany pigmentation with bullae; heal with hypopigmentation *Rook p.1474, 1998, Sixth Edition*

Onchocerciasis – hypopigmented atrophic patches *JAAD 45:435–437, 2001; Cutis 65:293–297, 2000*; depigmentation and atrophy *AD 140:1161–1166, 2004; Rook p.3249, 1998, Sixth Edition; AD 120:505–507, 1984*

Pediculosis – Vagabond's leukoderma *Ghatan p.248, 2002, Second Edition*

Pinta – generalized cutaneous phase – hypochromic papules and patches *Rook p.1274, 1998, Sixth Edition;* late secondary phase hypopigmented, depigmented hyperpigmented atrophic skin *Rook p.1274, 1998, Sixth Edition;* tertiary *Cutis 51:425–430, 1993*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3 mm; group to form mamillated plaques; facial hypopigmented plaque *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

Streptocerciasis – *Mansonella streptocerca* – hypopigmented macules *Derm Clinics 17:151–185, 1999*

Syphilis – secondary; as macular syphilid fades get depigmented macules with hyperpigmented background (leukoderma syphiliticum) on back and sides of neck (necklace of Venus) *Rook p.1248–1249, 1998, Sixth Edition*

Tinea corporis

Tinea imbricata- *Trichophyton concentricum* – hypopigmented plaques *Clin Exp Dermatol 13:232–233, 1988; Trans R Soc Trop Med Hyg 78:246–251, 1984*

Tinea versicolor *Textbook of Neonatal Dermatology, p.227, 2001; Semin Dermatol 4:173–184, 1985*

Verrucae plana (flat warts) *Tyring p.261, 2002*

Yaws – secondary – lenticular hypopigmented macules *Rook p.1270, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloidosis

Langerhans cell histiocytosis

## INFLAMMATORY DISEASES

Erythema multiforme

Post-inflammatory hypopigmentation – in blacks, especially after dermatitis, sarcoidosis, leprosy, herpes zoster, tinea versicolor, cryotherapy, topical or injected corticosteroids *Textbook of Neonatal Dermatology, p.364, 2001; Int J Dermatol 29:166–174, 1990;* vulvar *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.189,193, 1998*

Pseudolymphoma – $CD8^+$ pseudolymphoma in HIV disease; widespread hypopigmentation *JAAD 49:139–141, 2003*

Sarcoid *AD 138:259–264, 2002; AD 123:1557–1562, 1987; Am J Med 35:67–89, 1963*

Sympathetic ophthalmia

## METABOLIC

Acrodermatitis enteropathica with anorexia nervosa – hypopigmented hair *JAMA 288:2655–2656, 2002*

Addison's disease – vitiligo-like patches *Rook p.1807, 1998, Sixth Edition*

Homocystinuria – skin and hair hypopigmentation *JAAD 40:279–281, 1999*

Hypopituitarism – diffuse loss of pigment *Rook p.1807,2704, 1998, Sixth Edition*

Hypothyroidism – pale, cold, scaly, wrinkled skin *Rook p.1807, 1998, Sixth Edition; JAAD 26:885–902, 1992*

Kwashiorkor – hypochromotrichia and hypopigmentation of skin *Cutis 67:321–327, 2001; Cutis 51:445–446, 1993*

Liver disease, chronic – spotty hypopigmentation on back, buttocks, and thighs; may be in relation to spider telangiectasias *Rook p.2725, 1998, Sixth Edition*

Malabsorption *Ghatan p.248, 2002, Second Edition*

Pernicious anemia – vitiligo, canities *Rook p.1783, 1998, Sixth Edition*

Phenylketonuria – phenylalanine hydroxylase deficiency; fair skin and hair *Rook p.2645, 1998, Sixth Edition*

Prolidase deficiency *Ghatan p.248, 2002, Second Edition*

Renal disease – nephrosis *Ghatan p.248, 2002, Second Edition*

Selenium deficiency – loss of pigmentation of hair and skin *Cutis 61:229–232, 1998*

Vitamin $B_{12}$ deficiency (pernicious anemia) – premature canities *Cutis 71:127–130, 2003*

## NEOPLASTIC DISEASES

Breast cancer *Ghatan p.268, 2002, Second Edition*

Desmoplastic hairless hypopigmented nevus (variant of giant congenital melanocytic nevus) *BJD 148:1253–1257, 2003*

Disseminated hypopigmented keratoses *AD 127:848–850, 1991*
- vs. Darier's disease
  - Flat warts
  - Lichen nitidus
  - Psoriasis
  - Stucco keratoses

Extramammary Paget's disease – white patches of vulva *BJD 151:1049–1053, 2004*

Halo nevus (Sutton's nevus; leukoderma acquisitum centrifugum) *AD 92:14–35, 1965*

Lesions with halos *AAD '97*
- Basal cell carcinoma
- Blue nevus
- Histiocytoma
- Melanocytic nevus, congenital nevus
- Melanoma
- Metastatic melanoma
- Neurofibroma
- Seborrheic keratosis
- Verruca plana – involuting flat wart

Linear porokeratosis *AD 135:1544–1555,1547–1548, 1999; Ped Derm 4:209, 1987; AD 109:526–528, 1974*

Lymphoma – cutaneous T-cell lymphoma *JAAD 49:264–270, 2003; JAAD 46:325–357, 2002; JAAD 42:33–39, 2000; J Dermatol 27:543–546, 2000; JAAD 32:987–993, 1995; AD 128:1265–1270, 1992*; in childhood *Ped Derm 14:449–452, 1997; AD 130:476–480, 1994; JAAD 17:563–570, 1987;* hypopigmentation associated with flares of erythrodermic CTCL *BJD 143:832–836, 2000*

Melanocytic nevus, including congenital melanocytic nevus – poliosis *AD 129:1331–1336, 1993*

Melanoma, primary hypopigmented melanoma; regressed melanoma *JAAD 53:101–107, 2005*

Melanoma (metastatic) associated leukoderma

Nevus anemicus

Nevus comedonicus – areas of hypopigmentation *AD 116:1048–1050, 1980*

Nevus depigmentosus *JID 64:50–62, 1975*

Trichodiscomas *AD 126:1091–1096, 1990*

Tumor of follicular infundibulum – facial macules *AD 135:463–468, 1999; JAAD 39:853–857, 1998; JAAD 33:979–984, 1995*

## PHOTODERMATOSES

Actinic reticuloid *Ghatan p.248, 2002, Second Edition*

Persistent actinic epidermolytic hyperkeratosis *JAAD 32:63–66, 1995*

## PRIMARY CUTANEOUS DISEASES

Albinism – light skin and hair; tyrosinase negative (type IA), yellow mutant (type IB), platinum, tyrosinase positive (type II), minimal pigment (type IB-MP), temperature sensitive (type IB-TS), brown (type II), rufous (type III), Hermansky–Pudlak syndrome, Chediak–Higashi syndrome, autosomal dominant *Textbook of Neonatal Dermatology, p.354, 2001; JAAD 19:217–255, 1988*

Albinism with deafness

Albinoidism *JAAD 19:217–255, 1988*

Alopecia mucinosa

Annular leukoderma

Atopic dermatitis

Canities and premature canities

Clear cell papulosis – hypopigmented macules and slightly elevated 1–10 mm papules along milk line on lower abdomen and pubic area *Ped Derm 22:268–269, 2005; Ped Derm 14:380–382, 1997*

Cutis tricolor – hyper- and hypopigmented lesions with a background of normal skin *Eur J Pediatr 159:745–749, 2000*

Darier's disease *Int J Derm 40:278–280, 2001; Dermatol 188:157–159, 1994; AD 128:397–402, 1992*

Hailey–Hailey disease – longitudinal leukonychia *Hautarzt 43:451–452, 1992*

Hypermelanocytic guttate and macular segmental hypomelanosis *BJD 151:701–705, 2004*

Idiopathic guttate hypomelanosis *BJD 103:635–642, 1980*
- Differential diagnosis of multiple guttate hypomelanotic macules *AAD '97; Bolognia*
  - Amyloidosis, biphasic
  - Darier's disease (admixed with keratotic lesions)
  - Idiopathic guttate hypomelanosis
  - In association with keratosis punctata
  - In association with chromosomal abnormalities
  - Disseminated hypopigmented keratoses (flat-topped papules)
  - Lichen sclerosus et atrophicus
  - Pityriasis alba
  - Pityriasis lichenoides chronica
  - PUVA therapy with leukoderma punctata
  - Tuberous sclerosis – confetti-like hypopigmentation

Leukoderma punctata – including following PUVA therapy

Lichen planus

Lichen sclerosus et atrophicus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.189–193, 1998*

Lichen simplex chronicus

Lichen striatus

Lichen striatus-like leukoderma *J Eur Acad DV 10:152–154, 1998*

Lipodystrophia centrifugalis abdominalis *Ped Derm 21:538–541, 2004; AD 104:291–298, 1971*

Midline hypopigmentation of blacks – line, band, or discrete oval macules of anterior chest, mid-sternal area; abdomen, neck *Int J Dermatol 12:229–235, 1973*

Parapsoriasis en plaque

Pigmentary demarcation lines, group C and E

Pityriasis alba *Rook p.3249, 1998, Sixth Edition*

Pityriasis lichenoides chronica (guttate parapsoriasis) *Rook p.3249, 1998, Sixth Edition*

Pityriasis rosea *Rook p.3249, 1998, Sixth Edition*

Pityriasis rotunda *JAAD 31:866–871, 1994*

Progressive macular hypomelanosis *AD 140:210–214, 2004*

Psoriasis *Rook p.3249, 1998, Sixth Edition;* Woronoff's ring

Scalp poliosis *AAD* '97; *Bolognia*

#### *INFLAMMATORY OR AUTOIMMUNE*

Alopecia areata

Alezzandrini syndrome

Post-inflammatory hypopigmentation (DLE, trauma)

Halo nevus

Vitiligo

Vogt–Koyanagi–Harada syndrome

#### *INHERITED*

Isolated white forelock (possible form fruste of piebaldism)

Isolated occipital white lock – X-linked

Piebaldism (primarily midline frontal)

Tuberous sclerosis

Waardenburg's syndrome (primarily midline frontal)

White forelock with multiple malformations – autosomal or X-linked recessive

White forelock with osteopathia striata – autosomal or X-linked recessive

#### *NEVOID*

Associated with nevus comedonicus

Congenital pigmented nevus *AD 129:1331–1336, 1993*

#### *IDIOPATHIC*

Seborrheic dermatitis *Rook p.3249, 1998, Sixth Edition*

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

Transient bullous dermolysis of the newborn *Ped Derm 20:535–537, 2003*

Vitiligo *Rook p.3249, 1998, Sixth Edition*

## SYNDROMES

Acroleukopathy – hypopigmentation around nailfolds and distal interphalangeal joints *AD 92:172–173, 1965*

Acropigmentation symmetrica of Dohi *JAAD 45:760–763, 2001; JAAD 10:1, 1984*

Alezzandrini's syndrome – unilateral degenerative retinitis, ipsilateral facial vitiligo and poliosis, with or without deafness *Textbook of Neonatal Dermatology, p.365, 2001; Ophthalmologica 147:409–419, 1964*

Angelman syndrome – hypopigmentation, mental retardation *Am J Med Genet 40:454, 1991*

Apert's syndrome – albinoid skin, craniodysostosis, cutaneous and ocular hypopigmentation, midface malformation, symmetric syndactyly, severe acneform eruptions, seborrhea *AD 128:1379–1386, 1992*

Ataxia telangiectasia – premature graying of hair *JAAD 10:431–438, 1984;* hyperpigmented macules, hypopigmented macules, café au lait macules *BJD 144:369–371, 2001*

Blacklock's albinism deafness syndrome (BADS)

Bloom's syndrome – hypopigmented macules *Ped Derm 14:120–124, 1997*

Book syndrome – hyperhidrosis, premature graying, and premolar hypodontia

Brachymetapody syndrome (Tuomaala–Haapanen syndrome) – albinoid skin – short stature, shortening of all digits but thumbs, hypoplastic maxilla, anodontia, hypotrichosis, hypoplastic breasts and genitalia, strabismus, distichiasis *Syndromes of the Head and Neck, p.834, 1990; Acta Ophthalmol 46:365–371, 1968*

Chediak–Higashi syndrome – autosomal recessive; silvery hair, azurophilic leukocyte inclusions, photophobia, hypopigmentation, early death (before age 20), recurrent pyogenic sinopulmonary infections *Curr Prob Derm 14:41–70, 2002; JAAD 19:217–255, 1988*

CHILD syndrome – congenital hemidysplasia, ichthyosis, limb defects, ichthyosiform erythroderma with verruciform xanthoma, linear eruptions, and hypopigmented bands *Ped Derm 15:360–366, 1998*

Chromosome 5p defect *Ghatan p.248, 2002, Second Edition*

Cole's disease – hypopigmentation with punctate keratoses of the palms and soles *Ped Derm 19:302–306, 2002; JID 67:72–89, 1976*

Congenital poikiloderma with unusual hypopigmentation and acral blistering at birth *J Eur Acad Dermatol Venereol 12:54–58, 1999*

Congenital poliosis

Cronkhite–Canada syndrome *Cutis 61:229–232, 1998*

Cross syndrome – gingival fibromatosis, microphthalmia, mental retardation, athetosis, hypopigmentation *J Pediatr 70:398–406, 1967*

Cross–McKusick–Breen syndrome (oculocerebral syndrome with hypopigmentation) – autosomal recessive; albino-like hypopigmentation, silver-gray hair, microphthalmos, opaque cornea, nystagmus, spasticity, mental retardation; post-natal growth retardation *J Pediatr 70:398–406, 1967*

Depigmented bilateral Blaschko hypertrichosis with dilated follicular orifices and cerebral and ocular malformations *BJD 142:1204–1207, 2000*

Dystrophia myotonia – premature canities *Ghatan p.296, 2002, Second Edition*

Ectrodactyly–ectodermal dysplasia–clefting syndrome (EEC syndrome) – albinoid skin *Clin Genet 3:43–51, 1971*; hypopigmented wiry sparse hair *JAAD 53:729–735, 2005*

Elejalde syndrome (neuroectodermal (neurocutaneous) melanolysosomal disease) – silvery hair, central nervous system dysfunction; hypotonic facies, plagiocephaly, micrognathia, crowded teeth, narrow high palate, pectus excavatum, cryptorchidism *JAAD 38:295–300, 1998*

Epidermodysplasia verruciformis *JAAD 49:S262–264, 2003*

Focal dermal hypoplasia, morning glory anomaly, and polymicrogyria – swirling pattern of hypopigmentation, papular hypopigmented and herniated skin lesions of face, head, hands, and feet, basaloid follicular hamartomas, mild mental retardation, macrocephaly, microphthalmia, unilateral morning glory optic disc anomaly, palmar and lip pits, and polysyndactyly *Am J Med Genet 124A:202–208, 2004*

Goltz's syndrome – hypopigmented streaks

Griscelli's syndrome – silvery hair, eyelashes, and eyebrows, partial albinism, and immunodeficiency *J Clin Immunol 22:237–243, 2002; JAAD 38:295–300, 1998; Semin Cut Med Surg 16:81–85, 1997; Am J Med 65:691–702, 1978*

Hermansky–Pudlak syndrome

Horner's syndrome *Ghatan p.248, 2002, Second Edition*

Hutchinson–Gilford syndrome

Hypomelanosis of Ito (incontinentia pigmenti achromians) – whorled depigmented patches in Blaschko pattern; associated musculoskeletal, teeth, eye, and central nervous system abnormalities *JAAD 19:217–255, 1988*

Incontinentia pigmenti – stage IV – hypopigmented streaks on the legs of women; achromic and anhidrotic areas *JAAD 47:169–187, 2002; BJD 116:839–849, 1987*

Klein–Waardenburg syndrome

Menkes' kinky hair syndrome – silvery hair, generalized hypopigmentation, lax skin of brows, neck, and thighs *Ped Derm 15:137–139, 1998;* carrier state with hypopigmented swirls and streaks

Multiple endocrine neoplasia syndrome (MEN I) – confetti-like hypopigmentation *AD 133:853–857, 1997*

Occipital white lock of hair

Oculocerebral hypopigmentation syndrome of Preus

Oculocutaneous albinism
- Tyrosinase negative
- Yellow mutant
- Platinum
- Tyrosinase positive
- Minimal
- Brown
- Rufous
- Hermansky–Pudlak *Ped Derm 15:374–377, 1998*
- Chediak–Higashi
- Autosomal dominant

Osteopathia striata with pigmentary dermopathy including white forelock

Pallister–Killian syndrome (mosaic tetrasomy 12p) *J Clin Dysmorphol 1:2–3, 1983*

Palmoplantar keratoderma, large ears, sparse hypopigmented scalp hair, frontal bossing *Ped Derm 19:224–228, 2002*

Parry–Romberg syndrome *Ped Derm 21:48–50, 2004; JAAD 22:531–533, 1990*

Phylloid hypomelanosis (Happle) – leaf-shaped lesions; trisomy 13; mental retardation, hearing loss, craniofacial defects, skeletal abnormalities *Am J Med Genet 85:324–329, 1999; Ped Derm 14:278–280, 1997*

Piebaldism – autosomal dominant; white forelock, white patches on upper chest, abdomen, extremities with islands of hyperpigmentation within *JAAD 44:288–292, 2001;* mutations and deletions of *c-kit* (steel factor receptor) *Am J Hum Genet 56:58–66, 1995*

Piebaldism and Hirschsprung's disease

Piebald trait with neurologic defects

POEMS syndrome *AD 123:85–87, 1987*

Prader–Willi syndrome – albinoid skin *Growth Genet Hormones 2:1–5, 1986*

Progeria – premature canities *Ghatan p.296, 2002, Second Edition*

Progressive spastic parapesis, vitiligo, premature graying, and distinct facial appearance

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Ring chromosome 13 syndrome – arciform hypopigmentation

Rothmund–Thomson syndrome

Rozycki syndrome

Symmetrical progressive leukopathy – Japan and Brazil; punctate leukoderma on shins, extensor arms, abdomen, interscapular areas *Ann Dermatol Syphiligr 78:452–454, 1951*

Tietz's syndrome – autosomal dominant; absence of pigment (generalized hypopigmentation), deaf–mutism, hypoplastic eyebrows *Cutis 73:45–46, 2004; Am J Hum Genet 15:259–264, 1963*

Triploidy syndromes *Syndromes of the Head and Neck, p.64, 1990*

Tuberous sclerosis – ash leaf macules, confetti hyopigmentation, white eyelashes *Textbook of Neonatal Dermatology, p.363, 2001; Int J Dermatol 37:911–917, 1998; JAAD 32:915–935, 1995; S Med J 75:227–228, 1982*

Vici syndrome – agenesis of corpus callosum, cleft lip, cutaneous hypopigmentation, cataracts *Am J Med Genet 66:378–398, 1996*

Vogt–Koyanagi–Harada syndrome – occurs primarily in Asians, blacks, and darkly pigmented Causians; Stage 1 – aseptic meningitis; Stage 2 – uveitis (iritis, iridocyclitis) and dysacusis (tinnitus, hearing loss); Stage 3 – depigmentation of skin (60% of patients), depigmentation of hair (poliosis – eyelashes, eyebrows, scalp, and body hair – 90% of patients), alopecia areata; halo nevi *Ann DV 127:282–284, 2000; AD 88:146–149, 1980*

Waardenburg syndrome *Am J Med Genet 6:99–100, 1980*

Werner's syndrome

Woolf syndrome – piebaldism with congenital nerve deafness *Arch Otolaryngol 82:244–250, 1965*

Xeroderma pigmentosum

X-linked reticulate pigmentary disorder with systemic manifestations (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation (dyschromatosis) with silvery hair, hypopigmented corneal dystrophy (dyskeratosis), coarse unruly hair, unswept eyebrows, hypohidrosis, recurrent pneumonia with chronic obstructive disease, clubbing; failure to thrive, female carriers with linear macular nevoid Blascko-esque hyperpigmentation *Ped Derm 22:122–126, 2005; Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65:1981*

Ziprkowski–Margolis syndrome – piebald-type hypopigmentation, deaf–mutism, heterochromic irides *Textbook of Neonatal Dermatology, p.365, 2001; AD 86:530–539, 1962*

## TRAUMA

Burns *Rook p.3249, 1998, Sixth Edition*

Cryotherapy *Rook p.3249,3574, 1998, Sixth Edition*

Dermabrasion

Laser

Traumatic scars *Clin Inf Dis 32:63,149, 2001*

### TOXINS

Chronic arsenic exposure – macular raindrop hypopigmentation *JAAD 38:179–185, 1998*

Phenol

### VASCULAR LESIONS

Proliferating hemangioma – nascent hemangioma presenting in infancy as vasoconstricted macule *Textbook of Neonatal Dermatology, p.336, 2001*; involuting hemangioma *Textbook of Neonatal Dermatology, p.337, 2001*

## HYPOPLASIA OF DISTAL PHALANGES

***Ped Derm 6:130–133, 1989***

Acro-osteolysis (Hajdu–Cheney syndrome) – short stature, bizarre-shaped skull, premature loss of teeth, generalized hirsutism, hyperelastic skin, wide nails *Birth Defects 10 (12) 106–123, 1974*

Anonychia and hypoplasia of the nails with absence of distal phalanges and foreshortening of affected digits *Textbook of Neonatal Dermatology, p.506, 2001*

Aplasia cutis congenita

Charcot foot – diabetes mellitus

Coffin–Siris syndrome

Congenital erythropoietic porphyria – resorption of digits *Ped Derm 20:498–501, 2003*

DeLange syndrome

Dup (9p) syndrome

Ectrodactyly syndromes

Epidermolysis bullosa – acro-osteolysis

Fetal hydantoin syndrome

Fryns syndrome

Goltz's syndrome

Hypoglossia–hypodactylia syndrome

Laband syndrome

Leprosy *Rook p.1225, 1998, Sixth Edition*

Mandibuloacral dysplasia – acral poikiloderma over hands and feet, subcutaneous atrophy *Am J Med Genet 95:293–295, 2000; Clin Genet 26:133–138, 1984*

Murray–Puretic–Drescher syndrome – gingival fibromatosis with juvenile hyaline fibromatosis; acroosteolysis *J Pediatr Surg 2:427–430, 1967*

Noonan's syndrome

Progeria – acro-osteolysis *AD 125:540544, 1989*

Pycnodysostosis *Presse Med 70:999–1002, 1962*

Robinson's disease – nail hypoplasia

Tuberculosis verrucosa cutis *Caputo p.144, 2000*

Winchester syndrome – acro-osteolysis *J Pediatr 84:701–709, 1974*

Yunis–Varon syndrome

## ICHTHYOSIFORM ERUPTIONS: ACQUIRED ICHTHYOSIS

***JAAD 17:616–620, 1987***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bone marrow transplant recipient *JAAD 35:17–20, 1996*

Dermatomyositis *JAAD 40:862–865, 1999; JAAD 16:627–628, 1987; JAAD 8:285–308, 1983*

Eosinophilic fasciitis *JAAD 34:1079–1080, 1996*

Fogo selvagem

Graft vs. host disease, chronic *Bone Marrow Transplant 21:1159–1161, 1998*

Hyper-IgE syndrome *Ghatan p.139, 2002, Second Edition*

Lupus erythematosus, systemic *JAAD 40:862–865, 1999*

Mixed connective tissue disease *JAAD 40:862–865, 1999; Ann Med Interne 140:221–222, 1989*

Pemphigus foliaceus

### CONGENITAL DISORDERS

Collodion baby (lamellar desquamation of the newborn) –
- Asymmetric crying facies *Ped Derm 20:134–136, 2003*
- Congenital bullous ichthyosiform erythroderma *Ped Derm 20:25–27, 2003*
- Congenital hypothyroidism *J Pediatr Endocrinolog Metab 11:69–73, 1998*
- Conradi–Hünermann syndrome *Ped Derm 20:25–27, 2003*
- Gaucher's disease type II *Arch Dis Child Fetal Neonatal Ed 82:F163–166, 2000; Arch Dis Child 63:854–856, 1988*
- Harlequin fetus
- Hay–Wells syndrome *Ped Derm 20:25–27, 2003*
- Ichthyosis vulgaris *Ann DV 113:773–785, 1986*
- IFAP syndrome *Rook p.1526, 1998, Sixth Edition*
- Keratosis–ichthyosis–deafness syndrome *Ped Derm 20:25–27, 2003*
- Lamellar ichthyosis *Ann DV 113:773–785, 1986;* mild lamellar ichthyosis *Ped Derm 9:95–97, 1992*
- Netherton's syndrome *Mod Probl Paediatr 20:40–49, 1978*
- Neu–Laxova syndrome *Ped Derm 20:25–27, 2003*
- Neutral lipid strorage disease (Chanarin–Dorfman syndrome) *BJD 153:838–841, 2005; Dermatologica 177:237–240, 1988*
- Non-bullous ichthyosiform erythroderma *Ann DV 113:773–785, 1986*
- Restrictive dermopathy *Ped Derm 20:25–27, 2003*
- Sjögren–Larsson syndrome *Ann DV 113:773–785, 1986*
- Self-healing collodion baby – autosomal recessive *Ped Derm 9:95–97, 1992*
- Trichothiodystrophy *BJD 106:705–710, 1982*
- X-linked ichthyosis *JAMA 202:485–488, 1967*

Congenital ichthyosiform dermatoses associated with blistering or denudation *Ped Derm 19:382–387, 2002*
- Annular epidermolytic hyperkeratosis
- Epidermolytic hyperkeratosis
- Ichthyosis bullosa of Siemens
- Ichthyosis exfoliativa, autosomal dominant
- Ichthyosis exfoliativa, autosomal recessive
- Peeling skin syndrome

## DRUG-INDUCED

***AD 111:1446–1447, 1975***

Allopurinol

Azacosterol hydrochloride

Benzophenone *JAAD 40:862–865, 1999*

Cholesterol-lowering drugs
- Butyrophenone
- Dixyrazine
- Nafoxidine
- Nicotinic acid *Arch Int Med 107:639, 1961*
- Triparanol *AD 87:372–377, 1963*

Cimetidine *AD 118:253–254, 1982*

Clofazimine *Cutis 29:341, 1982*

Dixyrazine *JAAD 40:862–865, 1999; Acta DV* (*Stockh*) *61:85–88, 1981*

Hydroxyurea *JAAD 49:339–341, 2003*

Immunosuppressive therapy in transplant recipients – diffuse hyperpigmented xerotic dermatitis *JAAD 44:932–939, 2001*

Isoniazid *Ghatan p.122, 2002, Second Edition*

Lovastatin

Maprotiline *Hautarzt 42:455–458, 1991*

Niacin *JAAD 40:862–865, 1999*

Phenothiazines *Ghatan p.122, 2002, Second Edition*

Retinoids – acetretin, etretinate and isotretinoin – retinoid dermatitis *JAAD 40:862–865, 1999*

## EXOGENOUS AGENTS

Kava dermopathy due to kava beverage made from kava pepper (*Piper methysticum*) – pellagra-like ichthyosiform dermatosis *JAAD 31:89–97, 1994*

## INFECTIONS AND INFESTATIONS

African trypanosomiasis *AD 131:1178–1182, 1995*

AIDS *JAAD 40:862–865, 1999; JAAD 22:1270–1277, 1990; Cutis 39:421–423, 1987*

Erythrasma

HIV-1

HIV-2 *JAAD 29:701–708, 1993*

HTLV-1 and associated myelopathy – acquired ichthyosis *BJD 149:776–781, 2003*

Leprosy – lepromatous leprosy *JAAD 40:862–865, 1999; BJD 77:151–157, 1965;* borderline tuberculoid *Rook p.1225, 1998, Sixth Edition*

*Mycobacterium tuberculosis JAAD 40:862–865, 1999*

Onchocerciasis – acquired ichthyosis with atrophic changes earliest of buttock, shoulders, and legs; fine wrinkling and xerotic skin (lizard skin) *BJD 121:187–198, 1989*

Scabies, crusted *Rook p.1464, 1998, Sixth Edition*

Scarlet fever – exfoliation

Staphylococcal scalded skin syndrome

Tinea corporis (generalized dermatophytosis) – *Trichophyton tonsurans AD 129:1184–1194, 1993*

Tinea versicolor

## INFLAMMATORY DISORDERS

Eosinophilic fasciitis – acquired ichthyosis *JAAD 34:1079–1080, 1996*

Sarcoid *JAAD 40:862–865, 1999; JAAD 17:616–620, 1987; AD 114:100–101, 1978*

## METABOLIC

Anorexia nervosa – xerosis; flaky paint scaling *JAAD 21:1–30, 1989*

Biotin deficiency – xerosis; flaky paint scaling *JAAD 15:1263–1274, 1986*

Biotinidase deficiency – neonatal and infantile; early resemble ichthyosiform eruption; both are autosomal recessive; neonatal – holocarboxylase synthetase deficient; first 6 weeks of life; fiery red intertriginous dermatitis; infantile – biotinidase deficient; early, ichthyosiform eruption; after 3 months of life, intertriginous rash with keratoconjunctivitis, xerosis, generalized pallor, periorificial dermatitis, alopecia, branny desquamation, and atrophic glossitis *Semin Dermatol 10:296–302, 1991; JAAD 9:97–103, 1983*

Celiac disease *Eur J Dermatol 10:398–399, 2000*

Diabetes mellitus – migratory ichthyosiform dermatosis (polycyclic ichthyosiform rash) with type 2 diabetes mellitus and insulin resistance *AD 135:1237–1242, 1999*

Essential fatty acid deficiency – xerosis *JAAD 21:1–30, 1989*

Gaucher's disease, type 2 – autosomal recessive; collodion baby, mild scaling later *Curr Prob Derm 14:71–116, 2002; Arch Dis Child Fetal Neonatal Ed 82:F163–166, 2000; Arch Dis Child 66:667, 1991;* congenital ichthyosis with restrictive dermopathy *Obstet Gynecol 81:842–844, 1993*

Hemochromatosis – ichthyosis-like atrophic dry skin *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hyperparathyroidism *JAAD 40:862–865, 1999; JAAD 21:801–802, 1989*

Hypohidrosis
- Ross' syndrome

Hypopituitarism *JAAD 40:862–865, 1999*

Hypothyroidism (myxedema) *JAAD 40:862–865, 1999*

Kwashiorkor – xerosis; begin as red–purple–brown patches which heal as flaky paint scaling *Cutis 67:321–327, 2001; JAAD 21:1–30, 1989;* in elderly, cracked skin on lower abdomen and pretibial areas (geriatric nutritional eczema) *Rook p.2662, 1998, Sixth Edition*

Liver disease, chronic *Rook p.2653, 1998, Sixth Edition;* cirrhosis – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Malabsorption syndromes *JAAD 40:862–865, 1999*

Malnutrition *Hautarzt 46:836–840, 1995*

Marasmus – xerosis *JAAD 21:1–30, 1989*

Multiple sulfatase deficiency – autosomal recessive; broad thumbs, mild ichthyosis, gargoylism, mental retardation, mucopolysacharidosis *BJD 147:353–355, 2002; Ped Derm 18:388–392, 2001; Ped Derm 14:369–372, 1997*

Panhypopituitarism *BJD 97:327–334, 1977*

Pellagra (niacin deficiency) – red pigmented sharply marginated photodistributed rash, including drug-induced pellagra-like dermatitis – 6-mercaptopurine, 5-fluorouracil, INH (all of the above – also seb derm-like); resembles Hartnup disease *Cutis 68:31–34, 2001; JAAD 40:862–865, 1999; Ped Derm 16:95–102, 1999*

Phrynoderma (vitamin A deficiency) – xerosis *JAAD 40:862–865, 1999; JAAD 21:1–30, 1989*

Renal disease *JAAD 40:862–865, 1999*

Vitamin A excess *Ghatan p.122, 2002, Second Edition*

Zinc deficiency *JAAD 40:862–865, 1999*

## NEOPLASTIC

Kaposi's sarcoma *JAAD 40:862–865, 1999*

Lymphoma – cutaneous T-cell lymphoma *JAAD 50:368–374, 2004; JAAD 34:887–889, 1996; Int J Derm 23:458–461, 1984;* Ki $1^+$ large cell lymphoma of the skin *J Clin Pathol 44:119–125, 1991*

Lymphomatoid papulosis *JAAD 30:889–892, 1994*

## PARANEOPLASTIC DISORDERS

Acrokeratosis paraneoplastica – with acquired ichthyosis in Hodgkin's disease *BJD 133:322–325, 1995*

Acquired ichthyosis – multiple myeloma *AD Syphilol 72:506–522, 1955;* carcinoma of breast, lung, cervix *AD 111:1446–1447, 1975;* Kaposi's sarcoma *Dermatologica 147:348–351, 1973;* carcinoma of the breast, colon, lung, cervix, intestinal leiomyosarcoma *JAAD 40:862–865, 1999;* myeloma *JAAD 40:862–865, 1999*

Leukemia *JAAD 40:862–865, 1999;* HTLV-1 (acute T-cell leukemia) (adult T-cell lymphoma/leukemia) *JAAD 49:979–1000, 2003; JAAD 46:S137–141, 2002*

Lymphoma – Hodgkin's disease – ichthyosis vulgaris-like changes of legs or generalized (increased G-CSF levels) *JAAD 49:772–773, 2003; Rook p.2393, 1998, Sixth Edition; Br Med J 1:763–764, 1955;* non-Hodgkin's lymphoma, reticulolymphosarcoma, cutaneous T-cell lymphoma (CTCL) *JAAD 34:887–889, 1996;* B-cell lymphomas *JAAD 40:862–865, 1999;* CD $30^+$ cutaneous anaplastic large cell lymphoma *JAAD 42:914–920, 2000; Tumori 85:71–74, 1999*

Lymphomatoid papulosis *JAAD 30:889–892, 1994; AD 122:1400–1405, 1986*

Metastatic male breast carcinoma – sclerodermoid ichthyosiform plaque of chest wall *AD 139:1497–1502, 2003*

Polycythemia rubra vera *JAAD 40:862–865, 1999*

Rhabdomyosarcoma *JAAD 40:862–865, 1999*

Spindle cell sarcoma *JAAD 40:862–865, 1999*

## PHOTOSENSITIVE DISEASES

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

## PRIMARY CUTANEOUS DISEASES

Adolescent-onset ichthyosiform erythroderma *BJD 144:1063–1066, 2001*

Annular epidermolytic ichthyosis – variant of bullous congenital ichthyosiform erythroderma – mutation in keratin 10 *BJD 141:642–646, 1999; JID 111:1220–1223, 1998; JAAD 27:348–355, 1992*

Asteatotic dermatitis (erythema cracquele)

Bullous congenital ichthyosiform erythroderma (epidermolytic hyperkeratosis) – autosomal dominant; warty hyperkeratosis; palmoplantar keratoderma *Curr Prob Derm 14:71–116, 2002; Rook p.1505–1507, 1998, Sixth Edition*

Collodion baby (lamellar exfoliation of the newborn) *Textbook of Neonatal Dermatology, p.278, 2001; Rook p.1494, 1998, Sixth Edition; Ann Dermatol Syphiligr 3:149–15, 1884*
- Collodion baby, ichthyosiform erythroderma, episodic pustular psoriasis *Cutis 37:162–164, 1986*
- Conradi–Hünermann disease
- Gaucher's disease *Eur J Pediatr 154:418–422, 1995*
- Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; Ped Derm 12:195, 1995; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*
- Ichthyosis vulgaris
- Koraxitrachitic syndrome – self-healing collodion baby with residual mottled reticulated atrophy; alopecia, absent eyelashes and eyebrows, conjunctival pannus, hypertelorism, prominent nasal root, large mouth, micrognathia, brachydactyly, syndactyly of interdigital spaces *Am J Med Genet 86:454–458, 1999*
- Lamellar ichthyosis – autosomal recessive, dominant
- Loricrin keratoderma – congenital ichthyosiform erythroderma and collodion baby *BJD 145:657–660, 2001*
- Neutral lipid storage disease
- Non-bullous congenital ichthyosiform erythroderma
- Netherton's syndrome
- Sjögren–Larsson syndrome
- Self-healing collodion baby (lamellar ichthyosis of the newborn) *AD 105:394–399, 1972*
- Palmoplantar keratoderma J Med Assoc Thai 76:17–22, 1993
- Trichothiodystrophy
- X-linked ichthyosis

Confluent and reticulated papillomatosis

Cyclic ichthyosis with epidermolytic hyperkeratosis *Am J Hum Genet 64:732–738, 1999*

Darier's disease

Epidermolytic hyperkeratosis *AD 130:1026–1035, 1994*

Erythrokeratoderma hiemalis

Erytherokeratoderma variabilis *Textbook of Neonatal Dermatology, p.287, 2001*

Erythrokeratoderma with ataxia

Exfoliation of the newborn

Fine scaling, keratosis pilaris, periorificial crusting, palmoplantar hyperkeratosis, blistering *JAAD 34:379–385, 1996*

Follicular ichthyosis *BJD 111:101–109, 1984*

Harlequin fetus (ichthyosis congenital fetalis) – autosomal recessive; rigid plates; severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis *BJD 153:811–814, 2005; Curr Prob Derm 14:71–116, 2002; JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Ichthyosiform dermatosis with superficial blister formation and peeling *JAAD 34:379–385, 1996*

Ichthyosiform erythroderma with generalized pustulosis *BJD 138:502–505, 1998*

Ichthyosis bullosa of Siemens – autosomal dominant; mutation of keratin 2e; superficial blistering of flexures, shins, abdomen with annular peeling; gray rippled hyperkeratosis of extremities, lower trunk, flexures; hypertrichosis; circumscribed patchy scaling (mauserung); palmoplantar blistering with hyperhidrosis *Curr Prob Derm 14:71–116, 2002; BJD 140:689–695, 1999; JID 103:277–281, 1994; JAAD 14:1000–1005, 1986*

Ichthyosis, cerebellar degeneration, and hepatosplenomegaly *BJD 100:585–590, 1979*

Ichthyosis congenita, type IV – resembles diffuse cutaneous mastocytosis *BJD 136:377–379, 1997*

Ichthyosis exfoliativa – autosomal recessive; peeling of neonate; resembles ichthyosis bullosa of Siemens in adult life *BJD 149:174–180, 2003;* thought to be identical to ichthyosis bullosa of Siemens *JAAD 27:348–355, 1992; BJD 124:191–194, 1991*

Ichthyosis hystrix (Curth–Macklin) – autosomal dominant; spiky hyperkeratosis; epidermolytic hyperkeratosis with diffuse or striate PPK *Curr Prob Derm 14:71–116, 2002; Rook p.1510, 1998, Sixth Edition*

Ichthyosis with renal disease – red skin, fine scale, vesicles over dorsal hands and feet, aminoaciduria, dwarfism, mental retardation *J Pediatr 82:466–470, 1973*

Ichthyosis, mental retardation, dwarfism, and renal impairment *J Pediatr 92:766–768, 1978*

Ichthyosis, split hairs, aminoaciduria

Ichthyosis variegata (congenital reticular ichthyosiform erythroderma) *BJD 139:893–896, 1998*

Ichthyosis vulgaris – autosomal dominant; fine white scale *Curr Prob Derm 14:71–116, 2002; Rook p.1487, 1998, Sixth Edition*

Ichthyosis vulgaris-like with keratoderma and increased serum β-glucuronidase *Dermatologica 177:341–347, 1988*

Ichthyosis vulgaris-like – autosomal recessive; no collodion membrane *AD 122:428–433, 1986*

Ichthyosis vulgaris palmaris et plantaris dominans *Dermatologica 165:627–635, 1982*

Lamellar ichthyosis – autosomal recessive *Rook p.1500–1501, 1998, Sixth Edition*; autosomal dominant *Clin Genet 30:122–126, 1986; Clin Genet 26:457–461, 1984*

Loricrin keratoderma – ichthyosis, palmoplantar keratoderma, pseudoainhum *Ped Derm 19:285–292, 2002*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive; collodion baby; fine white scales, background erythema *Curr Prob Derm 14:71–116, 2002; AD 121:477–488, 1985*

Pityriasis rotunda – may be paraneoplastic phenomenon; or with leprosy *JAAD 31:866–871, 1994; JAAD 14:74–78, 1986; BJD 76:223–227, 1964*

Progressive symmetric erythrokeratoderma *Textbook of Neonatal Dermatology, p.287, 2001*

X-linked recessive ichthyosis (steroid sulfatase deficiency) – large dark scaling of extensor surfaces of outer arms, outer thighs, around lower legs; flexures may be involved *Curr Prob Derm 14:71–116, 2002; Br Med J 1:947–950, 1966*

X-linked recessive ichthyosis (multiple sulfatase deficiency) – combination of mucopolysaccharidosis type 2 (aryl sulfatase B deficiency), metachromatic leukodystrophy (aryl sulfatase A deficiency), and XLRI *Ped Derm 14:369–372, 1997; Clin Genet 30:409–415, 1986*

X-linked recessive ichthyosis without steroid sulfatase deficiency *Am J Med Genet 59:143–148, 1995*

## SYNDROMES

Ablepharon with follicular ichthyosis and hairy pinnae *Clin Genet 2:111–114, 1971*

Adolescent-onset ichythyosiform-like erythroderma with lichenoid tissue reaction *BJD 144:1063–1066, 2001*

Anhidrotic ectodermal dysplasia

Ankyloblepharon-ectodermal dysplasia-cleft lip/palate (AEC syndrome) – collodion baby

Arthrogryposis, renal tubular dysfunction, cholestasis, ichthyosis syndrome (ARCI) *Dur J Pediatr 156:78, 1997*

Atypical ichthyosis vulgaris with hypogonadism

Buschke–Ollendorf syndrome *Sybert's Genetic Skin Disorders*

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993;* port wine stain *Clin Genet 42:206–209, 1992; JAAD 22:920–922, 1990*

Chondrodysplasia punctata, X-linked recessive – short stature with ichthyosis *Ped Derm 18:442–444, 2001*

Congenital erosive and vesicular dermatosis with reticulate scarring – collodion-like membrane *JAAD 32:873–877, 1995, Ped Derm 15:214–218, 1998*

Congenital ichthyosis, alopecia, eclabion, ectropion, mental retardation – autosomal recessive *Clin Genet 31:102–108, 1987*

Congenital ichthyosis, follicular atrophoderma, hypotrichosis, and hypohidrosis *Am J Med Geneet 13:186–189, 1998*

Congenital ichthyosis with linear keratotic flexural papules and mutilating sclerosing palmoplantar keratoderma *AD 125:103–106, 1989*

CHILD syndrome – congenital hemidysplasia, ichthyosis, limb defects, unilateral ichthyosiform erythroderma; ipsilateral hypoplasia of brain and bones *Curr Prob Derm 14:71–116, 2002; Ped Derm 15:360–366, 1998; Dermatology 191:210–216, 1995*

CHIME syndrome – colobomata, heart defects, ichthyosiform dermatosis of the flexures, mental retardation, and ear defects – congenital ichthyosis with islands of sparing; migratory plaques *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002 Ped Derm 18:252–254, 2001; J Med Genet 32:465–469, 1995*

Chondrodysplasia punctata, rhizomelic type, ichthyosis

Congenital ichythyosis, hypogonadism, small stature, facial dysmorphism, scoliosis, and myogenic dystrophy *Ann Genet 42:45–50, 1999*

Congenital ichthyosis, retinitis pigmentosa, hypergonadotropic hypogonadism, small stature, mental retardation, cranial dysmorphism, abnormal electroencephalogram *Ophthalmic Genet 19:69–79, 1998*

Congenital ichthyosis and keratoderma (Vohwinkel's syndrome)

Congenital reticular ichthyosiform erythroderma (ichthyosis variegata) *BJD 139:893–896, 1998*

Conradi–Hünermann syndrome (Happle's syndrome) (X-linked dominant chondrodysplasia punctata) (chondrodysplasia punctata, ichthyosis, cataract syndrome); autosomal recessive, collodion baby or ichthyosiform erythroderma at birth; or onset in infancy, Blaschko pattern of erythroderma and scaling; plantar hyperkeratosis; resolves in time to reveal whorl-like ichthyosiform hyperkeratosis heals with atrophy, swirls of fine scale, linear hyperpigmentation, follicular atrophoderma of arms and legs, cicatricial alopecia; skeletal defects with short stature severe autosomal rhizomelic type; X-linked recessive variant; bilateral cataracts, high arched palate, shortening of humerus and femur; chondrodysplasia punctata; peroxisomal enzyme deficiency; *JAAD 21:248–256, 1989;* whorled thick or spiky hyperkeratosis in X-linked dominant Conradi–Hünermann syndrome *JAAD 21:248–256, 1989*; linear hyperkeratotic bands with diffuse erythema and scale, follicular atrophoderma, hypochromic areas, scalp alopecia, ichthyosiform erythroderma *Curr Prob Derm 14:71–116, 2002; AD 127:539–542, 1991, Ped Derm 15:299–303, 1998; Rook p.1520, 1998, Sixth Edition;*

mutation in gene encoding 3β-hydroxysteroid-δ8, δ7-isomerase *Nat Genet 22:291–294, 1999;* Happle syndrome – X-linked dominant; erythrodermic ichthyosis at birth with streaky hyperkeratosis, patchy cicatricial alopecia, cataracts, generalized follicular atrophoderma, asymmetric shortening of legs *Ped Derm 18:442–444, 2001*

CRIE syndrome – congenital reticulated ichthyosiform erythroderma *Dermatology 188:40–45, 1994*

Dermotrichic syndrome – X-linked recessive, congenital atrichia, ichthyosis, hypohidrosis *Am J Med Genet 44:233–236, 1992*

Dorfman–Chanarin syndrome – non-bullous congenital ichthyosiform erythroderma and neutral lipid storage disease; autosomal recessive *AD 141:798–800, 2005; Am J Dermatopathol 20:79–85, 1998*

Down's syndrome *Rook p.2812, 1998, Sixth Edition*

Dubowitz syndrome *Ped Derm 12:130–133, 1995*

Ectodermal dysplasia/skin fragility syndrome – autosomal recessive; skin fragility, keratotic plaques on limbs, palmoplantar keratoderma *Curr Prob Derm 14:71–116, 2002*

Ellis–van Creveld syndrome (chondroplastic dwarf with defective teeth and nails, and polydactyly) – autosomal recessive; chondrodysplasia, polydactyly, peg-shaped teeth or hypodontia, short upper lip bound down by multiple frenulae; nail dystrophy, hair may be normal or sparse and brittle; cardiac defects; ichthyosis, palmoplantar keratoderma *Ped Derm 18:485–489, 2001; J Med Genet 17:349–356, 1980; Arch Dis Child 15:65–84, 1940*

Familial peeling skin syndrome – autosomal recessive; superficial peeling *Curr Prob Derm 14:71–116, 2002*

Fanconi syndrome, ichthyosis, dysmorphism, jaundice, and diarrhea *Pediatr Nephrol 4:308–313, 1990*

Giroux–Barbeau type – autosomal dominant; scaling plaques with progressive neurologic symptoms

Haber's syndrome *AD 117:321–324, 1981; JAAD 40:862–865, 1999*

Hallermann–Streiff syndrome

Harlequin fetus *Textbook of Neonatal Dermatology, p.278, 2001*

HID syndrome (hystrix-like ichthyosis with deafness) – autosomal dominant; shark-skin appearance, sensorineural deafness, generalized spiky and cobblestoned hyperkeratosis, neonatal erythroderma, scarring alopecia, occasional punctate keratitis; probably variant of KID syndrome with mutation of connexin 26 (gap junction protein) *BJD 146:938–942, 2002*

Ichthyosiform erythroderma and cardiomyopathy *BJD 139:1055–1059, 1998*

Ichthyosiform erythroderma and defective chemotaxis *J Pediatr 87:908–911, 1975; AD 106:755–756, 1972;* elevated IgE *J Pediatr 87:908–911, 1975;* IgM and IgG deficiencies *Dermatol Monatschr 157:525–531, 1971*

Ichthyosis, abnormal platelet function, asplenism, migraine, dyslexia *Clin Genet 28:367–374, 1985*

Ichthyosis congenita *BJD 136:377–379, 1997*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Ichthyosis–cheek–eyebrow syndrome – ICE syndrome – ichthyosis vulgaris, fullness of cheeks, thinning of eyebrows; dysmorphic features, skeletal anomalies *Clin Genet 31:137–142, 1987*

Ichthyosis, follicular atrophoderma, eyebrow hypotrichosis, woolly hair *BJD 147:604–606, 2002; Am J Med Genet 75:186–189, 1998*

Ichthyosis, mental retardation, asymptomatic spasticity *AD 126:1485–1490, 1990*

Ichthyosis with neurologic and eye abnormalities *AD 121:1149–1156, 1985*

Keratosis–ichthyosis–deafness (KID) syndrome – reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Netherton's syndrome

Refsum's disease – autosomal recessive, childhood onset, deficiency of α-phytanic acid hydroxylase, resembles ichthyosis vulgaris, cataracts, night blindness, polyneuritis, retinitis pigmentosa, ataxia *AD 123:85–87, 1987*

Sjögren–Larsson syndrome – autosomal recessive, lamellar ichthyosis, mental deficiency, macular degeneration of the retina, spastic paralysis, fatty alcohol oxidoreductase deficiency *Curr Prob Derm 14:71–116, 2002*

Trichothiodystrophy (Tay's syndrome) – BIDS – brittle hair, intellectual impairment,decreased fertility, short stature

Kallmann's syndrome – association of X-linked recessive ichthyosis with hypogonadotrophic hypogonadism, anosmia, nystagmus, synkinesis (mirror movements of hands and feet) *Int J Impot Res 12:269–271, 2000; J Pediatr Endocrinol Metab 11:631–638, 1998; Am J Ment Def 48:203–236, 1944*

Keratosis–ichthyosis–deafness (KID) syndrome – autosomal dominant/sporadic; reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990; JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Keratosis linearis with ichythyosis congenita and sclerosing keratoderma – autosomal recessive *Acta DV 77:225–227, 1997*

Koraxitrachitic syndrome – self-healing collodion baby with residual dappled atrophy *Am J Hum Genet 29:454–458, 1999*

MAUIE syndrome – micropinnae, alopecia universalis, congenital ichthyosis, ectropion *JAAD 37:1000–1002, 1997; JAAD 33:884–886, 1995*

MELAS syndrome – mitochondrial encephalomyopathy with lactic acidosis – ichthyosiform diffuse erythema *JAAD 41:469–473, 1999*

Miller syndrome – defective neutrophil chemotaxis

Naegeli–Franceschetti–Jadassohn syndrome *JAAD 28:942–950, 1993*

Netherton's syndrome – autosomal recessive; erythroderma in infancy; ichthyosis linearis circumflexa; trichorrhexis nodosa *Curr Prob Derm 14:71–116, 2002; Ped Derm 13:183–199, 1996*

Neu–Laxova syndrome – variable presentation; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb

contractures, low-set ears, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Am J Med Genet 35:55–59, 1990*

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; triglyceride-related non-lysosomal storage disease; at birth collodion baby or ichthyosiform erythroderma; thereafter pattern resembles non-bullous ichthyosiform erythroderma; erythrokeratoderma variabilis-like presentation; seborrheic dermatitis-like around face and scalp; hypohidrosis; ectropion; palmoplantar hyperkeratosis, white blood cell vacuoles, myopathy, fatty liver, CNS disease, deafness; generalized scaling, mild erythroderma; resembles congenital ichthyosiform erythroderma; neurosensory deafness, mental retardation, nystagmus, ataxia, cataracts, myopathy, hepatosplenomegaly; mutation in ABHD5 which encodes protein of esterase/lipase/thioesterase subfamily *BJD 153:838–841, 2005; Curr Prob Derm 14:71–116, 2002; BJD 144:430–432, 2001; Clin Exp Dermatol 19:434–437, 1994; Ped Derm 5:173–177, 1988; JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*; harlequin fetus *Dermatologica 177:237–240, 1988;* collodion baby *Arch Dis Child 77:184, 1997*

Noonan's syndrome

Oral and digital anomalies with ichthyosis

Peeling skin syndrome

POEMS syndrome – polyneuropathy, organomegaly (heart, kidneys, spleen), endocrinopathy, M protein, skin changes (angiomas, clubbed nails, hyperpigmentation, hypertrichosis, leukonychia, hyperhidrosis *Cutis 61:329–334, 1998; JAAD 19:979–982, 1988*

Refsum's syndrome – phytanic acid oxidase deficiency – autosomal recessive; late onset mild ichthyosis vulgaris-like, some with lamellar type scale; retinitis pigmentosa, cataracts; deafness, anosmia, sensorimotor polyneuropathy *Curr Prob Derm 14:71–116, 2002; J R Soc Med 84:559–560, 1991*

Restrictive dermopathy – autosomal recessive; collodion baby-like appearance; *AD 134:577–579, 1998*

Reticular ichthyosiform erythroderma with evolving patches of normal skin, hypertrichosis, no collodion membrane *Dermatology 188:40–45, 1994*

Rud's syndrome – ichthyosis with hypogonadism; congenital ichthyosis, hypogonadism, mental retardation, retinitis pigmentosa, hypertrophic polyneuropathy *Neuropediatrics 13:95–98, 1982*

Rhizomelic dwarfism – autosomal recessive; chondrodysplasia punctata with mild ichthyosis *Ped Derm 18:442–444, 2001*

Schwachman's syndrome (ichthyosis, exocrine pancreatic insufficiency, impaired neutrophil chemotaxis, growth retardation, metaphyseal dysplasia) *Ped Derm 9:57–61, 1992; AD 127:225–230, 1991*

Shokeir syndrome – proportionate short stature, absent thumbs, anosmia, ichthyosiform dermatosis, congenital heart defect *Am J Med Genet 66:378–398, 1996*

Sjögren–Larsson syndrome – autosomal recessive; ichthyosis with light peeling of trunk and lamellar-like ichthyosis of lower legs, mild to moderate mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo – deficiency of fatty aldehyde dehydrogenase *Curr Prob Derm 14:71–116, 2002; Chem Biol Interact 130–132:297–307, 2001; Am J Hum Genet 65:1547–1560, 1999; JAAD 35:678–684, 1996; Acta Psychiatr Scand 32:1–112, 1957*

Tay's syndrome (trichothiodystrophy) – collodion baby *Pediatrics 87:571–574, 1991;* ichthyosiform erythroderma *Pediatrics 87:571–574, 1991; Ped Derm 6:202–205, 1989*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – autosomal recessive; collodion baby or congenital erythroderma, ichthyosis with fine scaling; ichthyosis vulgaris-like; erythrodermic hypohidrotic-like, lamellar-like; palmoplantar hyperkeratosis; hypoplastic ear cartilage; parchment-like skin, brittle sparse eyebrow and scalp hair, premature aging, with elfin-like face with fat atrophy, prominent ears, recessed chin; sexual immaturity, very short stature; dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Curr Prob Derm 14:71–116, 2002; Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

Unusual facies, digital abnormalities, ichthyosis *J Med Genet 26:339–342, 1989*

Vohwinkel's syndrome – knuckle papules, palmoplantar keratoderma, ichthyosis, pseudoainhum *JAAD 44:376–378, 2001*

XLRI with mild mental retardation, chondrodysplasia punctata and short stature *Clin Genet 34:31–37, 1988*

Zunich neuroectodermal syndrome – migratory ichthyosiform dermatosis *Ped Derm 13:363–371, 1996*

### TOXINS

Eosinophilia myalgia syndrome *JAAD 25:512–517, 1991*

### TRAUMA

Radiotherapy *JAAD 40:862–865, 1999;* ichthyosiform erythroderma due to megavoltage radiotherapy *Cutis 48:59–60, 1991*

Sympathectomy-induced ichthyosis-like eruption *Int J Dermatol 39:146–151, 2000*

### VASCULAR DISORDERS

Lymphostasis

## IMMUNE DEFICIENCY SYNDROMES WITH PYODERMAS

***Ped Derm 1:134–142, 1983***

Acrodermatitis enteropathica *Am J Med Genet 66:378–398, 1996*

Adenine deaminase deficiency – autosomal recessive; disproportionate short stature; short limb skeletal dysplasia type 1 (bowed femurs); severe immunodeficiency *Am J Med Genet 66:378–398, 1996*

α-Mannosidosis – autosomal recessive; hepatosplenomegaly, psychomotor retardation, dysostosis multiplex *Am J Med Genet 66:378–398, 1996*

Anhidrotic ectodermal dysplasia with immunodeficiency – mutation in NEMO *JAAD 47:169–187, 2002*

Ataxia–telangiectasia – autosomal recessive *Am J Med Genet 66:378–398, 1996*

Biotin-responsive multiple carboxylase deficiency – alopecia, developmental delay, hypotonia, seizures, biotinidase deficiency *Am J Med Genet 66:378–398, 1996*

Bloom's syndrome – autosomal recessive; short stature, telangiectatic erythema of face, photosensitivity *Am J Med Genet 66:378–398, 1996*

Braegger syndrome – proportionate short stature, IUGR, ischiadic hypoplasia, renal dysfunction, craniofacial anomalies, postaxial polydactyly, hypospadias, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Bruton's hypogammaglobulinemia – X-linked (90%) or autosomal recessive (10%)

Cartilage-hair hypoplasia (metaphyseal chondrodysplasia of McKusick) (disproportionate short stature; short limb skeletal dysplasia) – dwarfism, mild leg bowing, short sparse, lightly colored hair; some with total baldness, immune defects *Am J Med Genet 66:378–398, 1996; Eur J Pediatr 155:286–290, 1996; Eur J Pediatr 142:211–217, 1993; Am J Med Genet 41:371–380, 1991; Bull Johns Hopkins Hosp 116:285–326, 1965*

Chediak–Higashi syndrome *Am J Med Genet 66:378–398, 1996*

Chronic blepharitis and pyoderma of the scalp – with hypercupremia and decreased intracellular killing *Ped Derm 1:134–142, 1983*

Chronic granulomatous disease *NEJM 352:64–69, 2005; Bolognia p.842–844, 2003*

Common variable immunodeficiency *BJD 147:364–367, 2002*

Defective intracellular killing, pyoderma, blepharitis, scarring alopecia

Deletion of short arm of chromosome 18 – mental and growth deficiency, microcephaly, ptosis *Am J Med Genet 66:378–398, 1996*

Deletion of long arm of chromosome 18 – midface hypoplasia, microcephaly, mental retardation, nystagmus *Am J Med Genet 66:378–398, 1996*

Deletion of chromosome 22:q11 (DiGeorge/velo-cardio-facial syndrome) – aortic arch anomalies, hypocalcemia, facial defects, thymic hypoplasia *Am J Med Genet 66:378–398, 1996*

DNA ligase I deficiency – short stature, photosensitivity *Am J Med Genet 66:378–398, 1996*

Dubowitz syndrome – occasional immunodeficiency *Am J Med Genet 66:378–398, 1996*

Dyskeratosis congenita *Am J Med Genet 66:378–398, 1996*

Enteropathy with villous edema – autosomal dominant of Mennonites, fulminant plasma-like stool, edematous jejunal villi *Am J Med Genet 66:378–398, 1996*

Familial intestinal polyatresia – multiple atresias from pylorus to rectum with combined immunodeficiency *Am J Med Genet 66:378–398, 1996*

Familial neutrophil chemotaxis defect syndrome

Fanconi pancytopenia – autosomal recessive; radial hypoplasia, hyperpigmentation, pancytopenia *Am J Med Genet 66:378–398, 1996*

5′ nucleotidase elevation – increased nucleotide catabolism, developmental delay, seizures, megaloblastic anemia, aggressive behavior *Am J Med Genet 66:378–398, 1996*

Fleisher syndrome – proportionate short stature, hypogammaglobulinemia, isolated growth hormone deficiency *Am J Med Genet 66:378–398, 1996*

Folic acid malabsorption (transport defect) – megaloblastic anemia, convulsions, movement disorder *Am J Med Genet 66:378–398, 1996*

Frankel–Russe syndrome – retinal telangiectasias, recurrent infections *Am J Med Genet 66:378–398, 1996*

Galactosemia – autosomal recessive; hepatomegaly, hypoglycemia, jaundice, feeding difficulties *Am J Med Genet 66:378–398, 1996*

Glutathione synthetase deficiency – autosomal recessive; hemolytic anemia, acidosis, neutropenia, decreased bactericidal activity, failure to assemble microtubules *Am J Med Genet 66:378–398, 1996*

Glycogen storage disease Ib – autosomal recessive; recurrent infection, neutropenia, glucose-6-phosphate transport defect *Am J Med Genet 66:378–398, 1996*

Good syndrome – immunodeficiency, thymoma *Am J Med Genet 66:378–398, 1996*

Griscelli syndrome *Am J Med Genet 66:378–398, 1996*

Hallermann–Streiff syndrome – autosomal dominant; occasional immunodeficiency – thin pinched nose, congenital cataracts, hypotrichosis, microphthalmia *Am J Med Genet 66:378–398, 1996*

Hutchinson–Gilford syndrome – autosomal dominant; occasional immunodeficiency *Am J Med Genet 66:378–398, 1996*

Hyper-IgM syndrome (hypogammaglobulinemia with hyper-IgM) – X-linked with mutation in CD40 ligand gene; low IgA and IgG; sarcoid-like granulomas; multiple papulonodules of face, buttocks, arms *Ped Derm 21:39–43, 2004; Bolognia p.845, 2003*

ICF syndrome (immunodeficiency, centromeric instability-facial anomalies) – autosomal recessive; variable immune deficiency, mental retardation, chromosomal instability, facial dysmorphism *Am J Med Genet 66:378–398, 1996*

Job's syndrome (hyper-IgE syndrome) (Buckley's syndrome) – chronic recurrent Staphylococcus (cold) abscesses, hyperextensible joints, red hair, female, hyper-IgE syndrome *J Pediatr 141:572–575, 2002; NEJM 340:692–702, 1999; Lancet 1:1013–1015, 1966*

Jung syndrome – pyoderma, folliculitis, atopic dermatitis, response to histamine-1 antagonist *Am J Med Genet 66:378–398, 1996*

Kotzot syndrome – autosomal recessive; tyrosinase-positive oculocutaneous albinism, granulocytopenia, thrombocytopenia, recurrent bacterial infections, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Krawinkel syndrome – lissencephaly, abnormal lymph nodes, spastic tetraplegia, transient arthritis, mental *Am J Med Genet 66:378–398, 1996*

Lazy leukocyte syndrome

Lichtenstein syndrome – osteoporosis, bony anomalies, lung cysts, neutropenia *Am J Med Genet 66:378–398, 1996*

Methylmalonic aciduria – autosomal recessive; acidosis, recurrent severe infection *Am J Med Genet 66:378–398, 1996*

Mulibrey nanism – autosomal recessive, proportionate short stature, prenatal growth deficiency, muscle weakness, abnormal sella turcica, hepatomegaly, ocular fundi lesions *Am J Med Genet 66:378–398, 1996*

Mulvihill–Smith syndrome – autosomal dominant; proportionate short stature, microcephaly, unusual facies (broad forehead, small face, micrognathia), multiple pigmented nevi, hypodontia, immunodeficiency with chronic infections, high pitched voice, progeroid, conjunctivitis, delayed puberty *Am J Med Genet 66:378–398, 1996; J Med Genet 31:707–711, 1994*

Myeloperoxidase deficiency syndrome

Netherton syndrome *Am J Med Genet 66:378–398, 1996*

Nijmegen breakage syndrome – autosomal recessive; microcephaly, mental retardation, prenatal onset short stature, bird-like facies, café-au-lait macules *Am J Med Genet 66:378–398, 1996*

Omenn syndrome – disproportionate short stature, short limb skeletal dysplasia type1; alopecia, eosinophilia, ichthyosiform skin lesions, reticuloendotheliosis, erythroderma *Am J Med Genet 66:378–398, 1996*

Orotic aciduria, type I – autosomal recessive – megaloblastic anemia, severe infection *Am J Med Genet 66:378–398, 1996*

Papillon–Lefevre syndrome – autosomal recessive *Am J Med Genet 66:378–398, 1996*

Powell syndrome – X-linked, intractable diarrhea, autoimmune polyendocrinopathy, dermatitis, hemolytic anemia *Am J Med Genet 66:378–398, 1996*

Primary intestinal lymphangiectasia – autosomal dominant, lower limb edema, loss of immunoglobulin and lymphocytes into gastrointestinal tract *Am J Med Genet 66:378–398, 1996*

Primary sclerosing cholangitis with immunodeficiency – autosomal recessive *Am J Med Genet 66:378–398, 1996*

Propionic acidemia – autosomal recessive; acidosis, vomiting, ketosis *Am J Med Genet 66:378–398, 1996*

Purine nucleoside phosphorylase deficiency – severe immunodeficiency, neurologic findings, hemolytic anemia *Am J Med Genet 66:378–398, 1996*

Ritscher–Schinzel syndrome – autosomal recessive; Dandy Walker-like malformation, atrioventricular canal defect, short stature *Am J Med Genet 66:378–398, 1996*

Rubinstein–Taybi syndrome – occasional immunodeficiency *Am J Med Genet 66:378–398, 1996*

Schimke immuno-osseous dysplasia – disproportionate short stature, spondyloepiphyseal dysplasia, progressive nephropathy, episodic lymphopenia, pigmentary skin changes *Am J Med Genet 66:378–398, 1996*

Schwachman syndrome – disproportionate short stature, metaphyseal dysplasia, exocrine pancreatic insufficiency, cyclic neutropenia *Am J Med Genet 66:378–398, 1996*

Schwartz–Jampel syndrome – autosomal recessive; occasional immunodeficiency; epiphyseal dysplasia, short stature, myotonic myopathy, myopia, joint contractures *Am J Med Genet 66:378–398, 1996*

Seckel syndrome – occasional immunodeficiency; bird-like facies, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Shokeir syndrome – proportionate short stature, absent thumbs, anosmia, ichthyosiform dermatosis, congenital heart defect *Am J Med Genet 66:378–398, 1996*

Short limb skeletal dysplasia type 3 – metaphyseal dysplasia, exocrine pancreatic insufficiency, cyclic neutropenia *Am J Med Genet 66:378–398, 1996*

Smith–Lemli–Opitz syndrome – autosomal recessive; occasional immunodeficiency; cryptorchidism, partial syndactyly of 2nd and 3rd toes, anteverted nostrils, defect in cholesterol metabolism *Am J Med Genet 66:378–398, 1996*

Toriello syndrome – autosomal recessive; proportionate short stature, prenatal growth deficiency, delayed skeletal maturation, cataracts, enamel hypoplasia, neutropenia, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Transcobalamin II deficiency – autosomal recessive; transport protein for $B_{12}$, severe megaloblastic anemia, leukopenia, thrombocytopenia *Am J Med Genet 66:378–398, 1996*

Turner syndrome – missing or abnormal X chromosome (XO, isoX, ring X) *Am J Med Genet 66:378–398, 1996*

Vici syndrome – agenesis of corpus callosum, cleft lip, cutaneous hypopigmentation, cataracts *Am J Med Genet 66:378–398, 1996*

Wiskott–Aldrich syndrome – chronic eczematous dermatitis resembling atopic dermatitis, recurrent infections in male infants (pyodermas, otitis media), thrombocytopenic purpura with enlarged platelets *Am J Med Genet 66:378–398, 1996*

Xeroderma pigmentosum – autosomal recessive *Am J Med Genet 66:378–398, 1996*

# INGUINAL LYMPHADENITIS

Cancer, including penile carcinoma *Urol Int 47:108–109, 1991*

Capnocytophagia *J Clin Microbiol 29:832–833, 1991*

Cat scratch disease *J Clin Microbiol 38:2062–2064, 2000*

Chancroid

Chronic granulomatous disease *J Clin Immunol 3:287–291, 1983*

Dermatopathic lymphadenopathy – numerous dermatologic conditions

Drug eruptions

Ecthyma *AD 132:823, 826, 1996*

Entamoeba histolytica *Mayo Clin Proc 75:513–516, 2000*

Filariasis *Am J Trop Med Hyg 31:942–952, 1982*

Gonococcal urethritis *Mil Med 137:107–108, 1972*

Herpes simplex, genital *Histopathology 19:355–360, 1991*

Hidradenitis suppurativa

Hodgkin's disease

Incarcerated inguinal hernia

Kikuchi's disease *Schweiz Rundsch Med Prax 89:671–674, 2000; Clin Rheumatol 15:81–83, 1996*

Leishmaniasis *Int J Derm 28:248–254, 1989*

Loa loa *Am J Trop Med Hyg 33:395–402, 1984*

Lupus erythematosus *Semin Arthritis Rheum 26:477–482, 1996*

Lymphogranuloma venereum *J Inf Dis 160:662–668, 1989*

Lymphoma

Metal release from a prosthesis *J Bone Joint Surg Br 75:266–269, 1993*

Mycobacteria, atypical *J Pediatr Surg 36:1337–1340, 2001; Mycobacterium chelonae Dermatology 187:299–300, 1993*

*Mycobacterium tuberculosis Int J Derm 39:856–858, 2000;* scrofuloderma and tuberculosis verrucosa cutis *Dermatology 196:459–460, 1998;* scrofuloderma *J Dermatol 22:582–586, 1995*

Onchocerciasis

Penile drug abuse *Urology 45:686–688, 1995*

Pneumococcal inguinal adenitis *NY State J Med 85:509–510, 1985*

Plague

Streptococcal disease – *Am J Med 77:151–153, 1984;* group B streptococcal adenitis and cellulitis *Arch Fr Pediatr 44:889, 1987*

Subcorneal pustular dermatosis *BJD 119:803–807, 1988*

Syphilis *Am J Surg Pathol 3:553–555, 1979*

Toxoplasmosis *S Afr Med J 60:784–785, 1981*

Tularemia

*Yersinia enterocolitica South Med J 82:401–402, 1989; Diagn Microbiol Infct Dis 5:265–268, 1986*

# INTERTRIGO, INCLUDING DIAPER DERMATITIS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – medicines, contraceptives, occupational exposure; topical corticosteroids *AD 119:1023, 1983*

Bullous pemphigoid *Rook p.3168, 1998, Sixth Edition*; localized childhood vulvar pemphigoid *AD 128:804–807, 1992; JAAD 22:762–764; 1990; Ped Derm 2:302–307, 1985*

Cicatricial pemphigoid *Rook p.1874–1875, 1998, Sixth Edition; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

Dermatitis herpetiformis – diaper area *Ghatan p.108, 2002, Second Edition*

Dermatomyositis

Epidermolysis bullosa acquisita

IgA pemphigus – resembles subcorneal pustular dermatosis *AD 138:744–746, 2002; JAAD 43:546–549, 2000*

Lichenoid reactions with antibodies to desmoplakins I and II – vulvar erythema and perianal erythema *JAAD 48:433–438, 2003*

Linear IgA disease (chronic bullous disease of childhood) – intertriginous and perigenital *JAAD 51:95–98, 2004*

Lupus erythematosus – discoid LE, neonatal LE, telangiectasias in neonatal LE

Pemphigoid vegetans – vegetating plaque *JAAD 30:649–650, 1994; JAAD 29:293–299, 1993; AD 115:446–448, 1979*

Pemphigus foliaceus

Pemphigus vegetans *Rook p.1857–1858, 1998, Sixth Edition; AD 114:627–628, 1978*

Pemphigus vulgaris *Cutis 61:21–24, 1998; Rook p.3168, 1998, Sixth Edition*

Scleroderma – axillary verrucous pigmentation resembling acanthosis nigricans *Br Med J ii:1642–1645, 1966*

## DRUGS

Doxorubicin – polyethylene glycol-coated liposomal doxorubicin *AD 136:1475–1480, 2000*

Etretinate ulcers of intertrigenous areas *Cutis 45:111–3, 1990*

Fixed drug eruption *Dtsch Med Wochenschr 125:1260–1262, 2000*

Interleukin-1 alpha followed by ifosfamide, carboplatin, and etoposide – erosive intertrigo *JAAD 35:705–709, 1996*

Lithium carbonate – axillary subcorneal pustular dermatosis *Cutis 41:165–166, 1988*

Periorificial dermatitis around vulva due to topical steroids

Syringosquamous metaplasia – red, blanching, crusted papules; due to cancer chemotherapy *BJD 134:984–986, 1996; AD 126:73–77, 1990; Am J Dermatopathol 12:1–6, 1990*

## EXOGENOUS AGENTS

Irritant contact dermatitis – axillary dermatitis from deodorant sticks; irritant diaper (napkin) dermatitis, peristomal and perianal dermatitis *Textbook of Neonatal Dermatology, p.251, 2001; Rook p.729, 1998, Sixth Edition*

## INFECTIONS AND/OR INFESTATIONS

Amebiasis – phagedenic necrosis, fistulae, pseudoelephantiasis; granulomas, condylomatous masses *Dermatol Trop 2:129–136, 1963*

Botryomycosis *JAAD 9:428–434, 1983*

Candidiasis – flexural candidiasis *Rook p.1342,3212, 1998, Sixth Edition; Clin Obstet Gynecol 24:407–438, 1981;* diaper dermatitis *Textbook of Neonatal Dermatology, p.252, 2001;* erosio interdigitalis blastomycetica and chronic mucocutaneous candidiasis; multiple entities can show changes of chronic mucocutaneous candidiasis including Nezelof syndrome, Swiss-type agammaglobulinemia, DiGeorge's syndrome, hyper-IgE syndrome, mucoepithelial dysplasia

Chancroid resembling granuloma inguinale

Condyloma acuminata

Cytomegalovirus diaper dermatitis – a cause of perineal ulcers and diaper dermatitis *AD 127:396–398, 1991; JAAD 24:857–863, 1991*

Dermatophilus congolensis – due to contact with infected animals *BJD 145:170–171, 2001*

Dermatophytosis – tinea corporis, tinea cruris – *Trichophyton rubrum*, *Epidermophyton floccosum Semin Dermatol 4:185–200, 1985;* tinea pedis – bullous *Rook p.1300–1301,1309, 1998, Sixth Edition; Trichophyton rubrum* and *Epidermophyton* diaper dermatitis *Clin Ped 26:149–151, 1987; Trichophyton verrucosum* (zoophilic fungus of cattle) diaper dermatitis *Ped Derm 10:368–369, 1993*

Diphtheria – superficial round ulcer with overhanging edge; gray adherent membrane; later edge thickens and becomes raised and rolled; umbilicus, post-auricular, groin, finger or toe web; heals with scarring; crusts around nose and mouth with faucial diphtheria *Schweiz Rundsch Med Prax 87:1188–1190, 1998; Postgrad Med J 72:619–620, 1996; Am J Epidemiol 102:179–184, 1975*

Enterobiasis (*Enterobius vermicularis*) – perineal intertrigo *Rook p.1390, 1998, Sixth Edition*

Erythrasma – intertriginous and perigenital; *Corynebacterium minutissimum*; red to brown irregularly shaped and sharply marginated scaly and slightly creased patches of groin, axillae, intergluteal, submammary flexures, toe webs; coral-red fluorescence with Wood's light examination due to coproporphyrin; toe clefts are most frequent location; acanthosis nigricans and normal follicular openings of face and trunk may show coral pink fluorescence *Rev Infect Dis 4:1220–1235, 1982*

Gram-negative web space infections *Caputo p.140–141, 2000*

Granuloma inguinale Rook p.3168, 1998, Sixth Edition

Hand, foot and mouth disease – diaper rash of hand foot and mouth disease *Dialogues in Dermatol, Nov. 2001*

Herpes simplex infection *Rook p.3168, 1998, Sixth Edition;* linear intertrigo

HTLV-1 infection – infective dermatitis of scalp, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin; generalized papular dermatitis *Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Impetigo contagiosa

*Mycobacterium haemophilum* – inguinal ulcer *AD 138:229–230, 2002*

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis *Rook p.3168, 1998, Sixth Edition;* periorificial tuberculosis *JAAD 51:492–493, 2003*

North American blastomycosis *Rook p.3168, 1998, Sixth Edition*

Parvovirus B19 infection – accentuation in folds

Pediculosis

*Pseudomonas* – toe web space maceration and ulceration *AD 107:71–74, 1973*

Recurrent toxin-mediated perineal erythema – associated with pharyngitis due to *Staphylococcus aureus* or *Streptococcus pyogenes AD 132:57060, 1996*

Scabies

Scarlet fever – perigenital dermatitis

Schistosomiasis – phagedenic necrosis, fistulae, pseudoelephantiasis; granulomas, condylomatous masses *Rook p.3166, 1998, Sixth Edition*

Seabather's eruption – on Long Island, causative organism is the planula larvae of the sea anemone *Edwardsiella lineata*; in Florida, planula larvae of the jellyfish *Linuche unguiculata JAAD 30:269–270, 1994; NEJM 329:542–544, 1993*

*Staphylococcus aureus* pustulosis (folliculitis)

Streptococcal intertrigo – neck in chubby babies *Pediatrics 112:1427–1429, 2003;* post-auricular area, groin, perianal cellulitis *BJD 74:323–325, 1962*

Syphilis – congenital, secondary – late secondary submammary lesions, interdigital toe lesions – secondary (noduloulcerative) (lues maligna) in AIDS *Clin Inf Dis 25:1343,1447, 1997; Rook p.1248, 1998, Sixth Edition*; *Treponema pallidum* discovered by Schaudinn and Hoffmann in 1905

Tinea versicolor (*Malassezia* intertrigo) *Mycoses 31:558–562, 1988*

Vaccinia – auto-inoculation vaccinia *JAAD 50:139–141, 2004*

Varicella *Ghatan p.108, 2002, Second Edition*

Viral exanthems – accentuated or limited to diaper area *Ghatan p.108, 2002, Second Edition*

Yaws

## INFILTRATIVE DISEASES

Benign non-X histiocytosis *JAAD 18:1289, 1988*

Juvenile xanthogranuloma *JAAD 14:405–411, 1986*

Langerhans cell histiocytosis – cutaneous findings include crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules *AD 137:1241–1246, 2001; Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986*; *JAAD 13:481–496, 1985;* in adult – ulcerated red plaque of groin *Rook p.2320, 1998, Sixth Edition*

Mastocytosis (urticaria pigmentosa) – flexural hyperpigmented reticulated plaques *AD 139:381–386, 2003;* xanthelasmoidea *Med Chir Trans 66:329–347, 1883*

Xanthoma disseminatum (Montgomery's syndrome) – red–yellow–brown papules and nodules; become confluent into xanthomatous plaques; verrucous plaques *NEJM 338:1138–1143, 1998; JAAD 23:341–346, 1990; AD Syphilol 37:373–402, 1938*

## INFLAMMATORY DISORDERS

Crohn's disease – metastatic granulomatous nodules and ulcers, perianal extension with papules, nodules, ulcers, sinus tracts, and intertriginous ulcers, nodules, and plaques *JAAD 36:986–988, 1996; Gastroenterology 86:941–944, 1984*

Dermatitis psoriasiformis of Jadassohn

Granuloma gluteale infantum – reddish–brown, purple nodules *Ped Derm 17:141–143, 2000; AD 125:1703–1708, 1989; AD 111:1072–1073, 1975*

Hidradenitis suppurativa *Derm Surg 26:638–643, 2000; BJD 141:231–239, 1999*; *Rook p.1176–1179, 1998, Sixth Edition*

Post-inflammatory hyperpigmentation

Pyoderma gangrenosum – ulcerative diaper dermatitis *Ped Derm 11:10, 1994*

## METABOLIC

Acrodermatitis enteropathica *Textbook of Neonatal Dermatology, p.254, 2001; Rook p.3167, 1998, Sixth Edition;* acquired zinc deficiency

Calcinosis cutis – calcified intertrigo *Ann DV 122:789–792, 1995; JAAD 8:103–106, 1983;* plaque-type intertriginous calcinosis cutis *Cutis 49:289–291, 1992*

Cystic fibrosis

Essential fatty acid deficiency – severe xerosis with underlying erythema, hair loss with hypopigmentation, and weeping intertrigenous rash *Ped Derm 16:95–102, 1999*

Kwashiorkor – crusting and superficial erosions in the diaper area *AD 137:630–636, 2001; Ann DV 113:657–659, 1977*

Maple syrup urine disease

Miliaria

Multiple carboxylase deficiency (biotin-responsive) – pyruvate carboxylase, propionyl-coenzyme A carboxylase, and 3-methylcrotohyl-CoA carboxylase; accumulation of urinary organic acids; neonatal – holocarboxylase synthetase deficiency; juvenile or late-onset from – biotinidase deficiency – erythematous scaly eruption interdigital webs, groin, axillae *Ped Derm 21:231–235, 2004; Ped Derm 16:95–102, 1999; Adv Pediatr 38:1–21, 1991; AD 123:1696–1698, 1987*

Riboflavin deficiency – component of coenzymes flavin mononucleotide, and flavin-adenine dinucleotide involved in oxidative phosphorylation; deficiency produces dermatitis similar to glucagonoma syndrome with a prominent periorificial component; angular stomatitis which often bleeds, vertical fissuring of lips, smooth magenta tongue, seborrheic dermatitis-like rash, scrotal dermatitis; riboflavin deficiency seen in hypothyroidism, acute boric acid ingestion, chlorpromazine use and neonatal phototherapy for hyperbilirubinemia *Semin Derm 10:293–295, 1991; JAAD 21:1–30, 1989*

Xanthomas, eruptive *Ghatan p.66, 2002, Second Edition*

## NEOPLASTIC

Acrochordons with acanthosis nigricans

Basal cell carcinoma – red plaque in inguinal crease; shiny pink axillary plaque *Derm Surg 27:966–968, 2001*

Bowen's disease

Epidermal nevus – intertrigenous and perigenital

Extramammary Paget's disease – the clinical picture of Paget's disease may change daily and may even become subclinical; underlying adnexal carcinoma or carcinoma of the rectum, urethra, cervix, or distant carcinoma of the breast *JAAD 51:492–493, 2003; Sem Cut Med Surg 21:159–165, 2002;* unilateral axillary Paget's disease *J Dermatol 25:260–263, 1998; Plast Reconstr Surg 100:336–339, 1997; AD 127:1243, 1991;* red plaque of inguinal crease and scrotum *BJD 153:676–677, 2005*

ILVEN – intertrigenous and perigenital

Kaposi's sarcoma

Lentiginosis profusa – intertrigenous pigmentation

Lymphoma – cutaneous T-cell lymphoma with axillary intertrigo; poikiloderma vasculare atrophicans with CTCL

Melanoma *JAAD 51:492–493, 2003*

Metastatic gastric carcinoma – condyloma-like lesions in axilla and groin *Pathology of Unusual Malignant Cutaneous Tumors, New York, Marcel Dekker pp.357–397, 1985*

Porokeratosis *BJD 140:553–555, 1999; BJD 132:150–151, 1995*

Syringomas

## PARANEOPLASTIC

Acanthosis nigricans *BJD 153:667–668, 2005*

Paraneoplastic annular erythema – perigenital dermatitis

## PRIMARY CUTANEOUS DISEASE

Acantholytic dermatosis of the vulvo-crural area – vulvar papules, cobblestoning of the vulva and thighs *Cutis 67:217–219, 2001; Am J Dermatopathol 6:557–560, 1984*

Acanthosis nigricans – velvety plaques, intertriginous pigmentation *Rook p.1583–1585,3168, 1998, Sixth Edition*

Atopic dermatitis

Confluent and reticulated papillomatosis – velvety plaques, intertrigenous pigmentation

Cutis laxa

Darier's disease – autosomal dominant; intertriginous pigmentation; photo-aggravated in seborrheic distribution; skin-colored, brown, yellow–brown papules which may coalesce into verrucous plaques or papillomatous masses; acrokeratosis verruciformis of Hopf, palmar and plantar pits, cobblestoned mucous membranes

Dermatospiraxis in children – groin fissures *AD 129:131–1315, 1993*

Diaper dermatitis with rapid dissemination – expanding nummular dermatitis of trunk, and red scaly plaques of neck and axillae ('psoriasiform id') *BJD 78:289–296, 1966*

Dowling–Degos disease – velvety plaques and intertriginous pigmentation *AD 114:1150–1157, 1978; AD 114:1150–1157, 1976*

Eccrine squamous syringometaplasia – red plaques in axillae and groin *AD 133:873–878, 1997*

Elastosis perforans serpiginosa with pseudoxanthoma elasticum-like changes in Moya–Moya disease (bilateral stenosis and occlusion of basa intracranial vessels and carotid arteries) *BJD 153:431–434, 2005*

Epidermolysis bullosa atrophicans inversa (dermolytic dystrophic)

Epidermolysis bullosa inversa – early generalized involvement with blisters and erosions healing with superficial atrophic scars persisting into adulthood; blisters of trunk, proximal extremities, including the axillae, groin and perineum; form of junctional epidermolysis bullosa with oral blisters, dysplastic teeth, dystrophic toenails with normal fingernails, hoarseness, corneal erosions and albostriate lesions *JAAD 12:836–844, 1985; AD 124:544–547, 1988*

Epidermolysis bullosa – junctional epidermolysis bullosa, Herlitz type – erosive diaper dermatitis *Ped Derm 14:307–311, 1997*

Erythema annulare centrifugum

Erythema of Jacquet – erosive diaper dermatitis; shallow, round ulcers with raised edges; umbilicated papules, erosions *Ped Derm 15:46–47, 1998; Rook p.470, 1998, Sixth Edition*

Erythrokeratoderma variabilis

Fox–Fordyce disease

Galli–Galli syndrome – Dowling–Degos disease with acantholysis – hyperkeratotic follicular papules *JAAD 45:760–763, 2001*

Granular parakeratosis – hyperkeratotic papules and plaques in the intertriginous areas in children (infantile granular parakeratosis) *JAAD 52:863–867, 2005; JAAD 50S93–96, 2004; BJD 147:1003–1006, 2002; Ped Derm 19:146–147, 2002;* axillary (or submammary) granular hyperkeratosis (axillary granular parakeratosis) – unilateral or bilateral pruritic erythematous or hyperpigmented patches; punctate hyperkeratosis; keratohyaline granules are retained in the markedly thickened stratum corneum *AD 140:1161–1166, 2004; JAAD 47:S279–280, 2002; AD 137:1241–1246, 2001; JAAD 40:813–814, 1999; JAAD 39:495–496, 1998; JAAD 37:789–790, 1997; JAAD 33:373–375, 1995; JAAD 24:541–544, 1991*

Greither's palmoplantar keratoderma – linear axillary hyperkeratosis; hyperkeratosis of elbows, knees, shins J*AAD 53:S225–230, 2005*

Hailey–Hailey disease *BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Impetigo herpetiformis (pustular psoriasis of pregnancy) – symmetrical and grouped lesions, starting in flexures (inguinocrural areas) *AD 136:1055–1060, 2000; AD 127:91–95, 1996*; *Acta Obstet Gynecol Scand 74:229–232, 1995*

Interstitial granulomatous dermatitis – axillary folds and groin; may be drug-induced *BJD 150:1035–1037, 2004*

Kitamura's disease – intertriginous pigmentation

Leiner's disease

Lichen planus *Rook p.3167, 1998, Sixth Edition*

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition;* axillary *Cutis 69:285–287, 2002*

Lichen simplex chronicus *Rook p.3168, 1998, Sixth Edition*

Lupus miliaris disseminatus faciei (acne agminata) – axillary *Clin Exp Dermatol 23:125–128, 1998*

Miliaria rubra in infants – red papular eruption of neck, axilla, groin *BJD 99:117–137, 1978*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive – intertrigo-like pattern *Rook p.1497, 1998, Sixth Edition; AD 121:477–488, 1985*

Pityriasis rosea

Poikiloderma vasculare atrophicans

Progressive symmetric erythrokeratoderma – intertriginous and perigenital; must be differentiated from erythrokeratoderma variabilis (migrating erythematous patches) and localized forms of pityriasis rubra pilaris *AD 122:434–440, 1986*

Psoriasis, including napkin psoriasis *Textbook of Neonatal Dermatology, p.249, 2001; Rook p.1602, 1998, Sixth Edition; Contact Dermatitis 26:248–252, 1992; BJD 773:445–447, 1961*

Pyoderma vegetans *AD 116:1169–1171, 1980*

Seborrheic dermatitis *Rook p.3167, 1998, Sixth Edition*

Subcorneal pustular dermatosis of Sneddon–Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *Ped Derm 20:57–59, 2003; BJD 145:852–854, 2001; J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998*; *JAAD 19:854–858, 1988; BJD 68:385–394, 1956;* resembles IgA pemphigus *JAAD 43:546–549, 2000; Cutis 61:225–226, 1998*

Sybert keratoderma – autosomal dominant; palmoplantar erythema with transgrediens distribution, intertriginous hyperkeratosis, pseudo-ainhum with spontaneous amputations *JAAD 18:75–86, 1988*

Terra firme

Transient neonatal pustular melanosis – diaper area *Ghatan p.108, 2002, Second Edition*

## SYNDROMES

Baboon syndrome – intertriginous follicular purpura *BJD 150:788–789, 2004*

Conradi–Hünermann syndrome – hyperkeratosis in axillae *AD 127:539–542, 1942*

CHILD syndrome (prominence in body folds) – ptychotropism – preferential distribution in skin folds *JAAD 23:763–766, 1990*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flexures) – reticulated pigmentation of axillae, groin, and other intertrigenous areas, freckles of vulva, comedo-like lesions, pitted scars around mouth *JAAD 40:462–467, 1999; Clin Exp Dermatol 9:439–350, 1984*

Glucagonoma syndrome (necrolytic migratory erythema) – syndrome of weight loss, smooth tongue, periorificial, perigenital, and intertriginous rash; glucagon levels of 700–7000 pg/ml (normal is 50–150 pg/ml)

Haber's syndrome – intertriginous pigmentation

Hereditary mucoepithelial dysplasia – psoriasiform intertrigo

Hyper-IgE syndrome (Job's syndrome) (Buckley's syndrome) – papular, pustular, excoriated dermatitis of scalp, buttocks, neck, axillae, groin; furunculosis; growth failure; dermatitis of face, behind ears, scalp, axillae, and groin; recurrent bacterial infections of skin with cold abscesses, contact urticaria, infections of nasal sinuses and respiratory tract *J Pediatr 141:572–575, 2002; NEJM 340:692–702, 1999; Curr Prob Derm 10:41–92, 1998; Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983; Lancet 1:1013–1015, 1966*

Hyper-IgM syndrome – diaper area ulcers *Ped Derm 18:48–50, 2001*

Incontinentia pigmenti – hyperpigmentation of axillae and groin *JAAD 47:169–187, 2002*

Kawasaki's disease

Keratosis–ichthyosis–deafness syndrome – exaggerated diaper dermatitis *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990*

Lipoid proteinosis *Ghatan p.52, 2002, Second Edition*

Netherton's syndrome – intertrigenous and perigenital dermatitis, edema, papillomatosis resembling cellulitis *BJD 131:615–621, 1994; JAAD 13:329–337, 1985*

Neurofibromatosis type I – Crowe's sign – intertriginous pigmentation

Olmsted syndrome – follicular hyperkeratosis of buttocks and knees; follicular papules; intertrigo, mutilating palmoplantar keratoderma, linear streaky hyperkeratosis, leukokeratosis of the tongue, sparse hair anteriorly *JAAD 53:S266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; Eur J Derm 13:524–528, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; Semin Derm 14:145–151, 1995; JAAD 10:600–610, 1984; Am J Dis Child 33:757–764, 1927*

Pseudoxanthoma elasticum – linear and reticulated yellow papules and plaques *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988*

Sjögren–Larsson syndrome – ichthyosis, mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo (flexural accentuation), deficiency of fatty aldehyde dehydrogenase *Ped Derm 20:179–180, 2003; JAAD 35:678–684, 1996*

Sweet's syndrome

Xeroderma pigmentosum – intertriginous pigmentation

### TOXIC

Arsenic poisoning – acute; baboon syndrome (anogenital intertrigo) with intertriginous exanthem *BJD 149:757–762, 2003*

Methylbromide fumigation – bullae and urticaria *AD 127:917–921, 1991*

### TRAUMATIC

Child abuse

Friction and bacterial infection

Runner's rump (intertriginous hyperpigmentation) *JAAD 21:1257–1262, 1989*

## IRIS LESIONS, PIGMENTED

### AUTOIMMUNE DISORDERS, AND DISEASES OF IMMUNE DYSFUNCTION

Scleroderma – periorbital linear scleroderma associated with heterochromic iridis *Am J Ophthalmol 90:858–861, 1980*

### INFECTIONS AND INFESTATIONS

Leprosy – leproma

Syphilis – papulat of secondary or tertiary lues

### INFILTRATIVE DISEASES

Juvenile xanthogranuloma – iris heterochromia Eye and Skin Disease, pp.56–57, Lippincott, 1996

### INFLAMMATORY DISEASES

Sarcoidal iris granuloma *Clin Dermatol 4:129–135, 1986*

### NEOPLASTIC DISEASES

Aniridia with associated Wilms' tumor

Benign epithelial melanosis

Conjunctival nevus

Iris freckles

Leiomyoma *Rook p.3007, 1998, Sixth Edition*

Melanocytic nevus

Melanoma *AD 139:1067–1073, 2003*

Melanosis oculi

Metastatic melanoma

Iris nevus

Nevus of Ota *Dermatol Clin 10:609–622, 1992*

Pigmented episcleral spot (Axenfeld's nerve loop)

Primary acquired melanosis

### SYNDROMES

Aniridia with chromosome 18 defects

Cat eye syndrome – iris coloboma with trisomy 22

Down's syndrome – hypoplastic iris with lighter areas in the outer third (Brushfield spots) *Rook p.373, 1998, Sixth Edition*

Incontinentia pigmenti – conjunctival pigmentation *JAAD 47:169–187, 2002*

Iris coloboma
- 4p deletion syndromes
- Cat eye syndrome
- Chromosome 18 defects (including trisomy 18)
- Focal dermal hypoplasia
- Linear nevus sebaceus syndrome
- Trisomy 22

Iris nevus syndrome (Cogan–Reese syndrome)

Nail–patella syndrome – cloverleaf iris (Lester iris) *Rook p.421, 1998, Sixth Edition*

Neurofibromatosis – Lisch nodule *NEJM 343:1573, 2000; Rook p.379, 1998, Sixth Edition; NEJM 324:1264–1266, 1991; J Med Genet 26:712–721, 1989; Am J Ophthalmol 96:740–742, 1983*

Romberg's syndrome – heterochromic iridis *Am J Ophthalmol 90:858–861, 1980*

Tuberous sclerosis – hypopigmented spots of the iris *Ophthalmology 89:1155–1159, 1982*

Ziprkowski–Margolis syndrome – X-linked recessive, deaf–mutism, heterochromic irides, piebald-like hypomelanosis *JAAD 48:466–468, 2003*

# KAPOSI'S SARCOMA: DIFFERENTIAL DIAGNOSIS

## VASCULAR TUMORS

***BENIGN***

Acroangiodermatitis (pseudo-Kaposi's sarcoma) – associated with arteriovenous (AV) malformation (congenital dysplastic angiopathy) *AD 111:1656, 1975; AD 110:907, 1974; AD 100:297, 1969;* associated with chronic venous insufficiency *AD 92:515, 1965; AD 96:176, 1967*

Angiokeratoma *Annals Int Med 96:6693, 1982*

Blue rubber bleb

Glomus

Hemangioma *Cutis 7:401, 1971*

Lymphangioma *Bluefarb*

Papular angioplasia *Arch Derm vol 79:17–31, 1959*

Pyogenic granuloma *Cutis 7:401, 1971*

Reactive angioendotheliomatosis *Arch Derm Vol 114:1512, 1978*

***MALIGNANT***

Angiosarcomas in lymphedema *Cutis 7:401, 1971; Arch Derm 111:86, 1975*

Hemangiopericytoma *Arch Derm 116:806, 1980*

Malignant angioendotheliomatosis *Arch Derm 104:320, 1971; Arch Derm 84:22, 1961*

## OTHER TUMORS

Basal cell carcinoma, pigmented

Cutaneous T-cell lymphoma

Fibrosarcoma/spindle cell sarcoma

Leukemia *Cutis 21:814, 1978*

Lymphoma *Cutis 21:814, 1978*

Melanoma – primary and metastic

Metastic, including hypernephroma *Diff. Dx. in Derm. Korting*

## INFECTIOUS DISEASES

Bacillary angiomatosis *Ann Intern Med 109:449, 1988; JAMA 260:524, 1988*

Buruli Ulcer

Mycetoma (Madura foot)

Leprosy

*Mycobacterium tuberculosis*

Syphilis, secondary

## OTHER

Atrophie blanche *JAAD 6:463, 1983*

Coumadin – purple toe syndrome *Cutis 6:639, 1971*

Cryoproteinemia *JAAD 27:969, 1992*

Dermatofibroma *Cutis 7:401, 1971*

Ecchymoses *Ann Intern Med 96:693, 1982*

Insect bites, necrotic *Ann Intern Med 96:693, 1992*

Lichen planus, hypertrophic *Arch Derm Syph 33:913, 1936; Arch Derm Syph 49:295, 1944*

Pigmented purpuric eruptions – including Gougerot–Blum pigmented purpuric eruption *Cutis 31:406, 1983*

Post-inflammatory hyperpigmentation *Ann Intern Med 96693, 1982*

Rosacea *Arch Derm Syph 8:143, 1923*

Sarcoid

# KINKY HAIR

***Ped Derm 21:265–268, 2004***

Acquired progressive kinking of the hair

Bjornstad syndrome

Congenital pili torti syndrome

Etretinate *Clin Exp Dermatol 10:426–431, 1985*

Hereditary (familial) woolly hair syndrome

Ionizing radiation *BJD 113:467–473, 1985*

Isotretinoin *Clin Exp Dermatol 15:143–145, 1990*

Menkes' kinky hair syndrome

Pseudomonilethrix

Trauma

Uncombable hair syndrome

Whisker hair – kinking of hair over periauricular areas of scalp which evolves into extensive baldness

Woolly hair nevus

# KNUCKLE PAPULES (SEE ALSO ACRAL PAPULES AND NODULES)

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis *Curr Opin Rheum 11:475–482, 1999*

Epidermolysis bullosa acquisita

Lupus erythematosus with cutaneous mucinosis

Mixed connective tissue disease

Rheumatoid arthritis – rheumatoid nodules; rheumatoid neutrophilic dermatitis – nodules over joints *AD 133:757–760, 1997; AD 125:1105–1108, 1989;* Bouchard's nodes of rheumatoid arthritis

Scleroderma – knuckle hyperkeratosis in systemic scleroderma

## DEGENERATIVE DISEASES

Heberden's nodes of knuckles – degenerative joint disease *JAAD 43:892, 2000*

## DRUGS

Acral dysesthesia syndrome

Bleomycin-induced dermatomyositis-like rash *JAAD 48:439–441, 2003*

Tegafur – knuckle pad-like keratoderma *Int J Dermatol 37:315–317, 1998*

## EXOGENOUS AGENTS

Barber's sinus

Foreign body reactions

## INFECTIONS

Leishmaniasis – dermonodular leishmaniasis *Clin Inf Dis 22:376–377, 1996*

Leprosy – primary neuritic leprosy with nerve abscess *AD 130;243–248, 1994;* lepromatous – digital papule *JAAD 11:713–723, 1984*

Lobomycosis

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

Parvovirus B19 – dermatomyositis-like Gottron's papules *Hum Pathol 31:488–497, 2000*

Verruca vulgaris – knuckle pads *Derm Surg 27:591–593, 2001*

## INFILTRATIVE DISEASES

Acral persistent papular mucinosis – mimicking knuckle pads *AD 140:121–126, 2004; JAAD 27:1026–1029, 1992*

Focal mucinosis

Lichen myxedematosis – resembling acral persistent papular mucinosis *BJD 144:594–596, 2001; Dermatology 185:81, 1992*

Mastocytoma *Caputo p.100, 2000;* knuckle pads

Self-healing juvenile cutaneous mucinosis – knuckle nodules *JAAD 50:S97–100, 2004; Ped Derm 20:35–39, 2003; JAAD 31:815–816, 1994; JAAD 11:327–332, 1984*

## INFLAMMATORY DISEASES

Sarcoid

## METABOLIC DISEASES

Acromegaly

Calcinosis cutis

Diabetic finger pebbling (Huntley's papules) *Cutis 69:298–300, 2002*

Gout – tophi *Arch Orthop Trauma Surg 120:482–483, 2000*

Porphyria – erythropoietic protoporphyria

Thyroid acropachy

Xanthomas – tuberous or tendinous xanthomas

## NEOPLASTIC DISEASES

Enchondromas

Epidermoid cyst

Fibroma of the tendon sheath *Cutis 59:133, 1997*

Ganglion cyst

Giant cell tumor of the tendon sheath – nodules of the fingers *Cutis 59:133, 1997; J Dermatol 23:290–292, 1996;* overlying dorsal digital interphalangeal crease *J Hand Surg 5:39–50, 1980*

Keloids

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Mobile encapsulated lipomas *Cutis 49:63–64, 1992*

Myxoid cyst, digital *JAAD 43:892, 2000; Rook p.2849, 1998, Sixth Edition*

Poroid hidradenoma *Cutis 50:42–46, 1992*

Progressive nodular fibrosis of the skin

## PARANEOPLASTIC DISORDERS

Dermatomyositis

## PHOTODERMATOSES

Degenerative collagenous plaques of the hands

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Acrokeratoelastoidosis of Costa – knuckle pads *AD 140:479–484, 2004; Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*

Acrokeratosis verruciformis of Hopf

Dupuytren's disease – dorsal variant *Ann Chir Main 7:247–250, 1988 (Fr)*

Dyshidrosis with id reaction

Epidermolysis bullosa, dominant dystrophic

Epidermolytic hyperkeratosis associated with palmoplantar keratoderma *BJD 125:496, 1991*

Erythema elevatum diutinum – knuckle pads, papules *JAAD 49:764–767, 2003; Cutis 67:381–384, 2001; Ped Derm 15:411–412, 1998*

Granuloma annulare *JAAD 3:217–230, 1980;* subcutaneous granuloma annulare mimicking knuckle pads; perforating granuloma annulare

Hidrotic ectodermal dysplasia

Juvenile fibromatosis

Knuckle pads – idiopathic (fibromatosis), keratotic knuckle pads unassociated with palmoplantar keratoderma *Rook p.1555–1556, 1998, Sixth Edition;* trauma-induced, associated with Dupuytren's contracture, Ledderhose's disease, Peyronie's disease, Bart–Pumphrey syndrome – sensorineural deafness, leukonychia, and knuckle pads; autosomal dominant *Ped Derm 17:450–452, 2000; Cutis 57:241–242, 1996*

Lichen nitidus – knuckle pads *AD 134:1302–1303, 1998*

Lichen planus

Lichen simplex chronicus

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Neurofibromatosis

Pachydermodactyly – benign fibromatosis of fingers of young men *AD 111:524, 1975*

Palmoplantar keratoderma, epidermolytic (Vorner) – papules on knuckles *BJD 125:496, 1991*

Prurigo nodularis

Psoriasis

## PSYCHOCUTANEOUS DISEASES

Bulimia nervosa – Russell's sign (crusted knuckle nodules) *Clin Orthop 343:107–109, 1997; JAAD 12:725–726, 1985;* perniosis *Clin Sci 61:559–567, 1981;* pseudo knuckle pads (calluses on 2nd 5th MCP joints) *Psychol Med 9;429–48, 1979*

Pachydermodactyly due to obsessive compulsive behavior *JAAD 38:359–362, 1998; AD 130:387, 1994*

## SYNDROMES

Bart–Pumphrey syndrome – knuckle pads, leukonychia, sensorineural deafness, and diffuse palmoplantar hyperkeratosis; autosomal dominant *JAAD 53:S225–230, 2005; JAAD 51:292, 2004; Curr Prob Derm 14:71–116, 2002; NEJM 276:202–207, 1967*

Dyskeratosis congenita

Ehlers–Danlos syndrome (molluscum pseudotumor) – knuckle pads

Familial histiocytic dermatoarthritis – knuckle pads

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 139:657–662, 2003; Ped Derm 19:532–535, 2002; AD 131:710–712, 1995; Clin Exp Dermatol 19:268–270, 1994; JAAD 14:1086–1088, 1986; Rev Rheum Ed Fr 47:345–351, 1980*

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose, and ears *Ann DV 104:475–478, 1977; AD 124:424–428, 1988*

Greither's palmoplantar keratoderma – knuckle pads, hyperkeratosis of elbows, knees, shins *JAAD 53:S225–230, 2005*

Hunter syndrome – MPS II *Ped Derm 12:370–372, 1995*

Infantile digital fibromatosis

Infantile systemic hyalinosis – autosomal recessive; synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004; Ped Derm 11:52–60, 1994*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, knuckle pads; multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001; Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*

Keratosis-ichthyosis-deafness (KID) syndrome – partial leukonychia, deafness *JAAD 53:S225–230, 2005*

Knuckle pads, leukonychia, and deafness syndrome *Ghatan p.159, 2002, Second Edition*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Ledderhose's nodules (plantar fibromatosis) *JAAD 41:106–108, 1999;* Dupuytren's contracture (palmar fibromatosis) and/or Peyronie's disease – knuckle pads

Lipoid proteinosis – acral papules *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Mal de Meleda (recessive transgressive palmoplantar keratoderma) – knuckle pads *Curr Prob Derm 14:71–116, 2002; Ped Derm 14:186–191, 1997*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *AD 140:919–921, 2004; Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Neurofibromatosis

Pachydermoperiostosis – knuckle pads *J Dermatol 27:106–109, 2000*

Polyfibromatosis syndrome – Dupuytren's contracture, knuckle pads, Peyronie's disease, keloids, or plantar fibromatosis *Rook p.2044, 1998, Sixth Edition;* stimulation by phenytoin *BJD 100:335–341, 1979*

Reflex sympathetic dystrophy with chilblain-like lesions – digital papule

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – perniotic lesions *JAAD 21:374–377, 1989*

Stiff skin syndrome – knuckle pads *Ped Derm 3:48–53, 1985*

Vohwinkel's syndrome – knuckle papules, palmoplantar keratoderma, ichthyosis, pseudoainhum *JAAD 44:376–378, 2001*

## TRAUMA

Barber's hair sinus

Callosities, occupational (carpenters, live chicken hangers *Contact Derm 17:13–16, 1987* ), frictional, bulemic

Chilblains (perniosis) – tender, pruritic red or purple digital papules *JAAD 45:924–929, 2001; Rook p.960–961, 1998, Sixth Edition*

Garrod's pads – violinist's knuckles (2nd and 3rd knuckles) – thickened skin over the interphalangeal joints from intense flexion of tendons of fingers *Cutis 62:261–262, 1998*

Scars – mimic knuckle pads

Skier's thumb *Acta Orthop Belg 65:440–446, 1999*

Surfer's nodules of anterior tibial prominence, dorsum of feet, knuckles *Cutis 50:131–135, 1992*

## VASCULAR LESIONS

Glomus tumors

Vascular hamartomas

Vasculitis

# KNUCKLES, PEBBLY WITH SCARRING: 'WHY DO MY HANDS LOOK SO OLD?'

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis

Rheumatoid arthritis – velvet skin

## INFECTIONS

Acrodermatitis chronica atrophicans (peripheral atrophy) *JAAD 28:399–405, 1993*

Leprosy

### INFILTRATIVE

Lichen myxedematosis

Persistent acral mucinosis

### METABOLIC

Diabetic finger pebbling (Huntley's papules) *Cutis 69:298–300, 2002*

Erythropoietic protoporphyria

Intertriginous xanthomas in fingerweb spaces of homozygous familial hypercholesterolemia *JAAD 19:95–111, 1988*

### NEOPLASTIC

Infantile digital fibromatosis

Solitary mastocytomas- Scotch grain leather appearance

### PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Acral localized acquired cutis laxa (wrinkled knuckles) *JAAD 21:33–40, 1989*

Acrokeratosis verruciformis of Hopf

Epidermolysis bullosa – resolving dystrophic epidermolysis bullosa

Erythema elevatum diutinum

Granuloma annulare

Knuckle pads *Cutis 57:241–242, 1996*

Lichen nitidus

Lichen simplex chronicus

Pachydermodactyly

Pseudo-acanthosis nigricans

Pseudo-PCT

### SYNDROMES

Dyskeratosis congenita

Lipoid proteinosis

Multicentric reticulohistiocytosis

Neurofibromatosis

### TRAUMATIC

Garrod's pads – violinist's knuckles- thickened skin over the interphalangeal joints from intense flexion of tendons of fingers

Occupational callosities – carpenters, live chicken hangers *Contact Derm 17:13–16, 1987*

## LACRIMAL GLAND, ENLARGED

### UNILATERAL

Amyloidosis *Radiol Clin North Am 37:219–239, 1999*

#### *BENIGN TUMORS*

Myoepithelioma *Ophthalmol Clin North Am 13:663–681, 2000*

Pleomorphic adenoma Radiol *Clin North Am 37:219–239, 1999*

#### *MALIGNANT TUMORS*

*Ophthalmol Clin North Am 13:663–681, 2000*

Adenocystic carcinoma

Lymphoma *Radiol Clin North Am 37:219–239, 1999*

Leukemia *Radiol Clin North Am 37:219–239, 1999*
- Acute lymphoblastic leukemia
- Granulocytic leukemia

Mucoepidermoid carcinoma

Pleomorphic adenocarcinoma

Primary adenocarcinoma

Chronic inflammation

Dacryoadenitis
- Bacterial *Ann Ophthalmol 14:600, 1982*
- Fungal *Ann Ophthalmol 14:600, 1982*
- Parasitic *J Pediatr Ophthalmol 19:100, 1982*
- Viral
  - Herpes simplex *Arch Ophthalmol 56:739, 1961*
  - Mumps *Arch Ophthalmol 56:739, 1961*

Dermoid cyst *Radiol Clin North Am 25:767, 1987*

Idiopathic inflammatory pseudotumor *Ophthalmol 103:1233, 1996*

Kimura's disease *Ophthalmol 100:1856–1860, 2000*

Lymphoid hyperplasia, benign *Radiol Clin North Am 37:219–239, 1999*

Sarcoidosis *Ophthalmol 90:909, 1983*

### BILATERAL

Lymphoid hyperplasia, benign *Radiol Clin North Am 37:219–239, 1999*

Lymphoma *Radiol Clin North Am 37:219–239, 1999*

Sarcoidosis *Ophthalmol 90:909, 1983*

Sjögren's syndrome *Radiol Clin North Am 37:151–168, 1999*

Wegener's granulomatosis *Br J Ophthalmol 76:401, 1992*

## LENTIGINES

### METABOLIC DISEASES

Addison's disease – increase in number and darkening *Rook p.1719, 1998, Sixth Edition*

Cushing's syndrome – increase in number and darkening *Rook p.1719, 1998, Sixth Edition*

Pregnancy – increase in number and darkening *Rook p.1719, 1998, Sixth Edition*

### NEOPLASTIC DISEASES

Achromic nevi – lentigines within segmental achromic nevi *JAAD 39:330–333, 1998*

Agminated lentiginosis *Ped Derm 11:241–245, 1994;* café au lait macules, mental retardation, epilepsy, pes cavus *JAAD 40:877–890, 1999*

Benign labial lentigo *Rook p.1720–1721, 1998, Sixth Edition; BJD 136:772–775, 1997; AD 123:1029–1031, 1987*

Eruptive lentiginosis – young adults, generalized distribution *Bolognia p.1763, 2003*; eruptive lentigines subsequently evolving into melanocytic nevi *BJD 72:302–311, 1960; Ann Dermatol Syphilol 83:125–129, 1956*

spot lentigo (reticulated black solar lentigo) *AD 128:934–940, 1992*

Nevus spilus

Penile lentigo *JAAD 22:453–460, 1990*

Vulvar lentigo *Dermatol Clin 10:361–370, 1992; JAAD 22:453–460, 1990*

Zosteriform lentiginous nevus *Textbook of Neonatal Dermatology, p.383, 2001*

## PHOTODERMATOSES

PUVA-induced *Clin Exp Dermatol 25:135–137, 2000; Cutis 41:199–202, 1988; JID 81:459–463, 1983*

Solar lentigines *JAAD 36:444–447, 1997*

Tanning bed lentigines *JAAD 23:1029–1031, 1990; JAAD 21:689–693, 1989*

## PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa – generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; nevi or acquired macular pigmented lesions with irregular borders *AD 122:704–710, 1986*

Generalized lentiginosis *Ped Derm 21:139–145, 2004; Rook p.1768, 1998, Sixth Edition*

Lentiginosis

Lentiginosis perigenitoaxillaris *Bolognia p.1763, 2003*

Oral and pedal lentiginosis

Psoriasis – lentigines confined to resolving psoriatic plaque *Clin Exp Dermatol 19:380–382, 1994*

Segmental lentiginosis (partial unilateral lentiginosis) (unilateral lentiginosis) *JAAD 44:387–390, 2001; Clin Exp Dermatol 20:141–142, 1995; JAAD 29:693–695, 1993*

## SYNDROMES

Acquired sporadic generalized lentiginosis *Eur J Dermatol 8:183–185, 1998*

ANOTHER syndrome – alopecia, nail dystrophy, ophthalmic complications, thyroid dysfunction, hypohidrosis, ephelides and enteropathy, respiratory tract infections *Clin Genet 35:237–242, 1989; J Pediatr 108:109–111, 1986*

Bandler syndrome – autosomal dominant, Peutz–Jegher-like lentigines; gastrointestinal bleeding with hemangiomas of small intestine *Bolognia p.982, 2003*

Bannayan–Riley–Ruvalcaba syndrome (macrocephaly and subcutaneous hamartomas) (lipomas and hemangiomas) – autosomal dominant pigmented macules of penis *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996; AD 128:1378–1386, 1992; Eur J Ped 148:122–125, 1988;* lipoangiomas (perigenital pigmented macules, macrocephaly) *AD 128:1378–1386, 1992;* lipomas in Ruvalcaba–Myhre–Smith syndrome *Ped Derm 5:28–32, 1988;* Ruvalcaba–Myhre–Smith syndrome – pigmented penile macules, lipomas, angiolipomas, macrocephaly, pseudopapilledema, hamartomas, lipid-storage myopathy *AD 132:1214–1218, 1996; Curr Prob Derm VII:143–198, 1995; Pediatrics, 81:287–290, 1988*

Cantu syndrome – autosomal dominant, lentigines on palms and soles, and sun-exposed skin, palmoplantar hyperkeratotic papules *Curr Prob Derm VII:143–198, 1995*

Carney complex (NAME/LAMB syndrome) – autosomal dominant, multiple lentigines, melanocytic nevi, blue nevi, cutaneous myxomas, psammomatous schwannoma, cardiac myxomas, testicular Sertoli cell tumors, gynecomastia, myxoid breast fibroadenomas, pituitary adenomas, thyroid disease, adreno-cortical disease *Molec Genet Metab 78:83, 2003; Clin Endocrinol 86:4041, 2001; Curr Prob Derm VII:143–198, 1995; Medicine 64:270, 1985;* conjunctival lentigines *JAAD 42:145, 2000*; epithelioid blue nevus and psammomatous melanotic schwannoma *Semin Diagn Pathol 15:216–224, 1998; J Clin Invest 97:699–705, 1996; Dermatol Clin 13:19–25, 1995; JAAD 10:72–82, 1984*

Centrofacial lentiginosis – synophrys, high arched palate, sacral hypertrichosis, spina bifida, scoliosis *Rook p.1719, 1998, Sixth Edition; BJD 94:39–43, 1976*

Cowden's disease – periorificial and acral pigmented macules *Bolognia p.982, 2003*

Cronkhite–Canada syndrome – lentigo-like macules of face, extremities, and diffuse pigmentation of palms; gastrointestinal polyposis, malabsorption, alopecia, dystrophic nails *AD 135:212, 1999*

Deafness *Bolognia p.982, 2003*

FACES syndrome (unique facies, anorexia, cachexia, eye, skin lesions) *J Craniofac Genet Dev Biol 4:227–231, 1984*

Fanconi's anemia – freckle-like hyperpigmentation in sun-exposed areas, abdomen, flexures, and genitals *Dermatol Clin 13:41–49, 1995*

Gardner's syndrome – lentigines of head and extremities *JAAD 45:940–942, 2001*

Gastro-cutaneous syndrome – peptic ulcer/hiatal hernia, multiple lentigines, café-au-lait macules, hypertelorism, myopia *Am J Med Genet 11:161–176, 1982*

Gaucher's disease – diffuse hyperpigmentation, easy tanning, pigmented macules *BJD 111:331–334, 1984*

Halal syndrome – autosomal dominant; multiple lentigines, café-au-lait macules, hypertelorism, myopia, hiatal hernia/peptic ulcer *Am J Med Genet 11:161–176, 1982*

Hermansky–Pudlak syndrome – multiple lentigines and ephelides

Inherited patterned lentiginosis in blacks – lentigines on face and lips, buttocks and extremities *AD 125:1231–1235, 1989*

Laugier–Hunziker syndrome – macular pigmentation of lips and buccal mucosa, melanonychia, genital macules *JAAD 50:S70–74, 2004; J Eur Acad Dermatol Venereol 15:574–577, 2001; Hautarzt 42:512–515, 1991; Clin Exp Derm 15:111–114, 1990; Arch Belges Dermatol Syph 26:391–399, 1970*

Lentiginosis with arterial dissection syndrome *NEJM 332:576–579, 1995*

Lentiginosis with cutaneous myxomas *JAAD 44'282–284, 2001*

Lentiginosis with osteochondromyxoma of bone *Am J Surg Pathol 25:164–1776, 2001*

Lentiginosis with nevoid hypopigmentation *BJD 144:188–189, 2001*

Lentiginosis with testicular microlithiasis *Clin Exp Dermatol 25:655–656, 2000*

LEOPARD syndrome (multiple lentigines syndrome; Moynahan syndrome) – autosomal dominant; generalized lentiginosis, especially over neck and trunk; structural cardiac abnormalities, cardiac symptoms, electrocardiographic abnormalities, genitourinary abnormalities (gonadal hypoplasia, hypospadias, delayed puberty), neurologic defects, cephalofacial dysmorphism, short stature or low birth weight, skeletal

abnormalities *Ped Derm 21:139–145, 2004; JAAD 46:161–183, 2002; J Med Genet 34:582–586, 1997; Am J Dis Child 117:652–662, 1969*

Neurofibromatosis – axillary freckling

Moynahan's syndrome – lentigines, congenital mitral stenosis, dwarfism, mental retardation, genital hypoplasia *Ghatan p.6, 2002, Second Edition*

Mucocutaneous pigmentation with intestinal hemangiomatosis – Peutz–Jegher-like lentiginosis with intestinal hemangiomatosis *Gastroenterology 38:641–645, 1960*

Mukamel syndrome – autosomal recessive; premature graying in infancy, lentigines, depigmented macules, mental retardation, spastic paraparesis, microcephaly, scoliosis *Bolognia p.859, 2003*

Multiple mucosal neuroma syndrome (MEN IIB) – perioral or periocular lentigines, freckles, or hyperpigmentation

Noonan–like syndrome, cherubism and polyarticular villonodular synovitis *Oral Surg Oral Med Oral Pathol 67:698–705, 1989*

Peutz–Jeghers syndrome – autosomal dominant; oral lentigines of gums, buccal mucosa, hard palate, lips, around nose and mouth, palms and soles, dorsal hands and feet; lentigines fade with time except mucosal lesions; gastrointestinal polyposis, clubbing, ovarian tumors, precocious puberty with hormone secreting tumors *Curr Prob Derm 14:41–70, 2002; Cancer Res 58:5267–5270, 1998; Curr Prob Derm VII:143–198, 1995; Gut 30:1588–1590, 1989; NEJM 316:1511–1514, 1987; Gastroenterology 32:434–451, 1957; NEJM 241:992–1005, 1949*

Phakomatosis pigmentokeratotica – speckled lentiginous nevus in association with nevus sebaceus *Dermatology 197:377–380, 1998*

Piebaldism – penile lentigines

Pipkin's syndrome – autosomal dominant, nystagmus, strabismus *Bolognia p.982, 2003*

Progeria – axillary freckling *Ghatan p.239, 2002, Second Edition*

Progressive cardiomyopathic lentiginosis *Ped Derm 1:146–153, 1953*

Tay's syndrome – autosomal recessive *Bolognia p.982, 2003*

Touraine centrofacial lentiginosis – autosomal dominant, lentigines in butterfly distribution and forehead, central nervous system abnormalities, high forehead, high-arched palate, pectus deformities, kyphosis, spina bifida, umbilical hernias *BJD 94:39–43, 1976*

Watson's syndrome – café au lait macules, axillary and perianal freckling, pulmonic stenosis, low intelligence, short stature *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999*

Xeroderma pigmentosum *BJD 152:545–551, 2005; AD 123:241–250, 1987*

### TRAUMA

Radiation lentigo *AD 133:209–211, 1997*

### VASCULAR DISEASES

Arterial dissection *Bolognia p.982, 2003*

### SPOTTY PIGMENTATION OF FACE

Carney complex

Cronkhite–Canada syndrome

LEOPARD syndrome

Noonan's syndrome

Seborrheic keratoses, macular

Solar lentigines

Turner's syndrome

## LEONINE FACIES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatiits

Dermatomyositis

### DRUGS

Bactrim drug eruption

Minoxidil – pseudoacromegaly *JAAD 48:962–965, 2003*

Phenytoin hypersensitivity syndrome – coarse facial features, enlarged lips and nose *JAAD 18:721–741, 1988*

### EXOGENOUS AGENTS

Airborne ragweed contact dermatitits

### INFECTIONS

Dermatophyte infection – generalized deep dermatophytosis (trichophytic granuloma) – *Trichophyton rubrum AD 140:624–625, 2004*

Leishmaniasis – diffuse cutaneous leishmaniasis (*Leishmania aethiopica*, *L. mexicana*) *Rook p.1415, 1998, Sixth Edition; JAAD 34:257, 1996;* lupoid leishmaniasis

Leprosy – lepromatous leprosy *Rook p.1225, 1998, Sixth Edition*

*Mycobacterium tuberculosis* – lupus vulgaris

Onchocerciasis – 'mal marado'

Syphilis – nodular secondary syphilis *JAAD 17:914, 1987;* malignant secondary syphilis

Trichodysplasia spinulosa – papovaviral infection of immunocomprised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

### INFILTRATIVE DISEASES

Amyloidosis *JAAD 39:149–171, 1998; Singapore Med J 1193, 1970*

Langerhans cell histiocytosis – primary cutaneous *AD 127:1545–1548, 1991*

Progressive nodular histiocytosis *BJD 143:628–631, 2000; JAAD 29:278–280, 1993;* progressive nodular histiocytoma *Lancet 24:208–209, 1987*

Scleromyxedema (lichen myxedematous) – linear papules, leonine facies, arthritis and rash, sclerodermoid changes

*BJD 144:594–596, 2001; JAAD 44:273–281, 2001; JAAD 289–294, 1998; AD 123:786–789, 1987*

Xanthoma disseminatum *JAAD 13:383, 1985; AD 121:1313–1317, 1985*

### INFLAMMATORY DISEASES

Lymphocytoma cutis *AD 130:155–156, 1994*

Sarcoid *Cutis 73:57–62, 2004; AD 136:712–714, 2000; AD 133:215–219, 1997; JAAD 24:451, 1991; Ann DV 116:816–817, 1989*

### METABOLIC

Acromegaly

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Cryoglobulinemia – monoclonal, type I

Nodular xanthomatosis, infancy *Ped Derm 4:242–246, 1987*

### NEOPLASTIC

Carcinoid syndrome

Epidermal nevi *Ped Derm 3:69–74, 1985*

Hair follicle hamartoma

Keratoacanthomas, multiple; generalized eruptive keratoacanthomas of Grzybowski – masked facies *BJD 142:800–803, 2000*

Leukemia cutis – congenital monocytic leukemia *BJD 150:753–756, 2004;* congenital leukemia, chronic myelogenous leukemia with blast transformation *JAAD 12:943–8, 1985*; *JAAD 11:121–8, 1984;* chronic lymphocytic leukemia; chloroma; acute myelomonocytic leukemia *AAD Annual Meeting 1999: Gross and Microscopic Dermatology*

Lymphoma, including cutaneous T-cell lymphoma (CTCL) *Eur J Dermatol 10:309–312, 2000;* pilotropic (follicular) CTCL *AD 138:191–198, 2002*

Metastatic breast carcinoma *JAAD 37:129–130, 1997*

Plasmacytomas – disseminated extramedullary plasmacytomas *JAAD 14:335, 1986*

Subcutaneous eosinophilic necrosis with myelodysplastic syndrome *JAAD 20:320, 1989*

Trichoepitheliomas – multiple trichoepitheliomas (trichoepitheliomatous infiltration) *Am J Dermatopathol 24:402–405, 2002; Ped Derm 10:252–5, 1993;* giant facial nodules *BJD 149:674–675, 2003*

### PHOTODERMATOSES

Actinic reticuloid *JAAD 38:877–905, 1998; AD 115:1078–1083, 1979*

### PRIMARY CUTANEOUS DISEASES

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition*

Alopecia mucinosa (follicular mucinosis) *Ghatan p.250, 2002, Second Edition*

Darier's disease

Pityriasis rosea

### SYNDROMES

Infantile systemic hyalinosis *Ped Derm 9:255–258, 1992*

KID syndrome – keratosis–ichthyosis–deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996; BJD 94:211–217, 1976*

Lipoid proteinosis

Mucolipidoses (pseudo-Hurler polydystrophy) *BJD 130:528–533, 1994*

Mucopolysaccharidoses (Hurler's, Hurler–Schei, Sanfilippo, Morquio, Maroteaux–Lamy, Sly syndromes) – coarse facies *Rook p.2624–2625, 1998, Sixth Edition*

Multicentric reticulohistiocytosis *JAAD 49:1125–1127, 2003; Indian J Lepr 60:604–608, 1988; JAAD 11:713–723, 1984*

Neurofibromatosis

Pachydermoperiostosis (Touraine–Solente–Gole syndrome) *AD 124:1831–1834, 1988; JAAD 31:941–953, 1994*

Polyostotic fibrous dysplasia of the facial bones *Int J Oral Surg 10 (Suppl 1):47–51, 1981*

Premature familial sebaceous hyperplasia *JAAD 37:996–998, 1997*

Setleis syndrome (focal facial dermal dysplasia with other facial anomalies) – autosomal recessive; aged leonine appearance, bi-temporal scar-like defects, absent or multiple rows of upper eyelashes, eyebrows slanted up and out, absent eyebrows, puckered periorbital skin, scar-like median furrow of chin *Ped Derm 21:82–83, 2004; Scand J Plast Reconstr Surg Hand Surg 35:107–111, 2001; BJD 130:645–649, 1994; AD 110:615–618, 1974; Br J Derm 84:410–416, 1971; Pediatrics 32:540–548, 1963*

Steatocystoma multiplex

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004*

### VASCULAR

Angiolymphoid hyperplasia with eosinophilia *Cutis 72:323–326, 2003*

Port wine stain (nevus flammeus) *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.114, 1999*

## LEUKODERMA, GUTTATE

***Bolognia p.962, 2003***

Chemical leukoderma

Chromosomal abnormalities

Darier's disease

Flat warts

Frictional lichenoid dermatosis

Idiopathic guttate hypomelanosis

In association with keratosis punctata

Leukoderma punctata following PUVA therapy

Lichen sclerosus et atrophicus

Morphea

Pityriasis lichenoides chronica

Tuberous sclerosis

Vitiligo

Xeroderma pigmentosum

# LEUKONYCHIA

## CONGENITAL DISEASES

Leukonychia – congenital *JAAD 39:509–512, 1998*

## DRUGS

Chemotherapy – transverse striated leukonychia *Textbook of Neonatal Dermatology, p.512, 2001*

Sulfathiazole *Dermatol Clin 6:305–313, 1988*

Trazolone *Dermatol Clin 6:305–313, 1988*

## EXOGENOUS AGENTS

Nitric acid – diffuse leukonychia *Semin Dermatol 10:17–20, 1991*

Nitrite solution – diffuse leukonychia *Semin Dermatol 10:17–20, 1991*

Concentrated sodium chloride – diffuse leukonychia *Semin Dermatol 10:17–20, 1991*

## INFECTIONS AND INFESTATIONS

Leprosy

*Mycobacterium tuberculosis Dermatol Clin 6:305–313, 1988*

Onychomycosis – superficial white onychomycosis – *Trichophyton rubrum, T. mentagrophytes, Aspergillus* species, *Acremonium* species *(A. strictum), Fusarium solani, Onychocola canadensis AD 140:696–701, 2004; JAAD 36:29–32, 1997*

Sepsis – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

Typhoid fever *Dermatol Clin 6:305–313, 1988*

## INFLAMMATORY DISEASES

Transverse striated leukonychia – after febrile illness *Textbook of Neonatal Dermatology, p.512, 2001*

Ulcerative colitis *Semin Dermatol 10:17–20, 1991*

## METABOLIC DISEASES

Anemia – apparent leukonychia *Rook p. 2830, 1998, Sixth Edition*

Congestive heart failure – Terry's nails(proximal 80% of nail plate is white, distal 20% is pink) *Ghatan p.85*, *2002, Second Edition,* white lunulae *Ghatan p.80, 2002, Second Edition*

Hemochromatosis – leukonychia *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hypoalbuminemia – Muehrcke's lines (thin white transverse bands) *Ghatan p.82, 2002, Second Edition;* leukonychia *Ghatan p.79, 2002, Second Edition;* Terry's nails (proximal 80% of nail plate is white, distal 20% is pink) *Ghatan, Second Edition, 2002, p.85*

Liver disease – leukonychia *Ghatan p.79, 2002, Second Edition;* white lunulae *Ghatan, Second Edition, 2002, p.80*; Terry's nails *Ghatan, Second Edition, 2002, p.85*

Pellagra – leukonychia *Ghatan p.79, 2002, Second Edition*

Terry's nails – apparent leukonychia (diffuse whitening of the nail bed) *Lancet 1:757–759, 1954*

Zinc deficiency – leukonychia *Ghatan* p.79, 2002, *Second Edition*; Muehrcke's paired lines *Textbook of Neonatal Dermatology, p.512, 2001*

## PARANEOPLASTIC DISORDERS

Leukonychia and internal malignancy *Dermatol Clin 6:305–313, 1988*

## PRIMARY CUTANEOUS DISEASES

Alopecia areata – white lunulae *Ghatan p.80, 2002, Second Edition*

Darier's disease *Dermatol Clin 6:305–313, 1988*

Hailey–Hailey disease (longitudinal leukonychia) *Hautarzt 43:451–452, 1992*

Leukonychia totalis *BJD 152:401–402, 2005*

Mee's lines (white transverse bands) seen with arsenic poisoning, pellagra, malnutrition, typhoid fever, Hodgkin's disease, renal failure, renal allograft rejection, and myocardial infarction *Dermatol Clin 6:305–313, 1988*

Psoriasis *Dermatol Clin 6:305–313, 1988*

## SYNDROMES

Bart–Pumphrey syndrome – knuckle pads, total leukonychia, mixed hearing loss *JAAD 51:292, 2004; NEJM 276:202–207, 1967*

Leukonychia totalis, sebaceous cysts, renal calculi *AD 111:899–901, 1975*

Leukonychia and peptic ulcer disease and cholelithiasis *NY State J Med 1982:1797–1800*

Leukonychia, keratoderma and hypotrichosis *BJD 133:636–638, 1995;* palmoplantar keratoderma and atrophic fibrosis *Int J Derm 29:535–541, 1990*

Leukonychia and pili torti *Cutis 1985:533–534*

Leukonychia, congenital hypoparathyroidism; hypoparathyroidism, onychorrhexis, and cataracts, LEOPARD syndrome *Int J Derm 29:535–541, 1990*

## TOXINS

Arsenic – Mee's lines of nails *BJD 149:757–762, 2003*

Heavy metal poisoning *Dermatol Clin 6:305–313, 1988*

Thallium – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

### TRAUMA

Minor trauma *Dermatol Clin 6:305–313, 1988*; punctate leukonychia *Rook p. 2830, 1998, Sixth Edition*

### VASCULAR DISORDERS

Dissecting aortic aneurysm – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

Edema – apparent leukonychia *Rook p. 2830, 1998, Sixth Edition*

Ischemia – white lunulae *Ghatan p.80, 2002, Second Edition*

Raynaud's phenomenon *Dermatol Clin 6:305–313, 1988*

Vascular insufficiency – pale nail bed (apparent leukonychia) *Rook p. 2830, 1998, Sixth Edition*

## LEUKOPLAKIA

***JAAD 36:928–934, 1997***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis with oral lichenoid reaction to amalgam fillings (mercury) *BJD 134:420–423, 1996; BJD 126:10–15, 1992;* allergic contact dermatitis to cinnamon-flavored gum *Bolognia p.1086, 2003*

Graft vs. host disease *Rook p.2756,3058, 1998, Sixth Edition*

Lupus erythematosus – discoid lupus erythematosus *Dermatol Clin 21:63–78, 2003; BJD 121:727–741, 1989*

### CONGENITAL DISORDERS

Congenital dyskeratosis

### DRUGS

Lichen planus, drug induced

### EXOGENOUS AGENTS

Antiseptics *Ghatan p.92, 2002, Second Edition*

Aspirin burn/alcohol burn

Betel chewing *Cutis 71:307–311, 2003; JAAD 37:81–88, 1998*

Mercury – lichenoid mucositis secondary to amalgam fillings with mercury

Mouthwashes (Listerene) *Oral Surg 46:781, 1978*

Nicotine stomatitis – begins as erythema of hard palate; then progresses to grayish white nodular appearance *Dermatol Clin 21:63–78, 2003; Rook p.3057,3098, 1998, Sixth Edition*

Phenol *Ghatan p.92, 2002, Second Edition*

Pipe smoking – benign keratosis of palate *Rook p.3098–3099, 1998, Sixth Edition*

Reverse smoking (India) – palate; snuff dipping and smokeless tobacco (tobacco pouch keratosis) – vestibule *Dermatol Clin 21:63–78, 2003; Rook p.3098–3099, 1998, Sixth Edition*

Skin grafts *Rook p.3057, 1998, Sixth Edition*

Viadent-associated leukokeratosis (sanguinaria extract) *J Can Dent Assoc 56:41–47, 1990*

### INFECTIONS AND INFESTATIONS

AIDS – herpes simplex and pseudomonas; oral hairy leukoplakia – AIDS-associated lesion; Epstein–Barr virus *Tyring p.162–164, 2002; JAAD 22:79–86, 1990*

Bejel – endemic syphilis; mucous patch *Rook p.1252,3057,3091, 1998, Sixth Edition*

Candida – acute pseudomembranous candidosis *Rook p.1340,3101, 1998, Sixth Edition;* chronic hyperplastic candidiasis *Oral Surg Oral Med Oral Pathol 56:388–395, 1983;* chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981;* oral candidiasis in chronic granulomatous disease, hyper-IgE syndrome, immunodeficiency with thymoma, APECED syndrome, myeloperoxidase deficiency, selective IgA deficiency, severe combined immunodeficiency, adenosine deaminase deficiency, cellular immunodeficiency with immunoglobulins, bare lymphocyte syndrome, congenital thymic aplasia, DiGeorge's syndrome, Nezelof's syndrome, C3 deficiency, biotin-responsive multiple carboxylase deficiency *Rook p.2744–2745,2749, 1998, Sixth Edition*

Histoplasmosis

Koplik's spots

Oral hairy leukoplakia – AIDS-associated lesion; Epstein–Barr virus *Tyring p.162–164, 2002; JAAD 22:79–86, 1990;* also seen in immunosuppressed *BJD 124:483–486, 1991;* and immunocompetent patients *Oral Surg Oral Med Oral Pathol 74:332–333, 1992*

Scarlet fever – white coated tongue

Syphilis, secondary – mucous patch *Rook p.3122, 1998, Sixth Edition;* tertiary – atrophic glossitis; syphilitic leukoplakia of the dorsal tongue *Rook p.3098–3099, 1998, Sixth Edition;*

Verrucae *Dermatol Clin 21:63–78, 2003;* condyloma acuminatum

### INFILTRATIVE DISEASES

Langerhans cell histiocytosis *Curr Prob Derm VI:1–28, 1994*

### METABOLIC DISEASES

Liver failure, chronic *Rook p.3057, 1998, Sixth Edition*

Macroglobulinemia *Ghatan p.92, 2002, Second Edition*

Renal failure, chronic *Rook p.3057, 1998, Sixth Edition*

Riboflavin deficiency

Sideropenic dysphagia *Ghatan p.92, 2002, Second Edition*

### NEOPLASTIC DISEASES

Acquired dyskeratotic leukoplakia *AD 124:117–120, 1988*

Bowen's disease, vulvar *Rook p.3233, 1998, Sixth Edition*

Clear cell adenocarcinoma

Epidermal nevus *Ghatan p.92, 2002, Second Edition*

Erythroleukoplakia (speckled leukoplakia) *Rook p.3098–3099, 1998, Sixth Edition*

Extramammary Paget's disease, vulvar *Rook p.3233, 1998, Sixth Edition*

Leukokeratosis oris *Bolognia p.1209, 2003*

Leukoplakia *Rook p.3098–3099, 1998, Sixth Edition;* vulvar squamous epithelial hyperplasia with atypia *Rook p.3230–3231,*

*1998, Sixth Edition;* vulvar benign leukoplakia *Rook p.3236, 1998, Sixth Edition*

Papillomas *Rook p.3057, 1998, Sixth Edition*

Porokeratosis of Mibelli *Ghatan p.92, 2002, Second Edition*

Premalignant epithelial dysplasia

Proliferative verrucous hyperplasia – expanding exophytic verrucous white plaques *AD 127:887–892, 1991; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 60:285–298, 1985*

Squamous cell carcinoma *Rook p.3057, 1998, Sixth Edition;* vulvar *Rook p.3235–3236, 1998, Sixth Edition*

Squamous cell carcinoma *in situ Rook p.3057,3075, 1998, Sixth Edition*

Submucous fibrosis *Ghatan p.92, 2002, Second Edition*

Verrucous carcinoma (oral florid papillomatosis) *Oral Oncol 29B:81–82, 1993*

White sponge nevus *AD 117:73–76, 1981*

## PRIMARY CUTANEOUS DISEASES

Aphthosis

Darier's disease *Br Dent J 171:133–136, 1991*

Epidermolysis bullosa, Herlitz, junctional type *Ped Derm 18:217–222, 2001*

Focal oral epithelial hyperplasia (Hecks's disease) *Tyring p.273, 2002*

Furred tongue

Geographic tongue

Hereditary palmoplantar keratoderma (Unna–Thost) with oral keratosis or periodontosis *Rook p.3055, 1998, Sixth Edition*

Idiopathic keratosis *Rook p.3057, 1998, Sixth Edition*

Leukoedema *Dermatol Clin 21:63–78, 2003; Community Dent Oral Epidemiol 9:142–146, 1981; AD 116:906–908, 1980*

Lichen planus *Rook p.1904–1912,3082, Sixth Edition; J Oral Pathol 14:431–458, 1985;* vulvar lichen planus mimicking leukoplakia *AD 125:1677–1680, 1989*

Lichen sclerosus et atrophicus – bluish – white plaques of mouth; may mimic lichen planus *Rook p.2549–2551,3231–3232, 1998, Sixth Edition; BJD 131:118–123, 1994; Br J Oral Maxillofac Surg 89:64–65, 1991;* wrinkled lesions, atrophic vulvar with shrinkage *Cutis 67:249–250, 2001; Trans St John's Hosp Dermatol Soc 57:9–30, 1971;* involvement of lip, tongue, gingiva *Ped Derm Meeting of AAD, March, 2000*

Lichen simpex chronicus, vulvar *Rook p.3229, 1998, Sixth Edition*

Linea alba *Dermatol Clin 21:63–78, 2003*

Lichenoid verrucous leukoplakia

Mal de Meleda

Materia alba

Pityriasis rubra pilaris

Pseudo-oral hairy leukoplakia *JAAD 30:300–303, 1994*

Psoriasis – annuli; white lesions of buccal mucosa *Rook p.3102, 1998, Sixth Edition; Scand J Dent Res 92:50–54, 1984*

Shedding oral mucosa

Tylosis *J Oral Pathol 3:62–70, 1974*

Verrucous hyperplasia

## PSYCHOCUTANEOUS DISEASES

Self-inflicted *Ghatan p.92, 2002, Second Edition*

## SYNDROMES

Clouston's syndrome (hidrotic ectodermal dysplasi) – autosomal dominant; palmoplantar hyperkeratosis, hair defects, nail dysplasia, leukoplakic lesions *Oral Surg 57:258–262, 1984*

Cole–Engman syndrome – leukoplakia of the tongue *J Oral Maxillofac Surg 57:1138–1141, 1999*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28; oral bullae and erosions *Rook p.415, 1998, Sixth Edition; J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) (hereditary painful callosities) – palmoplantar keratoderma, leukoplakia (gingival keratosis), and cutaneous horn of the lips *JAAD 52:403–409, 2005; BJD 146:680–683, 2002; Oral Surg 50:250, 1980; Birth Defects 12:239–242, 1976; Arch Int Med 113:866–871, 1964*

Grinspan's syndrome – oral lichen planus, diabetes mellitus, hypertension *Ghatan p.202, 2002, Second Edition*

Hereditary benign intra-epithelial dyskeratoses (Witkop–von Sallmann syndrome) – conjunctivitis; leukoplakia of buccal mucosa, lips, tongue in Haliwa–Saponi Native Americans of North Carolina *JAAD 45:634–636, 2001; Arch Pathol 70:696–711, 1960*

Hereditary mucoepithelial dysplasia *Ghatan p.93, 2002, Second Edition*

Howell–Evans syndrome – autosomal dominant; focal PPK; oral leukokeratosis, carcinoma of the esophagus *Curr Prob Derm 14:71–116, 2002; Q J Med 155:317–333, 1970; QJMed 27:413–429, 1958*

Keratosis–ichthyosis–deafness (KID) syndrome – oral leukoplakia, reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990; JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Olmsted syndrome – oral leukokeratosis, periorificial keratotic plaques; congenital diffuse sharply marginated transgradient keratoderma of palms and soles, onychodystrophy, constriction of digits, diffuse alopecia, thin nails, chronic paronychia, linear keratotic streaks, follicular keratosis, constriction of digits (ainhum), anhidrosis, small stature; differential diagnostic considerations include Clouston hidrotic ectodermal dysplasia, pachyonychia congenita, acrodermatitis enteropathica, Vohwinkel's keratoderma, mal de Meleda, and other palmoplantar keratodermas *JAAD 53:S266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; JAAD 10:600–610, 1984*

Oral florid papillomatosis

Pachyonychia congenita – white sponge nevus (oral leukokeratosis) *BJD 152:800–802, 2005; JAAD 19:705–711, 1988*

Plummer–Vinson syndrome

Pseudoxanthoma elasticum

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – white plaques of the tongue, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

### TOXINS

Arsenic exposure, chronic

### TRAUMA

Biting buccal mucosa (morsicatio buccarum et labiorum) *Rook p.3098–3099, 1998, Sixth Edition*

Burns, thermal *Rook p.3057, 1998, Sixth Edition*

Cheek biting *Rook p.3060, 1998, Sixth Edition*

Dentures *Rook p.3098–3099, 1998, Sixth Edition*

Frictional keratosis *Dermatol Clin 21:63–78, 2003; Rook p.3057, 1998, Sixth Edition*

Lye

Mechanical irritation *Rook p.3098–3099, 1998, Sixth Edition*

Radiation *Ghatan p.92, 2002, Second Edition*

Seizure

Tobacco chewer *Rook p.3098–3099, 1998, Sixth Edition*

Tongue biting *Rook p.3098–3099, 1998, Sixth Edition*

## LINEAR HYPOPIGMENTATION

Epidermal nevus

Goltz's syndrome

Hypomelanosis of Ito

Incontinentia pigmenti, fourth stage

Intralesional corticosteroids

Lichen striatus

Linear keratosis follicularis and linear basaloid follicular hamartoma with guttate macules

Menkes' kinky hair syndrome (female carrier)

Nevus comedonicus

Nevus depigmentosus

Pigmentary mosaicism

Segmental vitiligo

Segmental ash leaf macule

## LINEAR LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis to poison ivy, hair dye, tape, hat or wrist band *Rook p.788, 1998, Sixth Edition;* Poederus dermatitis *Cutis 72:385–388, 2003*

Cold urticaria – ice cube test

Combined immunodeficiency disease – red plaques with linear scars *JAAD 25:761–766, 1991*

Dermatomyositis – centripetal flagellate erythema *J Rheumatol 26:692–695, 1999;* presenting as a pityriasis rubra pilaris- like eruption (type Wong dermatomyositis) (follicular hyperkeratotic linear lesions of backs of hands and feet, palms, soles in Chinese patients) – linear lesions over bony prominences *JAAD 43:908–912, 2000; BJD 136:768–771, 1997; BJD 81:544–547, 1969;* hyperpigmented linear streaks over extensor tendon sheaths in dark-skinned individuals *BJD 132:670–671, 1995;* linear violaceous edematous streaks of trunk *Clin Exp Dermatol 21:440–441, 1996;* mechanics' hands – hyperkeratotic fissures of radial and palmar surfaces of fingers *Medicine 70:360–374, 1991*

Graft vs. host disease – lichenoid graft vs. host reaction *JAAD 37:1004–1006, 1997; AD 130:70–72, 1994; South Med J 87:758–761, 1994*

Linear melorheostotic scleroderma – indurated skin overlying bony lesions; rare form of hyperostosis (endosteal bony densities resembling candle wax); pain and stiffness, contracture and deformity; cutaneous changes overlying these bony lesions are of two types:
(1) Proliferation and malformation of blood vessels and lymphatics. (2) Sclerodermatous changes; linear melorheostotic scleroderma with hypertrichosis sine melorheostosis *BJD 141:771–772, 1999; AD 115:1233–1234, 1979; BJD 86:297–301, 1972*

Lupus erythematosus – bullous lupus erythematosus *Ped Derm 12:138–144, 1995;* linear lupus profundus *JAAD 24:871–874, 1991;* neonatal lupus *Ped Derm 22:240–242, 2005*

Morphea – including morphea with mucin; linear morphea *Semin Cutan Med Surg 18:210–225, 1999; Semin Cutan Med Surg 17:27–33, 1998; Int J Derm 35:330–336, 1996;* nodular morphea (Addisonian keloid) *Int J Dermatol 38:529–530, 1999;* en coup de sabre

Pemphigus erythematosus localizing in a scar *Cutis 64:179–182, 1999*; pemphigus vulgaris in a scar *Dermatologica 182:191–192, 1991*

Pemphigus foliaceus of children *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986*

Rheumatoid arthritis – linear subcutaneous bands *Am J Med 54:445–452, 1973; Ann Intern Med 63:134–140, 1965;* rheumatoid nodules; palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis) (interstitial granulomatous dermatitis) – vertical symmetrical linear cords or bands of median axillary line *JAAD 53:191–209, 2005; JAAD 47:251–257, 2002; JAAD 45:286–291, 2001; Ann DV 117:746–748, 1990;* intravascular or intralymphatic histiocytosis in rheumatoid arthritis *JAAD 50:585–590, 2004*

Scleroderma, including scleroderma as plasma cell panniculitis *JAAD 21:357–360, 1989;* perioral rhagades *Rook p.3129, 1998, Sixth Edition*

Serum sickness – linear purpura along margins of hands and feet *JAAD 13:411–417, 1985*

Still's disease (juvenile rheumatoid arthritis) – linear urticarial-like lesions; linear pigmentation *Dermatology 202:333–335, 2001*

### CONGENITAL ANOMALY

Amniotic band syndrome

Aplasia cutis congenita – isolated lesion; of face *Textbook of Neonatal Dermatology, p.129, 2001*

Aplasia cutis congenita in surviving co-twins *Ped Derm 18:511–515, 2001*

Aplasia cutis congenita with fetus papyraceus – linear and stellate atrophy *Cutis 64:104–106, 1999*

Aplasia cutis congenita, reticulolinear – of face and neck as manifestation of Xp22 deletion syndrome *BJD 138:1046–1052, 1998*

Acquired raised bands of infancy – associated with amniotic bands *Ped Derm 22:346–349, 2005*

Branchial cleft cyst and sinus tract *Ped Derm 2:318–321, 1985*

Congenital constriction band of the trunk (variant of amniotic band syndrome) *Ped Derm 14:470–472, 1997*

Congenital curvilinear palpable hyperpigmentation *JAAD 53:S162–164, 2005*

Graft-like plantar lesion *JAAD 40:769–771, 1999*

Horizontal neonatal linear hyperpigmentation of creases of abdomen and knees *Eichenfeld p.98, 2001*

Midline cervical cleft – atrophic linear lesion *AD 141:1161–1166, 2005*

Pre-auricular skin defects *AD 133:1551–1554, 1997*

Sucking blisters – linear erosions *Textbook of Neonatal Dermatology, p.139,148, 2001*

Supraumbilical mid-abdominal raphe *Ped Derm 10:69–70, 1993*

Trisomy 8 – deep vertical creases of soles

Trisomy 9 syndrome

## DRUG-INDUCED

Acral dysesthesia syndrome – accentuation along Wallace's line

Anabolic steroids – linear keloids *Cutis 53:41–43, 1994*

Bleomycin – flagellate erythema and hyperpigmentation *Clin Exp Dermatol 16:216–217, 1991; AD 123:393–398, 1987;* palmar creases *JAAD 40:367–398, 1999;* limited to striae *JAAD 28:503–505, 1993;* linear papules and red macules *JAAD 40:367–398, 1999;* scaly linear erythema of dorsa of hands with atrophy and telangiectasia (dermatomyositis-like) *JAAD 48:439–441, 2003*

Bone marrow transplant – unilateral lichenoid eruption after bone marrow transplant *JAAD 28:888–892, 1993*

Corticosteroids – rosacea; intralesional corticosteroids – linear hypopigmentation *AD 121:26, 1985;* perilesional linear atrophy *JAAD 19:537–541, 1988;* linear atrophy due to intralesional corticosteroid injections of de Quervain tendonitis *Cutis 73:197–198, 2004*

Coumarin – linear localized coumarin necrosis *Dermatologica 168:31–34, 1984*

Fetal hydantoin syndrome – single palmar crease

Fetal trimethadione syndrome – single palmar crease

Fixed drug eruption

Norplant implantation site

## EXOGENOUS AGENTS

*Agave americana* (century plant) dermatitis – linear purpura *Cutis 72:188–190, 2003*

Aluminum–zirconium complex – linear axillary papules *JAAD 37:496–498, 1997*

Berrylium dermatitis – linear papules *JAAD 49:939–941, 2003*

Bovine collagen, injectable – allergic reaction

Cocaine injection nodules *JAAD 21:570–572, 1989*

Copper eyeglass frames – green skin

Coral dermatitis

Fetal alcohol syndrome – single palmar crease

Fiberglass dermatitis – linear erosions *Ghatan p.187, 2002, Second Edition;* also urticaria, petechiae, purpura, telangiectasia, erythema multiforme-like, and nummular eczema-like lesions *AD 130:787–792, 1994*

Foreign body granulomas to suture material

Jellyfish, coral, and sea urchin spines – pruritic lichenoid papules and plaques; linear flagellate patterns *Bolognia p.1477, 2003*

Metal sutures

Norplant implantation

Silicone – linear edema, nodularity, scarring, and bound-down skin due to leakage of silicone breast implant *AD 131:54–56, 1995*

Smoker's face – linear wrinkling and atrophy *AD 128:255–262, 1992*

Suture material – extrusion of undigested suture material

## INFECTIONS AND INFESTATIONS

AIDS (HIV) – linear excoriations; linear gingival erythema of HIV disease

Bacterial dissection *Cutis 51:43–44, 1993*

Bacterial subungual infections – *Pseudomonas aeruginosa, Klebsiella* spp., *Proteus* spp. – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Bed bug bites (Cimex lectularis)

Beetles – whiplash dermatitis; linear blisters *JAAD 22:815–819, 1990;* coconut beetles *Rook p.1448, 1998, Sixth Edition*

Blister beetle dermatosis (*Lytta vesicatoria*) *Ped Derm 9:246–250, 1992; JAAD 22:815–819, 1990;* rove beetles (*Paederus* species) *Cutis 69:277–279, 2002; AD 94:175–185, 1966*

Botryomycosis *Cutis 56:158–160, 1995*

Calipito itch – caterpillar dermatitis

Candidiasis – erosio interdigitalis blastomycetica

Coelenterate envenomation – acute jellyfish stings (cnidarian envenomation); recurrent eruptions following coelenterate envenomation *The Clinical Management of Itching; Parthenon Publishing, 2000; p.xiii; JAAD 17:86–92, 1987;* Portuguese man-of-war stings *The Clinical Management of Itching; Parthenon; p.65, 2000; J Emerg Med 10:71–77, 1992*

Coccidioidomycosis *JAAD 21:1138–1141, 1989*

Coxsackle A16 – linear erosions

Coxsackie B4 – linear purpura of the ankles

Cutaneous larva migrans; including oral irregular linear lesions *Oral Surg 77:362–367, 1994*

Echovirus 6 *Am J Dis Child 133:283, 1979*

Eczema herpeticum

Gnathostomiasis

Gypsy moth caterpillar dermatitis *JAAD 24:979–981, 1991*

Hand, foot and mouth disease

Herpes simplex – linear intertrigo; linear distribution on face; linear tongue fissure in HIV patients (herpetic geometric glossitis); eczema herpeticum

Jellyfish sting, including Portuguese man-of-war sting

Larva currens (*Strongyloides*) *Dermatol Clin 7:275–290, 1989; AD 124:1826–1830, 1988*

Leeches

Leishmaniasis – post-kala-azar dermal leishmaniasis; Koebnerized papules *BJD 143:136–143, 2000*

Leprosy – visible and palpable nerves including posterior auricular nerve – thickening of peripheral nerves can occur in all forms of leprosy *Int J Lepr Other Mycobact Dis 62:37–42, 1994;* localized linear lesions of lepromatous leprosy *Indian J Lepr 73:343–348, 2001;* differentiate from palpable peripheral nerves of hereditary sensory motor neuropathy type III; amyloidosis *Rook p.1231, 1998, Sixth Edition*

Loiasis – linear cord *BJD 145:487–489, 2001*

Lymphogranuloma venereum – inguinal adenitis with abscess formation; sign of the groove – groin fold dividing the swollen lymph nodes *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.147, 1998; Int J Dermatol 15:26–33, 1976*

Molluscum contagiosum

*Mycobacterium tuberculosis* – lupus vulgaris; sporotrichoid pattern *Int J Derm 40:336–339, 2001*

Myiasis, migratory

Papular urticaria

Phaeohyphomycosis – linear vegetative plaques of legs; Coniothyrium *Cutis 73:127–130, 2004*

Scabies

Scarlet fever – Pastia's lines (linear petechial streaks of the flexures) *JAAD 39:383–398, 1998, Clin Inf Dis 14:2–13, 1992*

Snake bite fang marks

Sparganosis – linear migratory erythema with or without pustules

Sporotrichosis – healed – linear scars

Staphylococcal scalded skin syndrome

Streptococcal infection – linear crusts of group B *Streptococcus* infection of the penis *JAAD 20:367–390, 1989*

Syphilis – tertiary – linear scars; perioral rhagades *Rook p.1255, 1998, Sixth Edition*; congenital – linear scar *Actas Dermosifiliogr 56:203–206, 1965 (Spanish)*

Tinea corporis in HIV disease

Tinea versicolor

Varicella, congenital – linear erosions; linear array of scars – intrauterine varicella *JAAD 43:864–866, 2000; AJDC 117:231–235, 1969*

Verrucae, including flat warts (Koebnerized), cutaneous horn due to warts *Rook p.1037, 1998, Sixth Edition;* wart over nail matrix – longitudinal nail groove *Rook p.2827, 1998, Sixth Edition*

Yaws – secondary (crab yaws) – linear fissures of hyperkeratotic plantar surfaces *Rook p.1270, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Alopecia mucinosa *Rook p.128, 1998, Sixth Edition*

Amyloidosis – primary systemic; linear striations of nails *Rook p.2633, 1998, Sixth Edition;* infiltration of nerves; chronic diffuse amyloidosis with nerve infiltration *Ghatan p.257, 2002, Second Edition*; lichen amyloid; $\beta_2$-microglobulin amyloidosis – shoulder pain, carpal tunnel syndrome, flexor tendon deposits of hands, lichenoid papules, hyperpigmentation, subcutaneous nodules (amyloidomas) *Int J Exp Clin Inves 4:187–211, 1997*

Cutaneous mucinosis of infancy – congenital linear variant of self-healing juvenile cutaneous mucinosis *AD 122:790, 1986; AD 119:272–273, 1983*

Juvenile xanthogranuloma *Ped Derm 21:513–515, 2004*

Scleromyxedema – linear papules, leonine facies, arthritis and rash, sclerodermoid changes *JAAD 44:273–281, 2001*

Self-healing papular (juvenile) cutaneous mucinosis *JAAD 44:273–281, 2001; AD 131:459–461, 1995; Ann DV 107:51–57, 1980*

Urticaria pigmentosa (mastocytosis) – Darier's sign

## INFLAMMATORY DISEASES

Anetoderma following angular cheilitis *BJD 138:923–924, 1998*

Angular cheilitis – linear fissures; candida, staphylococci, immune deficiency, dentures, overbite, atopic dermatitis, riboflavin, iron, folate deficiencies, protein malnutrition, hypersalivation (drooling) (Down's syndrome), edentulous patients, prognathism *Rook p.3135–3136, 1998, Sixth Edition*

Connective tissue panniculitis – nodules, atrophic linear plaques of face, upper trunk, or extremities *AD 116:291–294, 1980*

Crohn's disease – linear oral ulcers in buccal sulcus *JAAD 36:697–704, 1997;* vulvar linear knife-cut ulcers *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.162, 1998*

Erythema multiforme

Gingival erythema, linear *Curr Prob Derm VIII:41–96, 1996*

Hidradenitis suppurativa

Intersitial granulomatous dermatitis (interstitial granulomatous dermatitis with plaques, linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare, palisaded neutrophilic granulomatous dermatitis) – red, linear plaques with arthritis; annular plaques, papules, linear erythematous cords (rope sign), urticarial lesions *JAAD 47:319–320, 2002; JAAD 47:251–257, 2002; JAAD 46:892–899, 2002; JAAD 45:286–291, 2001; JAAD 34:957–961, 1996; Dermatopathol Prac Concept 1:3–6, 1995*

Lymphangitis due to liquid nitrogen, dyshidrosis

Median rhomboid glossitis

Plasma cell panniculitis *JAAD 21:357–360, 1989*

Post-phlebitic linear hypertrichosis *AD 124:30, 1988*

Pruritic linear urticarial rash, fever, and systemic inflammatory disease of adolescents – urticaria, linear lesions, periorbital edema and erythema, and arthralgia *Ped Derm 21:580–588, 2004*

Sarcoid in scars; subcutaneous sarcoid (Darier–Roussey sarcoid) – linear bands of forearms *BJD 153:790–794, 2005*

Superficial vegetating pyoderma

## METABOLIC

Acrodermatitis enteropathica or acquired zinc deficiency – linear bullae in palmar creases *Rook p.2670, 1998, Sixth Edition*

Acromegaly – cutis verticis gyratum, linear furrowing of facial lines *Ghatan p.165, 2002, Second Edition*

Beau's lines *Rook p.2828, 1998, Sixth Edition*

Calcinosis cutis – iatrogenic metastatic calcinosis cutis *Ped Derm 20:225–228, 2003;* plate-like calcinosis cutis *BJD 150:753–756, 2004*

Cholinergic dermatographism – red line with punctate wheals *BJD 115:371–177, 1986*

Cushing's disease – striae

Diabetes mellitus – diabetic dermopathy; sometimes linear atrophic brown scars *Rook p.2674, 1998, Sixth Edition; Cutis 3:955–958, 1967*

Diagonal ear lobe crease *Cutis 23:328–331, 1979; NEJM 289:327–328, 1973*

Necrobiosis lipoidica diabeticorum – linear array Koebnerizing around a scar *Cutis 67:158–160, 2001*

Obesity – striae

Panhypopituitarism – fine wrinkling around eyes and mouth *Ghatan p.165, 2002, Second Edition*

Porphyrias – erythropoietic porphyria – linear and pitted scars *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976;* hereditary coproporphyria; acute intermittent porphyria – linear abdominal scars

Pregnancy – hyperpigmentation of linea nigra *Rook p.1780, 1998, Sixth Edition;* pigmentary demarcation lines of pregnancy *JAAD 11:438–440, 1984*

Pruritic urticarial papules and plaques of pregnancy – lesions localized in abdominal striae *JAAD 39:933–939, 1998; JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Verruciform xanthoma, disseminated *BJD 151:717–719, 2004*

Xanthomas – eruptive xanthomas (koebnerized) *J Dermatol 19:48–50, 1992; JAAD 19:95–111, 1988;* plane xanthomas

## NEOPLASTIC

Acantholytic dyskeratotic epidermal nevus *J Eur Acad/Dermatol Venereol 17:196–199, 2003; BJD 138:875–878, 1998*

Achromic nevus

Actinic keratosis with cutanous horn

Angiolipomas

Atypical melanocytic hyperplasia – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Basal cell carcinoma *Cutis 51:287–289, 1993*; giant linear *Int J Dermatol 33:284, 1994*

Basal cell nevus (linear basal cell nevus) – resemble comedones; usually linear translucent telangiectatic papules, may ulcerate; macular hypopigmentation, alopecia, cysts, striae *Cutis 46:493–494, 1990; AD 114:95–97, 1978; BJD 74:20–23, 1962*

Basaloid follicular hamartoma *AD 133:381–386, 1997; JAAD 27:316–319, 1992*

Becker's nevus *Cutis 75:122–124, 2005*

Blue nevi *JAAD 36:268–269, 1997*

Bowen's disease – linear longitudinal melanonychia *JAAD 39:490–493, 1998*

Clear cell papulosis – white macules in the milk line *Am J Surg Pathol 11:827–834, 1987*

Connective tissue nevus mimicking epidermal nevus *JAAD 16:264–266, 1987*

Cylindromas *JAAD 26:821–824, 1992*

Dermatofibroma – congenital multiple clustered dermatofibroma – red plaque and papules *BJD 142:1040–1043, 2000; Ann DV 111:163–164, 1984*

Dermatomyofibroma – linear hyperpigmented plaque *Ped Derm 16:456–459, 1999*

Digital myxoid cyst – linear nail groove *Rook p.2849, 1998, Sixth Edition*

Eccrine nevi – linear eccrine nevi include:
- Eccrine poromas *AD 112;841, 1976*
- Eccrine spiradenoma *AD 84:792, 1961*
- Eccrine syringofibroadenoma
- Linear eccrine nevus – flesh colored to brown
- Syringomas
- Porokeratotic eccrine ostial and dermal duct nevus (palms and soles; verrucous papules)

Eccrine nevus *AD 117:357–359, 1981;* with comedones *AD 117:357–359, 1981*

Eccrine poroma *AD 112:841–844, 1976*

Eccrine spiradenomas – *AD 138:973–978, 2002;* linear with eyelid involvement *J Eur Acad Dermatol Venereol 15:163–166, 2000; Plast Reconstr Surg 68:100–102, 1981; JAAD 2:59–61, 1980*

Eccrine syringofibroadenoma *JAAD 36:569–576, 1997; AD 933–934, 1994; AD 126:945–949, 1990*

Epidermal nevus *JAAD 20:476–478, 1989; Dermatologica 166:84, 1983;* epidermal nevus with scattered open comedones; Hailey–Hailey-like; lichenoid epidermal nevus *JAAD 20:913–915, 1989*

Eruptive lipomas, focal myositis with bilateral painful nodules *Cutis 54:189, 1994*

Giant cell tumor of the tendon sheath

Granular cell myoblastoma of lip *AD 121:1197–1202, 1985, Cancer 25:415–422, 1970*

Hamartoma moniliformis (hair follicle hamartoma) – linear array of skin-colored papules of face and neck *BJD 143:1103–1105, 2000; AD 101:191–205, 1970;* linear hair follicle nevi *Dermatology 206:172–174, 2003*

Inflammatory linear verrucous epidermal nevus (ILVEN) – linear dermatitic and/or psoriasiform plaques; often on leg *AD 113:767–769, 1977; AD 104:385–389, 1971*

Infantile myofibromatosis *Ped Derm 5:37–46, 1988*

Kaposi's sarcoma – in AIDS *AD 124:327–329, 1988*

Keloid

Keratoacanthomas – multiple keratoacanthomas of Grzybowski

Leiomyomas *JAAD 46:477–490, 2002*

Lentigo simplex – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Leukemia – congenital monocytic leukemia with disseminated linear calcinosis cutis in resolved cutaneous lesions *BJD 150:753–756, 2004;* leukemia cutis in linear scar *AD 123:88–90, 1987;* zosteriform leukemia cutis

Lymphoma – cutaneous T-cell lymphoma with fissured palms

Metastases

Mucinous nevus (connective tissue nevus of the proteoglycan type) *BJD 148:1064–1066, 2003; JAAD 37:312–313, 1997; AD 132:1522–1523, 1996; BJD 1331:368–370, 1994*

Multiple deep penetrating nevi *AD 139:1608–1610, 2003*

Myxoid cyst (over nail matrix) – longitudinal nail groove *Rook p.2827, 1998, Sixth Edition*

Neurilemmomas – linear array on forehead *Clin Exp Dermatol 16:247–249, 1991*

Neuromas – linear with striated pigmentation *J Cutan Pathol 14:43–48, 1987*

Nevus comedonicus *J Cutan Pathol 31:502–505, 2004; AD 116:1048–1050, 1980; Trans St John's Hosp Dermatol Soc Lond 59:45–51, 1973; AD 97:533–535, 1968*

Nevus lipomatosis *J Derm Surg Onc 9:279–281, 1983; Int J Derm 14:273–276, 1975*

Nevus sebaceus – linear nevus sebaceus syndrome (Schimmelpenning–Feuerstein–Mims syndrome)

Onychopapilloma of nailbed and Bowen's disease – longitudinal erythronychia *BJD 143:132–135, 2000*

Osteochondroma – subungual osteochondroma; linear longitudinal nail ridge *Ped Derm 11:39–41, 1994*

Porokeratosis *Ped Derm 21:682–683, 2004; AD 135:1544–1555,1547–1548, 1999; Ped Derm 4:209, 1987;*

*AD 109:526–528, 1974;* unilateral punctate porokeratosis; porokeratosis of Mibelli

Porokeratotic eccrine ostial and dermal duct nevus – resemble nevus comedonicus; linear keratotic papules with central plugged pit; may be verrucous; filiform; anhidrotic or hyperhidrotic; most common on palms and soles *JAAD 43:364–367, 2000; JAAD 24:300–301, 1991; Cutis 46:495–497, 1990*

Sebaceous hyperplasia *Am J Dermatopathol 6:237–243, 1984*

Seborrheic keratoses – associated with underlying malignancy *JAAD 18:1316–1321, 1988*

Smooth muscle hamartoma – linear, follicular spotted appearance *BJD 142:138–142, 2000; AD 114:104–106, 1978;* linear atrophic plaque *Ped Derm 13:222–225, 1996*

Spiradenomas, multiple *Plast Reconstr Surg 68:100–102, 1981*

Spitz nevi *Ann DV 118:345–347, 1988*

Squamous cell carcinoma with perineural invasion

Straight hair nevus *Int J Derm 9:47–49, 1970*

Stucco keratoses

Syringocystadenoma papilliferum – linear red papules *JAAD 45:139–141, 2001; AD 121:1197–1202, 1985;* linear verrucous papules *AD 138:1091–1096, 2002*

Syringoma – unilateral linear *J Dermatol 23:505–506, 1996; JAAD 4:412–416, 1981*

Trichilemmal cysts – with segmental multiple glomus tumors *Dermatology 200:75–77, 2000;* in an extensive comedo nevus *BJD 96:545–548, 1977*

Trichodiscomas *Ann Derm Vener 108:837, 1981*

Trichoepitheliomas *JAAD 37:881–883, 1997; JAAD 14:927–930, 1986*

Waldenström's macroglobulinemia with neoplastic cellular infiltrate – deck chair sign *JAAD 52:S45–47, 2005*

## PARANEOPLASTIC DISEASES

Diffuse normolipemic plane xanthoma *JAAD 35:819–822, 1996*

## PHOTODERMATOSES

Actinic prurigo *JAAD 44:952–956, 2001; Australas J Dermatol 42:192–195, 2001; Photodermatol Photoimmunol Photomed 15:183–187, 1999; Int J Dermatol 34:380–384, 1995; JAAD 26:683–692, 1992; JAAD 5:183–190, 1981; Clin Exp Dermatol 2:365–372, 1977;* familial, in North American Indians *Int J Dermatol 10:107–114, 1971;* in Caucasians *BJD 144:194–196, 2001;* polymorphic light eruption of American Indians; occurrence in non-Indians *JAAD 34:612–617, 1996;* Southeast Asian *Photodermatol Photoimmunol Photomed 9:225–228, 1992*

Berloque dermatitis

Dermatoheliosis (solar elastosis) (sun damage – basophilic alteration of collagen) – linear wrinkling of face *Rook p.2027–2028, 1998, Sixth Edition*

Keratoelastoidosis marginalis (degenerative collagenous plaques of the hands) – linear translucent papules of radial hand and first web space *JAAD 51:1–21, 2004*; *AD 82:362–366, 1960*

Phytophotodermatitis – linear and bullous lesions *Rook p.790, 1998, Sixth Edition;* meadow dermatitis (Umbelliferae) *Rook p.796, 1998, Sixth Edition*

Solar elastotic bands (nodules) of forearm *JAAD 15:650–656, 1986*

Stellate and discoid pseudoscars – linear scars *AD 105:551–554, 1972*

## PRIMARY CUTANEOUS DISEASES

Acquired linear dermal melanocytosis *AD 118:125–128, 1982*
- Differential diagnosis of linear hyperpigmented lesions;
  - Café au lait macule
  - Dermal melanocyte hamartoma
  - Epidermal nevus
  - Hyperpigmentation overlying plexiform neurofibroma
  - Linear blue nevus
  - 'Nevoid' macular amyloidosis
  - Nevus of Ito or Ota
  - Nevus spilus
  - Post-inflammatory hyperpigmentation
  - Progressive cribriform and zosteriform hyperpigmentation
  - Progressive zosteriform macular pigmented lesions
  - Zosteriform lentiginous nevus

Acrokeratoelastoidosis *AD 127:113–118, 1991*

Aplasia cutis congenita type II – scalp ACC with associated limb anomalies; hypoplastic or absent distal phalanges, syndactyly, club foot, others; linear fibrous bands of the extremities *Ped Derm 19:326–329, 2002*

Ashy dermatosis (erythema dyschromicum perstans)

Atopic dermatitis – hyperlinear palms; Dennie–Morgan folds

Atrophia maculosa varioliformis cutis – linear scars *Ped Derm 18:230–233, 2001; JAAD 21:309, 1989; BJD 115:105–109, 1986*

Atrophoderma of Pasini and Pierini – linear scars

Atrophy linearis semicircularis

Axillary granular parakeratosis

Cutis verticis gyrata *AD 125:434–435, 1989*

Darier's disease – linear Darier's disease *BJD 105:207–214, 1981;* linear red, white and pigmented streaks of nails *Rook p.2841–2842, 1998, Sixth Edition; JAAD 27:40–50, 1992*

Dermatofibrosis lenticularis disseminata

Dermatographism

Dupuytren's contracture

Ectopic hair of the glans *BJD 153:218–219, 2005*

Elastosis perforans serpiginosa *Hautarzt 43:640–644, 1992; AD 97:381–393, 1968*

Epidermolysis bullosa – dominant dystrophic

Epidermolysis bullosa pruriginosa (DDEB) – dominant dystrophic – linear prurigo *BJD 152:1332–1334, 2005; BJD 129:443–446, 1993;* linear lesions and hypertrophic linear scars *BJD 146:267–274, 2002;* mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994;* neonatal EB *Textbook of Neonatal Dermatology, p.161, 2001*

Epidermolytic palmoplantar keratoderma, woolly hair, and dilated cardiomyopathy – striated palmoplantar keratoderma, follicular keratosis, clubbing, vesicles and bullae on trunk, psoriasiform keratoses on knees, legs, and feet *JAAD 39:418–421, 1998*

Flegel's disease

Follicular atrophodermas – linear scars; Conradi's syndrome, Bazex syndrome, palmoplantar keratoderma with follicular keratoses and palmoplantar hypohidrosis

Futcher's (Voigt's) lines – lines of demarcation at anterolateral upper arms and posteromedial lower limbs *Cutis 32:376–377, 1983; Science 88:570–571, 1938*

Granuloma annulare *JAAD 21:1138–1141, 1989;* linear in scar *JAAD 50:S34–37, 2004*

Hailey–Hailey disease *BJD 112:349–355, 1985*

Ichthyosis hystrix

Ichthyosis vulgaris – hyperlinear palms *Rook p.1487, 1998, Sixth Edition*

Infantile granular parakeratosis *JAAD 50:S93–96, 2004*

Juxtaclavicular beaded lines

Keratosis lichenoides chronica *JAAD 49:511–513, 2003; Dermatology 201:261–264, 2000; JAAD 38:306–309, 1998; JAAD 37:263–264, 1997; AD 131:609–614, 1995; AD 105:739–743, 1972*

Leukoedema *Community Dent Oral Epidemiol 9:142–146, 1981; AD 116:906–908, 1980*

Lichen nitidus *Rook p.1925–1926, 1998, Sixth Edition; Ann DV 116:814–815, 1989*

Lichen planus – along Wallace's line *AD 137:85–90, 2001; BJD 142:836–837, 2000; JAAD 20:913–915, 1989;* lichen planopilaris of the face *JAAD 38:633–635, 1998; JAAD 21:131–132, 1989;* in striae

Lichen planus pigmentosus *J Korean Med Sci 19:152–154, 2004*

Lichen ruber moniliformis

Lichen sclerosus et atrophicus *Eur J Dermatol 8:575–577, 1998*

Lichen simplex chronicus

Lichen striatus *Eur J Dermatol 10:536–539, 2000;* cutaneous lesions and linear nail notch *JAAD 36:908–913, 1997*

Linea alba – buccal mucosa

Linea nigra

Linear and whorled nevoid hypermelanosis

Linear focal elastosis – yellow linear bands on lower back of elderly men *JAAD 47:S189–192, 2002; BJD 145:188–190, 2001; JAAD 36:301–303, 1997; AD 131:1069–1074, 1995*; *JAAD 20:633–636, 1989*

Linear nail bands *JAAD 34:943–953, 1996*
- Black
  - Longitudinal melanonychia striata
- Brown
  - Antineoplastic agents
    - Cyclophosphamide
    - Doxorubicin
    - Hydroxyurea
    - Subungual keratosis of nail bed *BJD 140:730–733, 1999*
  - Antiviral agents
    - Zidovudine
- Red (longitudinal erythronychia) *AD 140:1253–1257, 2004*
  - Cirsoid aneurysm
  - Darier's disease
  - Lichen planus
  - Glomus tumor
  - Onychopapilloma
  - Squamous cell carcinoma, in situ
  - Ionizing radiation-induced keratosis
- White
  - Darier's disease

Lipoatrophia semicircularis *JAAD 39:879–881, 1998*

Melasma *Cutis 61:229–232, 1998*

Median canaliform dystrophy of the nails *Rook p.2863, 1998, Sixth Edition; Hautarzt 25:629, 1974; Dermat Atschr 51:416–419, 1928;* familial *Cutis 75:161–165, 2005*

Milia en plaque *JAAD 31:107, 1994*

Papuloerythroderma of Ofuji – deck chair sign

Pigmentary demarcation lines groups C and E – hypopigmented; hyperpigmented

Pigmentary lines of the newborn – resolves without treatment *JAAD 28:893–894, 1993*

Pityriasis lichenoides et varioliformis acuta – linear scars

Pityriasis rosea – linear scars in bullous pityriasis rosea

Proximal nail fold pterygium – longitudinal nail groove *Rook p.2827, 1998, Sixth Edition*

Pseudo-acanthosis nigricans

Psoriasis – Koebner phenomenon *Rook p.1596, 1998, Sixth Edition; Berlin Klin Wochenschr 21:631–632, 1878;* psoriasis in scars, scalp psoriasis; linear pustular psoriasis *JAAD 39:635–637, 1998*

Railway track-like dermatitis of the anterior axillary fold *JAAD 20:920–923, 1989*

Raised limb bands *BJD 149:436–437, 2003; BJD 147:359–363, 2002*

Reactive perforating collagenosis *JAAD 10:561–568, 1984*

Relapsing linear acantholytic dermatosis *JAAD 33:920–922, 1995; BJD 112:349–355, 1985;* linear acantholytic dermatosis *Ghatan p.41, 2002, Second Edition*

Sclerotic panatrophy – may follow morphea or occur spontaneously; linear or annular or circumferential bands around limbs *Rook p.2016, 1998, Sixth Edition*

Spiny hyperkeratosis *JAAD 31:157–190, 1994*
- vs. Nevus corniculatus
  - Paraneoplastic hyperkeratosis of palms and soles
  - Pityriasis rubra pilaris

Steatocystoma multiplex, congenital linear lesions of the nose *Ped Derm 17:136–138, 2000*

Striae distensae (striae atrophicans) *Rook p.2004,2008, 1998, Sixth Edition*

Striate palmoplantar keratoderma (Brunauer–Fohs–Siemens) *Int J Dermatol 40:644–645, 2001; Cutis 61:21–214, 1998*

Striped hyperpigmentation of the torso *Textbook of Neonatal Dermatology, p.379, 2001*

Transverse nasal groove *AD 84:316–317, 1961; AD 63:70–72, 1951*

Unilateral laterothoracic exanthem *AD 138:1371–1376, 2002; JAAD 29:799–800, 1993; JAAD 27:693–696, 1992*

Unna–Thost palmoplantar keratoderma – diffuse non-epidermolytic palmoplantar keratoderma – autosomal dominant; Wallace's line well demarcated; mutations in keratin 16 *Hum Mol Genet 4:1875–1881, 1995;* mutation in keratin 1 *JID 103:764–769, 1994*

Vermiculate atrophoderma (keratosis pilaris atrophicans) – linear scars

Vitiligo – segmental vitiligo

Vohwinkel's syndrome (keratoderma hereditaria mutilans) – autosomal dominant; honeycomb palms, starfish keratoses *JAAD 44:376–378, 2001*

Vorner's palmoplantar keratoderma – linear erosions in infancy

Wallace's lines *BJD 114:513–514, 1986*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis – linear lesions and linear scars *Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979*

Neurotic excoriations *Am Fam Phys 64:1981–1984, 2001*

Self-mutilation

## SYNDROMES

Aarskog syndrome – single palmar crease *J Pediatr 77:856–861, 1970*

Acral angiokeratoma-like pseudolymphoma (APACHE syndrome) – linear red papules *JAAD S209–211, 2001*

Acrocephalopolysyndactyly – linear submental scars

Alagille syndrome – linear palmar xanthomas

Amniotic band syndrome – linear erosions, crusts, and constrictions *AD 130:1055–1060, 1994; Cutis 44:64–66, 1989*

Anhidrotic ectodermal dysplasia – linear atrophic lesions of face

Ataxia telangiectasia – linear telangiectasias *Rook p.2095,1998, Sixth Edition; Ann Intern Med 99:367–379, 1983*

Auriculotemporal syndrome (Frey syndrome) – linear flush and/or sweating on cheek after eating *Ped Derm 17:415–416, 2000; AD 133:1143–1145, 1997*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – transverse palmar crease, dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005*

Beckwith–Wiedemann syndrome (Exomphalos–Macroglossia–Gigantism) (EMG) syndrome – autosomal dominant; linear earlobe grooves, zosteriform rash at birth, exomphalos, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Branchio-oculo-facial syndrome (dermal thymus resembling linear scar) – autosomal dominant *Ped Derm 12:24–27, 1995; AD 125:1681–1684, 1989; Am J Med Genet 27:943–951, 1987*

Brooke–Spiegler syndrome – linear papular eruption of eccrine spiradenomas *Australas J Dermatol 44:144–148, 2003*

Cantu syndrome – linear deep plantar creases, congenital hypertrichosis, cardiomegaly, osteochondrodysplasia, coarse facial features *Am J Med 92:191–194, 2000*

Carbohydrate-deficient glycoprotein syndrome – emaciated appearance; lipoatrophy over buttocks; lipoatrophic streaks extend down legs; high nasal bridge, prominent jaw, large ears, inverted nipples, fat over suprapubic area and labia majora, fat pads over buttocks; hypotonia *Textbook of Neonatal Dermatology, p.432, 2001*

Carpenter syndrome – single palmar crease *Am J Med Genet 28:311–324, 1987*

Carvajal syndrome – striate palmoplantar keratoderma with woolly hair and cardiomyopathy *Bolognia p.757, 2003*

Cerebro-hepato-renal syndrome (Zellweger syndrome) – single palmar crease *Am J Med Genet 22:419–426, 1985*

CHILD syndrome – congenital hemidysplasia, ichthyosis, limb defects, ichthyosiform erythroderma with verruciform xanthoma, linear red waxy scaling eruptions, and hypopigmented bands *Ped Derm 15:360–366, 1998;* xanthomatous pattern *Dermatologica 180:263–266, 1990; AD 123:503–509, 1987*

Chromosome deletion Xp22.1 – Gazali–Temple syndrome *JAAD 31:680–682, 1994*

vs. Adams–Oliver syndrome
Aicardi syndrome
Cutis marmorata telangiectatica congenita
Goltz syndrome

Cohen syndrome – single palmar crease *J Med Genet 17:430–432, 1980*

Congenital hypertrophy of the retinal pigment epithelium – linear hyperpigmentaion *Am J Med Genet 126A:89–92, 2004*

Congenital ichthyosiform dermatosis with linear keratotic flexural papules and sclerosing palmoplantar keratoderma *AD 125:103–106, 1989*

Conradi–Hünermann syndrome – linear hyperkeratotic bands with diffuse erythema and scale, follicular atrophoderma, hypochromic areas, scalp alopecia *Ped Derm 15:299–303, 1998; AD 127:539–542, 1991; Hum Genet 53:65–73, 1979*

Cornelia de Lange syndrome – single palmar flexion crease; specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata, skin around eyes and nose with bluish tinge, red nose *Ped Derm 19:42–45, 2002; Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997; Am J Med Genet 20:453–459, 1985*

Costello syndrome – linear deep palmar creases; warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, perianal and vulvar papules, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Am J Med Genet 47:176–183, 1993; Aust Paediat J 13:114–118, 1977*

Craniodystosis with extremity bands

Delleman–Oorthys syndrome

Downs' syndrome (trisomy 21) – Simean crease *Syndromes of the Head and Neck, p.35, 1990*

EEC syndrome – linear cleft; p63 mutation *BJD 146:216–220, 2002*

Ehlers–Danlos syndrome types I, II, and III – linear scars *Rook p.2034, 1998, Sixth Edition*

Encephalocranial lipomatosis – linear yellow papules of forehead extending to eyelids; ophthalmologic manifestations; seizures, mental retardation; mandibular or maxillary ossifying fibromas and odontomas *Ped Derm 22:206–209, 2005;* hairless, pink to yellow tumors of scalp in linear configuration; atrophic hairless patches of scalp and face *Ped Derm 10:164–168, 1993*

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Fabry's disease – punctate and linear angiectasis *AD 131:81–86, 1995*; linear perioral telangiectasias *AD 126:1655–1656, 1990*

Faciogenitopopliteal (popliteal–pterygium) syndrome – linear fibrous cord of leg with ulcer *AD 124:1443–1444, 1988*

Familial transverse nasal hyperpigmentation *J Hered 65:157–159, 1974*

Glucagonoma syndrome – linear band along waistband *Rook p.2728, 1998, Sixth Edition; AD 133:909, 912, 1997; JAAD 12:1032–1039, 1985; Ann Intern Med 91:213–215, 1979*

Goldenhaar syndrome – multiple linear accessory tragi *JAAD 50:S11–13, 2004*

Goltz's syndrome (focal dermal hypoplasia) – en coup desabre lesions, linear alopecia, linear hypopigmented streaks *Cutis 53:309–312, 1994; JAAD 25:879–881, 1991*

Hallermann–Streiff syndrome – linear sutural alopecia, partial anodontia, short stature, atrophy and telangiectasia of central face, parrot-like appearance, microphthalmia, cataracts, high-arched palate, small mouth *JAAD 50:644, 2004*

Hereditary bullous acrokeratotic poikiloderma (Weary) – Kindler's syndrome? – pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997*

Hereditary familial hypertrophic neuropathy – thickened nerves *Ghatan p.257, 2002, Second Edition*

Hereditary sclerosing poikiloderma – generalized poikiloderma; sclerosis of palms and soles; linear hyperkeratotic and sclerotic bands in flexures of arms and legs *AD 125:103–106, 1989; AD 100:413–422, 1969*

Hunter's syndrome – linear ridges and plaques, linear papules *AD 131:81–86, 1995*

Hypereosinophilic syndrome in AIDS *JAAD 23:202–204, 1990*

Hyper-IgE syndrome with coarse facial features – linear scars *JAAD 11:653–660, 1984*

Hypohidrotic ectodermal dysplasia with immune deficiency of Zonana; NEMO mutation; linear hyperpigmentation *Am J Hum Genet 67:1555–1562, 2000*

Hypophosphatemic vitamin D-resistant rickets, precocious puberty, and epidermal nevus syndrome *AD 133:1557–1561, 1997*

Ichthyosis follicularis with atrichia and photophobia (IFAP) *Am J Med Genet 85:365–368, 1999*

Incontinentia pigmenti – linear hypopigmented streaks on legs of women, stage IV *AD 139:1163–1170, 2003; Ped Derm 19:550–552, 2002; AD 112:535–542, 1976;* linear warty lesions of palms in late incontinentia pigmenti *BJD 143:1102–1103, 2000*

KID syndrome – keratosis–ichthyosis–deafness syndrome – linear hyperkeratosis of flexures, elbows, knees; linear hyperkeratotic erythema; fine granular palmoplantar keratoderma *Ped Derm 19:285–292, 2002; BJD 122:689–697, 1990*

Keratosis linearis with ichthyosis congenita and sclerosing keratoderma (KLICK syndrome) – autosomal recessive *BJD 153:461, 2005; Acta DV (Stockh) 77:225–227, 1997; AD 125:103–106, 1989*

Keratosis palmoplantaris striata

Linear atrophoderma of Moulin *Eur J Dermatol 10:611–613, 2000*

Lipoid proteinosis – string of pearls along eyelid margin

Marfan's syndrome – striae

Microphthalmia with linear skin defects syndrome (MLS syndrome) (microphthalmia, dermal aplasia, and sclerocornea (MIDAS) syndrome) (Xp microdeletion syndrome) – X-linked dominant; atrophic linear scars of face and neck; linear red atrophic skin (resembles aplasia cutis); linear skin defects of head and neck (congenital smooth muscle hamartomas) *Am J Med Genet 124A:202–208, 2004; Textbook of Neonatal Dermatology, p.466–467, 2001; Ped Derm 14:26–30, 1997; Am J Med Genet 49:229–234, 1994*

Muir–Torre syndrome – linear sebaceous adenoma *AD 133:97–102, 1997*

Multicentric reticulohistiocytosis *Cutis 34:78–80, 1984*

Neurofibromatosis

Nevoid basal cell carcinoma syndrome; may be with comedones *Dermatol 200:299–302, 2000; JAAD 20:973–978, 1989; JAAD 15:1023–1030, 1986; BJD 113:365, 1985; AD 100:187–190, 1969; BJD 74:20–23, 1962; Arch Dermatol Syphilol 65:471, 1952*

Olmsted syndrome – follicular hyperkeratosis of buttocks and knees; follicular papules;intertrigo, mutilating palmoplantar keratoderma, linear streaky hyperkeratosis, leukokeratosis of the tongue, sparse hair anteriorly *JAAD 53:S266–272, 2005; Eur J Derm 13:524–528, 2003; Semin Derm 14:145–151, 1995; JAAD 10:600–610, 1984; Am J Dis Child 33:757–764, 1927;* linear lesions in flexures *Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995*

Pachydermoperiostosis – primary (Touraine–Solente–Gole syndrome) – autosomal dominant – linear folds and furrow of forehead and cheeks, heavy thick eyelids, cutis verticis gyrata; thick skin of hands and feet; palmoplantar hyperhidrosis; enlarged hands *JAAD 31:947–953, 1994; JAAD 31:947–953, 1994; Medicine 70:208–214, 1991; AD 124:1831–1834, 1988;* secondary – pulmonary disease, lung cancer, carcinoma of stomach, esophagus, thymus

Patau's syndrome (trisomy 13) – simian crease of hand, loose skin of posterior neck, parieto-occipital scalp defects, abnormal helices, low-set ears, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Poikiloderma congenitale – linear atrophic lesions *AD 44:345–348, 1941*

Polyostotic fibrous dysplasia with linear epidermal nevi

Proteus syndrome – linear hypopigmented, linear hyperpigmentation, linear hyperpigmented epidermal nevi *JAAD 25:377–383, 1991; Ped Derm 5:14–21, 1988*

Pseudoxanthoma elasticum – linear and reticulated yellow papules and plaques *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988;* PXE and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977;* horizontal and vertical linear chin creases *JAAD 48:620–622, 2003*

Restrictive dermopathy – rigid skin with linear ulcers *Textbook of Neonatal Dermatology, p.150, 2001*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Rudiger syndrome – thick single palmar crease; somatic retardation, flexion contractures of hands, small fingers and nails, ureterovesical stenosis, micropenis, inguinal hernias, coarse facies, cleft soft palate *J Pediatr 79:977–981, 1971*

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Steatocystoma multiplex of the nose *Ped Derm 17:136–138, 2000*

Sly syndrome

Smith–Lemli–Opitz syndrome *Clin Pediatr 16:665–668, 1977*

Tricho-odonto oncho-ectodermal dysplasia (linear dermal hypoplasia) – hypotrichosis, hypodontia, focal linear dermal hypoplasia of the tip of the nose, irregular hyperpigmentation of the back, bilateral amastia and athelia, nerve hearing loss *AD 122:1047–1053, 1986*

Tuberous sclerosis – facial plaque (angiofibroma)

Wells' syndrome

### TOXINS

Arsenical keratoses

Eosinophilia myalgia syndrome – L-tryptophan

Smoker's face – increased facial lines

### TRAUMA

Abrasions

Babinski sign, cutaneous

Beau's lines *Textbook of Neonatal Dermatology, p.505, 2001; Rook p.2828, 1998, Sixth Edition*

Burns – chemical, thermal, ultraviolet

Child abuse – linear scratches, purpura *JAAD 5:203–212, 1981*

Collier's stripes

Coma bullae – linear bullae *Cutis 69:265–268, 2002; JAAD 38:1–17, 1998*

Dermatographism *Rook p.2128, 1998, Sixth Edition*

Diving suits – linear abrasions

Drug abuse (IVDA)

Forceps marks of face *Eichenfeld p.106, 2001*

Frictional changes

Habit tic deformity of the nail

Hypertrophic scar

Lip fissure (median lip fissure) *Oral Surg 72:10–14, 1991*

Lightning strike – Lichtenberg figures (fronding) – fern leaf pattern *NEJM 343:1536, 2000*

Post-traumatic scar

Radiation dermatitis *Ann DV 127:198–200, 2000*

Sports-related scars – karate scars *Cutis 67:499–500, 2001*

Swimming pool palms – linear red plaques *JAAD 27:111, 1992*

Traumatic tattoos

### VASCULAR

Acute hemorrhagic edema of infancy

Acute leg edema – stria-like distension of skin *AD 138:641–642, 2002*

Angioma serpiginosum

APACHE (acral pseudolymphomatous angiokeratoma of children) – linear scaly red papules of hand *BJD 145:512–514, 2001*

Arborizing telangiectasia – thighs and calves *Rook p.2092, 1998, Sixth Edition*

Arteriosclerosis – ischemic ulcers at pressure sites; linear fissure of heel *Rook p.2229, 2231, 1998, Sixth Edition*

Cutis marmorata telangiectatica congenita – linear erosions at birth *BJD 137:119–122, 1997; JAAD 20:1098–1104, 1989; AD 118:895–899, 1982*

Generalized essential telangiectasia – familial or acquired *Rook p.2096, 1998, Sixth Edition; JAAD 37:321–325, 1997; JAMA 185:909–913, 1963*

Hemangioma, proliferative – linear vascular papules *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.111, 1999*

Henoch–Schönlein purpura

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Lymphangioma circumscriptum

Mondor's disease – superficial periphlebitis of the chest wall *JAAD 23:1–18, 1990*

Pigmented purpuric eruption – linear variant; lichen aureus *AD 124:1572, 1988*

Polyarteritis nodosa

Sinus pericranii – linear blue plaque of central face *JAAD 46:934–941, 2002*

Temporal arteritis

Thrombophlebitis, superficial or deep

Vasculitis, including leukocytoclastic vasculitis *Rook p.131, 1998, Sixth Edition*

Verrucous hemangioma *JAAD 42:516–518, 2000*

Vibex – linear traumatic purpura

### LINEAR COMEDONAL LESIONS

Eccrine nevus with comedones *AD 117:357–359, 1981*

Epidermal nevi with scattered open comedones

Linear basal cell nevus with comedones

Linear lichen planopilaris

Nevus comedonicus

Palmar and plantar lesions of porokeratotic eccrine ostial and dermal duct nevus

Unilateral punctate porokeratosis

### LINEAR LESIONS FROM KOEBNER

Behçet's disease

Bullous pemphigoid

Darier's disease

Dermatitis herpetiformis

Eruptive xanthomas *JAAD 33:834–5, 1995*

Erythema multiforme

Lichen niditus

Lichen planus

Mastocytosis

Molluscum contagiosum

Pellagra

Pityriasis rubra pilaris

Psoriasis

Pyoderma gangrenosum

Vasculitis

Verruca vulgaris

Vitiligo

## LINEAR LESIONS ALONG VEINS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Collagen vascular diseases – linear hyperpigmentation overlying veins *JAAD 29:1039–1040, 1993*

Lupus erythematosus – supravenous hyperpigmentation *JAAD 43:540–546, 2000*

Relapsing polychondritis – superficial thrombophlebitis *Rook p.2042, 1998, Sixth Edition; Medicine 55:193–216, 1976*

Rheumatoid arthritis – erythema, papules, and/or hyperpigmentation *JAAD 29:1039–1040, 1993*

Scleroderma – supravenous erythema, papules, and/or hyperpigmentation; pigment retention over superficial blood vessels in area of depigmentation *JAAD 11:265–268, 1984*

## CONGENITAL DISORDERS

Sinus pericranii – alopecic red or blue nodule of scalp with outline of underlying veins within the nodule *JAAD 46:934–941, 2002*

## DRUGS

Actinomycin and vincristine *JAAD 43:540–546, 2000*

Bromodeoxyuridine – linear supravenous papules and erythema *JAAD 43:540–546, 2000; AD 122:199–200, 1986*

Corticosteroids – post-steroid injection atrophy and/or hypopigmentation along draining lymphatics

Cyclophosphamide *JAAD 43:540–546, 2000*

CHOP therapy *JAAD 43:540–546, 2000*

Docataxel – supravenous hyperpigmentation *BJD 142:1069–1070, 2000*

Doxorubicin *JAAD 43:540–546, 2000;* supravenous urticaria (3%) *Cancer Treatment Reports 63:2027–2069, 1979; Cancer Chemotherapy Reports 59:1177–1179, 1975*

5-fluorouracil – erythema or pigmentation overlying veins *JAAD 53:529–530, 2005; JAAD 43:540–546, 2000; JAAD 39:839–842, 1998; AD 129:644–645, 1993; JAAD 25:905, 1991*

Fotemustine – pigmentation overlying veins *JAAD 39:839–842, 1998*

Minocycline – supravenous hyperpigmentation of veins previously treated with sclerotherapy *JAAD 44:342–347, 2001*

Mitomycin – papules *JAAD 43:540–546, 2000*

Polychemotherapy – pigmentation overlying veins *JAAD 39:839–842, 1998*

Triazinate – pigmentation overlying veins *JAAD 39:839–842, 1998*

Vinblastine *JAAD 43:540–546, 2000*

Vinorelbine – pigmentation overlying veins *JAAD 39:839–842, 1998*

## EXOGENOUS AGENTS

Sclerotherapy with necrosis *J Derm Surg Oncol 15:214–219, 1989*

## INFECTIONS AND INFESTATIONS

Bacterial lymphangitis

Cellulitis with lymphangitis

Dermatophyte cellulitis in saphenous vein surgical site *Ghatan p.255, 2002, Second Edition*

Herpes simplex with lymphangitis

Insect bite within vein

Lyme disease – lymphangitic streaking *JAAD 49:363–392, 2003*

Lymphogranuloma venereum – lymphangitis *Int J Dermatol 15:26–33, 1976; Br J Vener Dis 49:193–202, 1973*

Parvovirus B19 – lymphangitis *Ped Derm 20:184–186, 2003*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic; cord-like thickening of blood vessels *Rook p.2633, 1998, Sixth Edition;* vascular amyloid in vessels *JAAD 15:379–382, 1986;* primary systemic amyloid presenting as dilated veins *Am J Med 109:174–175, 2000*

## INFLAMMATORY DISEASES

Eosinophilic fasciitis – groove sign (sunken veins) *JAAD 17:648–656, 1987*

Sarcoid – presenting as thrombophlebitis *Clin J Exp Dermatol 10:592–594, 1985*

## METABOLIC DISEASES

Homocystinuria – cystathionine-beta synthase deficiency – superficial thrombophlebitis; marfanoid habitus, malar rash, larger facial pores, livedo reticularis, tissue paper scars, sparse fine hair *JAAD 46:161–183, 2002; JAAD 40:279–281, 1999*

Hyperparathyroidism – calcinosis with venulitis

Liver disease – cirrhosis; caput medusae – portal obstruction *Rook p.2724, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Carcinoma telangiectoides

Kaposi's sarcoma – HIV; hyperalgesic pseudothrombophlebitis *Ghatan p.255, 2002, Second Edition*

Metastases – lymphangitic spread of tumor

## PARANEOPLASTIC DISEASES

Thrombophlebitis migrans (Trousseau's sign) – superficial and deep venous thromboses of neck, trunk, or extremities; strong association with internal malignancy *Int J Derm 23:205–206, 1984; Cutis 21:763–768, 1978; Circulation 22:780, 1960*

## PHOTODERMATOSES

Phytophotodermatitis mimicking superficial lymphangitis – supravenous erythema *BJD 142:1069–1070, 2000*

## PRIMARY CUTANEOUS DISEASE

Generalized lipodystrophy – prominence of veins on extremities *AD 124:571–576, 1988*

Idiopathic

Vitiligo – overlying varicose veins

## SYNDROMES

Antiphospholipid antibody syndrome – thrombophlebitis *Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; Clin Rheumatol 15:394–398, 1996; South Med J 88:786–788, 1995; BJD 120:419–429, 1989*

Behçet's syndrome – superficial thrombophlebitis *Semin Arthritis Rheum 27:197–217, 1998*

Ehlers–Danlos syndrome, type IV – prominent venous pattern *Textbook of Neonatal Dermatology, p.459, 2001*

### TOXINS

Eosinophilic myalgia syndrome – supravenular groove

### TRAUMA

Intravenous drug abuse (IVDA) – supravenous hyperpigmentation; thrombophlebitis; septic phlebitis *BJD 150:1–10, 2004;* thrombosed veins, ulcerated needle tracks, thrombosis of veins, carbon tattoos *Rook p.926, 1998, Sixth Edition;* foreign body granulomas secondary to intravenous drug abuse *JAAD 13:869–872, 1985*

### VASCULAR DISEASES

Arborizing telangiectasia – thighs and calves *Rook p.2092, 1998, Sixth Edition*

Arteriovenous malformation with unilateral varices – congenital or acquired; red pulsating nodules with overlying telangiectasia – extremities, head, neck, trunk *Rook p.2237, 1998, Sixth Edition*

Arteriovenous shunt, iatrogenic

Caput medusae – portal obstruction *Rook p.2724, 1998, Sixth Edition*

Hypertrichosis, linear overlying thrombophlebitis *AD 124:30–31, 1988*

Lymphangiothrombosis *Rook p.2294, 1998, Sixth Edition*

Lymphangitis – chemical, thermal, infectious *Rook p.2293, 1998, Sixth Edition*

Mondor's disease – localized thrombophlebitis of veins or lymphatics of chest wall (thoracic-epigastric and/or lateral thoracic) (also, lower leg) with or without linear depressions *ad 141:880–881, 2005; JAAD 49:905–906, 2003; JAAD 40:636–638, 1994; Acta Chir Scand 149:33–334, 1983; Mem Acad Chir Paris 65:1271, 1939; Guy's Hosp Rep Lond 15 (series 3) 302, 1869–1870;* may be caused by drug abuse *Arch Surg 125:807–808, 1990;* jellyfish sting *Med J Aust 157:836–837, 1992;* drug-induced lupus erythematosus *Rook p.3161, 1998, Sixth Edition;* hypercoagulable state *JAAD 23:1–18, 1990;* associated with breast cancer *Surgery 103:438–439, 1988;* association with lipoma *Dermatol Surg 25:563–565, 1999*

Multiple progressive angioma – blue compressible nodules on face of children or teenagers; may be distributed along vein *Acta DV (Stockh) 31:304–307, 1951*

Non-venereal sclerosing lymphangitis of the penis *JAAD 49:916–918, 2003; Urology 127:987–988, 1982; BJD 104:607–695, 1981*

Phlebectasia congenita (Bockenheimer's syndrome) *BJD 116:602–603, 1987*

Pigmented purpuric eruption – lichen aureus *AD 124:1572–1574, 1988*

Polyarteritis nodosa, cutaneous *Ghatan p.255, 2002, Second Edition*

Sunburst varicosities and telangiectasia *J Derm Surg Oncol 15:184–190, 1989*

Superficial lymphangitis with overlying papular and vesicular interface dermatitis following injury *Dermatology 203:217–220, 2001*

Superficial migratory thrombophlebitis – linear or oval tender red nodules of the legs, abdomen, arms *JAAD 45:163–183, 2001; JAAD 23:975–985, 1990*

Superior vena cava syndrome

Temporal arteritis – linear erythema over temples *Arch Surg 1:323–329, 1890*

Thromboangiitis obliterans (Buerger's disease) – recurrent venous thrombosis with supravenous erythema *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thrombophlebitis, superficial, deep

Varicosities *Rook p.2250, 1998, Sixth Edition; Br Med J 300:763–764, 1990*

Vascular malformation with underlying disappearing bone (Gorham–Stout disease) – skin-colored papulovesicles along a vein *JAMA 289:1479–1480, 2003*

## LIP LESIONS, PIGMENTED

***JAAD 28:33, 1993***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

### DRUGS

Fixed drug eruption

Polychemotherapy for metastasizing ovarian carcinoma *G. Ital Dermatol Venereol 124:77–83, 1989*

Quinidine photolichenoid dermatitis

### EXOGENOUS AGENTS

Amalgam tattoo

Bismuth

Magnesium

Silver (argyria)

Tattoo *Rook p.3146, 1998, Sixth Edition*

### INFECTIONS AND INFESTATIONS

AIDS-associated labial lentigo *Tyring p.371, 2002*

### INFLAMMATORY DISEASES

Post-inflammatory hyperpigmentation

### METABOLIC DISEASES

Addison's disease

Vitamin $B_1$ and $B_2$ deficiencies *JAAD 15:1263–1264, 1986*

### NEOPLASTIC DISEASES

Basal cell carcinoma, pigmented

Kaposi's sarcoma *Rook p.3130, 1998, Sixth Edition*

Labial melanotic macule (benign labial lentigo) *Oral Surg Oral Med Oral Pathol 42:192–205, 1976*

Lentigo maligna – hyperpigmented lips and oral mucosa *AD 138:1216–1220, 2002*

Lentigo maligna melanoma

Lentigo simplex

Leukoplakia *Rook p.3130, 1998, Sixth Edition*

Melanocytic nevus, junctional

Melanoma *BJD 152:1324–1326, 2005*

Seborrheic keratosis

### PHOTODERMATOSES

Ephelide *Rook p.3131, 1998, Sixth Edition*

Lichenoid photodermatitis

Solar lentigo

### PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *JAAD 31:1–19, 1994*

Fordyce spots – yellow macule *BJD 129:355, 1993; BJD 121:669–670, 1989*

Lichen planus

Vitiligo – repigmenting

### SYNDROMES

Albright's syndrome

Cronkhite–Canada syndrome

Hereditary acrolabial telangiectasia – blue lips, areolae, and nail bed, telangiectasias

Idiopathic lenticular pigmentation – oral, labial, perianal, and digital pigmented macules *AD 132:844–845, 1996*

LAMB/NAME syndrome (Carney complex) *Textbook of Neonatal Dermatology, p.371, 2001; Oral Surg 63:175–183, 1987; Medicine 64:270–283, 1985*

Laugier–Hunziker syndrome *AD 132:844–845, 1996; Dermatologica 181:183–186, 1990*

LEOPARD syndrome *Textbook of Neonatal Dermatology, p.371, 2001*

Neurofibromatosis

Peutz–Jeghers syndrome *JAAD 53:660–662, 2005; Curr Prob Derm 14:41–70, 2002; Rook p.3063, 1998, Sixth Edition; J Dent Child 44:131–134, 1977; J Periodontol 42:726–736, 1971*

### TOXINS

Arsenic poisoning – chronic *BJD 149:757–762, 2003*

Heavy metal poisoning

### VASCULAR LESIONS

Venous hemangioma

Venous lake

## LIP PAPULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

CREST syndrome

Lupus erythematosus – bullous LE, discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

### CONGENITAL LESIONS

Congenital rhabdomyomatous mesenchymal hamartoma (striated muscle hamartoma) – skin-colored pedunculated (polypoid) nodule of neck, midline of chin, upper lip *Ped Derm 16:65–67, 1999; Ped Derm 7:199–204, 1990; Ped Derm 3:153–157, 1986*

Sucking calluses *Textbook of Neonatal Dermatology, p.478, 2001*

### EXOGENOUS AGENTS

Cosmetic tattoos – sarcoid *AD 141:869–872, 2005*

### INFECTIONS AND INFESTATIONS

Granuloma inguinale – extragenital lesions of nose and lips, or extremities; papule or nodule breaks down to form ulcer with overhanging edge; deep extension may occur; or serpiginous extension with vegetative hyperplasia; pubis, genitalia, perineum *JAAD 32:153–154, 1995; JAAD 11:433–437, 1984*

Leishmaniasis

Leprosy – lepromatous leprosy *Rook p.1224, 1998, Sixth Edition;* histoid nodules of the lip *Int J Lepr Other Mycobact Dis 65:374–375, 1997*

Molluscum contagiosum *J Oral Med 35:62–64, 1980*

Paracoccidioidomycosis

Pinta

Rhinoscleroma – plaques of nodules of upper lip *Rook p.3135, 1998, Sixth Edition*

Syphilis, primary (chancre) – ulcerated plaque; secondary – split papules, nodular secondary syphilis *Br Dent J 160:237–238, 1986*

Verruca vulgaris *Tyring p.261,272, 2002*; *Oral Surg Oral Med Oral Pathol 62:410–416, 1986*

Yaws

### INFILTRATIVE DISORDERS

Amyloidosis, primary systemic

Lichen myxedematosus

Mucocoele

Xanthoma disseminatum (Montgomery's syndrome) – red–yellow–brown lip papules *NEJM 338:1138–1143, 1998; JAAD 23:341–346, 1990; AD Syphilol 37:373–402, 1938*

### INFLAMMATORY DISEASES

Cheilitis glandularis

Granulomatous cheilitis

Lymphocytoma cutis *JAAD 38:877–905, 1998*

Necrotizing sialometaplasia *J Oral Maxillofac Surg 58:1419–1421, 2000*

Sarcoidosis *Bolognia p.1457, 2003*

## METABOLIC DISEASES

Milia-like calcinosis cutis *Ped Derm 21:483–485, 2004*

## NEOPLASTIC DISORDERS

Actinic keratosis *Rook p.1671, 1998, Sixth Edition*

Adenolipoma *BJD 148:606–607, 2003*

Apocrine gland carcinoma *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 82:93–99, 1996*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Chondroid syringoma – upper lip *Cutis 71:49–55, 2003*

Cutaneous horn

Epidermal nevus

Fibroma (irritation fibroma) *Rook p.3130, 1998, Sixth Edition*

Fordyce spots – ectopic sebaceous glands; yellow papules of buccal mucosa, lip, penile shaft *Textbook of Neonatal Dermatology, p.479, 2001*; *Rook p.1982, 1998, Sixth Edition*

Granular cell tumor

Histiocytosis

Juvenile xanthogranuloma

Kaposi's sarcoma *Rook p.3130, 1998, Sixth Edition; Oral Surg Oral Med Oral Pathol 71:38–41, 1991*

Keratoacanthoma *Oral Surg Oral Med Oral Pathol 38:918–927, 1974*

Leiomyoma

Lymphoma *Oral Oncol 29B:225–230, 1993;* histiocytic lymphoma

Lymphomatoid papulosis – ulcerated papule *JAAD 44:339–341, 2001*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma – desmoplastic melanoma of lip – ulcerated nodule, lip ulcer, induration and edema *JAAD 47:863–868, 2002*

Merkel cell carcinoma – reddish-blue nodules; legs, lip, eyelid, scalp, nose *Histopathology 7:229–249, 1983*

Microcystic adnexal carcinoma *JAAD 45:283–285, 2001; JAAD 41:225–231, 1999*

Mucocele *AD 101:673–678, 1970*

Mucosal neuroma

Multinucleate cell angiohistiocytoma *Cutis 59:190–192, 1997; Oral Surg Oral Med Oral Pathol 78:743–747, 1994*

Papillary syringoadenoma (syringocystadenoma papilliferum) *Rook p.3145, 1998, Sixth Edition*

Plasma-acanthoma of the lip *Rook p.3142, 1998, Sixth Edition*

Plasmacytoma *JAAD 35:777–778, 1996; JAAD 14:335–339, 1986*

Reticulohistiocytoma *AD 139:381–386, 2003; JAAD 46:801, 2002*

Rhabdomyoma *Am J Dermatopathol 22:264–267, 2000*

Rhabdomyosarcoma, congenital – lip nodule *Ped Derm 20:335–338, 2003*

Sclerotic fibroma – labial mucosal papulonodule *BJD 149:433–435, 2003*

Sebaceous adenoma *Rook p.1722–1723, 1998, Sixth Edition*

Sebaceous carcinoma *JAAD 48:401–408, 2003*

Spindle cell carcinoma

Spindle cell hemangioendothelioma *Rook p.3130, 1998, Sixth Edition*

Squamous cell carcinoma *Rook p.1689–1690,3074–3076, 1998, Sixth Edition; Otolaryngol Clin North Am 26:265–277, 1993*

Traumatic neuroma

Trichoblastic carcinoma *Derm Surg 27:663–666, 2001*

Trichoepitheliomas *BJD 4:269–286, 1892*

Trichilemmomas

Verrucous carcinoma – arising in lichen planus *Cutis 65:219–222, 2000*

Verrucous xanthoma *AD 136:665–670, 2000*

## PHOTODERMATOSES

Actinic lichen planus *JAAD 20:226–231, 1989*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans (cobblestoning) *Rook p.1584, 1998, Sixth Edition*

Granuloma annulare

Lichen planus *BJD 132:1000–1002, 1995*

Reactive perforating collagenosis *JAAD 25:1079–1081, 1991*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Blue rubber bleb nevus syndrome – vascular malformation *AD 116:924–929, 1996*

Cowden's syndrome – lip papillomas *BJD 148:1040–1046, 2003; Rook p.3129, 1998, Sixth Edition*

Focal epithelial hyperplasia (Heck's disease) *Tyring, p.273, 2002; BJD 96:375–380, 1977*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) – palmoplantar keratoderma, leukoplakia, and cutaneous horn of the lips *BJD 146:680–683, 2002*

Ganglioneuromatosis type III multiple endocrine neoplasia (MEN) *JID November 1994*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – nodular perianal lesions, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, osteolytic defects, stunted growth *Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994*

Lesch–Nyhan syndrome

Lipoid proteinosis *Int J Derm 39:203–204, 2000; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Multiple endocrine neoplasia syndrome (MEN I) – angiofibromas *AD 133:853–857, 1997*

Multiple mucosal neuroma syndrome (MEN IIB) – skin-colored papules and nodules of lips, tongue, oral mucosa *JAAD*

*36:296–300, 1997; NEJM 335:943–951, 1996; Oral Surg 51:516–523, 1981; J Pediatr 86:77–83, 1975; Am J Med 31:163–166, 1961*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Neurofibromatosis

Nevoid basal cell carcinoma syndrome

Trichorhinophalangeal syndrome I – autosomal dominant; pear-shaped nose, tubercle of normal skin below the lower lip, fusiform swelling of the PIP joints; fine brittle sparse hair, eyebrows sparse laterally, dense medially, short stature *JAAD 31:331–336, 1994*

### TRAUMA

Sucking callus (sucking pads) – in neonates *Ped Derm 4:123–128, 1987*

### VASCULAR DISORDERS

Acquired progressive lymphangioma *Rook p.3130, 1998, Sixth Edition*

Angiofibroma

Angiolymphoid hyperplasia with eosinophilia *BJD 145:365, 2001; BJD 134:744–748, 1996*

Angiosarcoma *Rook p.3130, 1998, Sixth Edition*

Arteriovenous fistula (traumatic) *Cutis 62:235–237, 1998*

Caliber-persistent arteries of the lip *JAAD 46:256–259, 2002*

Epithelioid hemangioendothelioma *JAAD 36:1026–1028, 1997*

Epithelioid hemangioma *Rook p.3130, 1998, Sixth Edition*

Hemangioma *Otolaryngol Clin North Am 19:769–796, 1986;* focal hemangioma *AD 139:869–875, 2003*

Hemangiopericytoma

Intravascular papillary endothelial hyperplasia (Masson's hemangioma) *Cancer 38:1227–1236, 1976*

Lymphatic malformation

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition; Am J Surg Pathol 4:471–479, 1980*

Venous lake *Clin Exp Dermatol 15:115–118, 1990*

Wegener's granulomatosis *JAAD 49:335–337, 2003*

## LIP PITS

Angular sinuses

Commissural lip pits – autosomal dominant; usually bilateral may be associated with pre-auricular sinuses or pits *Oral Surg Oral Med Oral Pathol 21:56–60, 1966*; may communicate with parotid duct *Arch Otolaryngol Head Neck Surg 116:1445–1447, 1990*

Congenital sinus of the lower lip (with lower lip pits) (congenital fistulae of lower lip) – bilateral *Textbook of Neonatal Dermatology, p.478, 2001; Trans St John's Hosp Dermatol Soc 61:82–86, 1975*

Congenital lower lip pits *Ped Derm 19:363–364, 2002; Ped Derm 15:443–445, 1998; Cutis 61:127–128, 1998; JAAD 32:520–521, 1995; Am J Hum Genet 6:244–256, 1954;* may communicate with underlying salivary glands *Rook p.3126–3127, 1998, Sixth Edition*

Congenital conductive or mixed deafness, preauricular sinus, external ear anomaly, commissural lip pits – autosomal dominant *Ann Otol Rhinol Laryngol 100:928–932, 1991*

Focal dermal hypoplasia, morning glory anomaly, and polymicrogyria – swirling pattern of hypopigmentation, papular hypopigmented and herniated skin lesions of face, head, hands, and feet, basaloid follicular hamartomas, mild mental retardation, macrocephaly, microphthalmia, unilateral morning glory optic disc anomaly, palmar and lip pits, and polysyndactyly *Am J Med Genet 124A:202–208, 2004*

Hirschsprung's disease with cleft palate and paramedian pits of the lower lip *J Pediatr Surg 14:162–164, 1979*

Kabuki make-up syndrome (Niikawa–Kuroki syndrome) – lower lip pits and anorectal anomalies *Am J Med Genet 86:282–284, 1999*

Median cleft of the lower lip with lip pits and clefts of the lip and palate *Cleft Palate Craniofac J 36:86–87, 1999*

Midline sinus of the upper lip *Plast Reconstr Surg 65:674–675, 1980*

Orofacial digital syndrome type 1 – lower lip pits, oral frenula, and clefts, hypoplasia of the nasal cartilage, malformation of the hands, hypertelorism, mental retardation *Cutis 61:127–128, 1998*

Popliteal pterygium syndrome – lower lip pits, oral clefts, pterygium of the leg, genitourinary anomalies, congenital heart disease, syndactyly *Ped Derm 15:443–445, 1998*

Trichorrhexis nodosa with lip pits – autosomal dominant ectodermal dysplasia with central nervous system malformations *Am J Med Genet 71:226–228, 1997*

Van der Woude syndrome – autosomal dominant; lower lip pits, cleft lip, palate, and uvula, hypodontia; mutation of interferon regulatory factor 6 (IRF6) *NEJM 351:769–780, 2004; Ped Derm 15:443–445, 1998*

## LIPS, SWOLLEN

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergy to food additives, cobalt *AD 129:477, 1993*

Allergic contact dermatitis to many exogenous agents – oils, waxes, antioxidants; flavorings *Rook p.757, 1998, Sixth Edition;* latex balloons *Cutis 54:138–140, 1994;* toothpaste *Contact Dermatitis 28:42, 1993;* contact orofacial granulomatosis to gold and mercury *JAAD 49:1117–1120, 2003*; epoxy diacrylates *JAAD 38:116–120, 1998;* collophonium in dental floss *Comm Dent Oral Epidemiol 19:155–159, 1990;* toothpaste materials *Comm Dent Oral Epidemiol 19:155–159, 1990;* oral allergy syndrome – avocado, banana, celery, eggplant, jackfruit, kiwi, mango, strawberry *JAAD 53:736–737, 2005*

Angioedema *JAAD 25:155–161, 1991; Dermatol Clin 3:85–95, 1985*

Chronic granulomatous disease – cheilitis *JAAD 36:899–907, 1997; JAAD 23:444–450, 1990*

Lupus erythematosus, systemic *BJD 121:727–741, 1989;* bullous lupus erythematosus *Cutis 70:31–34, 2002*

Myeloperoxidase deficiency – lip infection and necrosis *Ped Derm 20:519–523, 2003*

Pemphigus vegetans, Neumann variant *JAAD 39:872–875, 1998*

Pemphigus vulgaris

Scleroderma

Sjögren's syndrome – red swollen lip *J Dermatol 28:47–49, 2001*

Urticaria *JAAD 50:815–817, 2004*

## CONGENITAL LESIONS

Double lip *Cutis 66:253–254, 2000*

Sucking calluses *Textbook of Neonatal Dermatology, p.479, 2001*

## DEGENERATIVE LESIONS

Mucous cyst (mucocele)

## DRUG-INDUCED

ACE-inhibitor induced angioedema *J Forensic Sci 46:1239–1243, 2001*

Fixed drug eruption

Tacrolimus, systemic – fibromatosis

Hypersensitivity reactions

## EXOGENOUS AGENTS

Aquagenic angioedema *Cutis 37:465–466, 1986*

Abreva

Antioxidants *Comm Dent Oral Epidemiol 19:155–159, 1990*

Benzoates *Comm Dent Oral Epidemiol 19:155–159, 1990*

Chironoida larvae used as fish food – angioedema *Acta DV 78:482–483, 1998*

Chocolate – granulomatous cheilitis *BJD 150:595, 2004*

Flavorings *Comm Dent Oral Epidemiol 19:155–159, 1990*

Monosodium glutamate-related orofacial granulomatosis *Oral Surg Oral Med Oral Pathol 71:560–564, 1991*

Silica granuloma – mimics granulomatous cheilitis *Dermatologica 181:246–247, 1990*

Sorbic acid – non-allergic urticaria *Ghatan p.187, 2002, Second Edition*

Tattooing, cosmetic *AD 141:918–919, 2005*

## INFECTIONS AND/OR INFESTATIONS

Anthrax *Ped Derm 18:456–457, 2001; Rook p.3140, 1998, Sixth Edition*

Cancrum oris (noma) – labial and buccal necrosis *J Dent Child 48:138–141, 1981*

Candidiasis – chronic mucocutaneous candidiasis

Cysticercosis *Br Dent J 170:105–106, 1991*

Dentoalveolar abscess *JAAD 50:815–817, 2004*

Diphtheria *Rook p.3140, 1998, Sixth Edition*

Elephantiasis nostras of the lips – presumed streptococcal infection *Oral Surg Oral Med Oral Pathol Endod 84:297–300, 1997*

Epstein–Barr virus – swollen erythema of face with swollen lips *BJD 143:1351–1353, 2000*

Erysipelas

Furuncle *Rook p.3140, 1998, Sixth Edition*

Hand foot and mouth disease (Coxsackie virus) *Rook p.3133–3134, 1998, Sixth Edition*

Herpes simplex infection *Rook p.3133–3134, 1998, Sixth Edition;* primary herpetic gingivostomatitis *Tyring p.75, 2002*

Herpes zoster

Impetigo

Insect bite reaction

Larva migrans

Leishmaniasis *Mycoses 41 Suppl2:78–80, 1998 (German); JAAD 28:495–496, 1993; Dermatologica 150:292–294, 1975; Leishmania aethiopica* – lip edema *Trans R Soc Trop Med Hyg 63:708–737, 1969;* espundia (mucocutaneous leishmaniasis) – nasopharyngeal mutilation with protuberant lips *Am J Trop Med Hyg 59:49–52, 1998*

Leprosy *Rook p.3140, 1998, Sixth Edition*

Mycobacterium tuberculosis – cheilitis granulomatosa *AD 141:1085–1091, 2005; AD 141:1080–1082, 2005; JAAD 23:444–450, 1990; AD 124:1705–1710, 1988*

Orf *Br Dent J 173:343–344, 1992*

Paracoccidioidomycosis *JAAD 31:S91–S102, 1994; Rev Bras Med 28:464, 1971*

Parvovirus B19, including papular–purpuric 'gloves and socks' syndrome – swollen lips with painful erosions *JAAD 41:793–796, 1999*

Phaeoacremonium inflatipes – fungemia in child with aplastic anemia; swelling and necrosis of lips, periorbital edema, neck swelling *Clin Inf Dis 40:1067–1068, 2005*

Post-infectious lymphedema of lips

Rhinoscleroma – upper lip swelling *Cutis 40:101–103, 1987*

*Staphylococcus aureus Rook p.3140, 1998, Sixth Edition*

Syphilis – primary chancre – ulcerated papule with edema of lip *Rook p.1244,3134, 1998, Sixth Edition*; cheilitis granulomatosa *AD 141:1085–1091, 2005; AD 141:1080–1082, 2005; JAAD 23:444–450, 1990; AD 124:1705–1710, 1988*

Tinea facei (kerion) *Rook p.3140, 1998, Sixth Edition*

Trichinosis *Rook p.3140, 1998, Sixth Edition*

Vaccinia *Br Dent J 143:57–59, 1977*

Verruca vulgaris

Yaws

## INFILTRATIVE

Amyloidosis – primary systemic *JAAD 50:815–817, 2004*

Plasma cell orificial mucositis (plaque) *AD 124:1871–1872, 1988;* plasma cell cheilitis – with lip ulcer *JAAD 30:789–780, 1994*

## INFLAMMATORY

Cheilitis granulomatosa – idiopathic, *AD 141:1085–1091, 2005; AD 141:1080–1082, 2005; JAAD 23:444–450, 1990; AD 124:1705–1710, 1988*

Crohn's disease – orofacial granulomatosis *JAAD 49:952–954, 2003; AD 135:439–442, 1999; Ped Derm 16:39–42, 1999; JAAD 36:697–704, 1997*; cheilitis granulomatosa *AD 141:1085–1091, 2005; AD 141:1080–1082, 2005; JAAD 23:444–450, 1990; AD 124:1705–1710, 1988*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* Stevens–Johnson syndrome *Rook p.3133, 1998, Sixth Edition; Int J Derm 24:587–591, 1985*

Granulation tissue

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae; including Melkersson–Rosenthal syndrome, Miescher's granulomatous cheilitis *AD 124:1706, 1709, 1988;* Crohn's disease, sarcoid, allergy to food additives or cobalt *BJD 143:1119–1121, 2000; Rook p.3139–3140, 1998, Sixth Edition; Quintessence International 28:265–269, 1997; AD 129:477–480, 1993*

Pyoderma gangrenosum *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988*

Pyostomatitis vegetans *Rook p.3142, 1998, Sixth Edition*

Sarcoid – granulomatous cheilitis *AD 141:1085–1091, 2005; AD 141:1080–1082, 2005; Lupus 1:129–131, 1992; JAAD 23:444–450, 1990; AD 124:1705–1710, 1988; BJD 115:619–622, 1986; Rook p.2290, 1998, Sixth Edition; J Oral Surg 34:237–244, 1976*

## METABOLIC

Congenital neutropenia

Cyclic neutropenia

Cystic fibrosis

Fabry's disease *Ghatan p.76, 2002, Second Edition*

Fucosidosis type III

Hunter's syndrome – X-linked recessive; macrocheilia; reticulated 2–10 mm skin-colored papules over scapulae, chest, neck, arms; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004*

Hurler's syndrome *Rook p.3140, 1998, Sixth Edition; Oral Surg 32:46–57, 1971*

Hypothyroidism *NEJM 283:101, 1970*

Lesch–Nyhan syndrome – X-linked recessive; hypoxanthineguanine phosphoribosyltransferase deficiency; self-mutilation; biting of lower lip *AD 94:194–195, 1966*

Vitamin $B_1$ and $B_2$ deficiencies – red lips, angular cheilitis *Ped Derm 16:95–102, 1999; JAAD 15:1263–1274, 1986*

## NEOPLASTIC

Actinic cheilitis *J Derm Surg Oncol 7:289–295, 1981*

Epstein–Barr virus associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Granular cell schwannoma – linear plaque *AD 121:1197–1202, 1985*

Kaposi's sarcoma *Rook p.3130, 1998, Sixth Edition*

Leukemic macrocheilia – acute myelogenous leukemia *BJD 151:1102, 2004; JAAD 14:353–358, 1986*

Leukoplakia

Lymphoma – T-cell lymphoma mimicking Crohn's disease *Oral Oncol 29B:225–230, 1993*

Lymphomatoid granulomatosis (angiocentric lymphoma) – presenting as angioedema *Postgrad Med J 68:366–368, 1992*

Melanoma – desmoplastic melanoma of lip; induration and edema *JAAD 47:863–868, 2002*

Neurofibroma *Rook p.3140, 1998, Sixth Edition*

Squamous cell carcinoma

Verrucous carcinoma – oral florid papillomatosis of the lip *BJD 151:727–729, 2004*

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus

## PHOTODERMATITIS

Actinic prurigo *BJD 144:194–196, 2001; JAAD 44:952–956, 2001; Ped Derm 17:432–435, 2000; JAAD 26:683–692, 1992; Oral Surg Oral Med Oral Pathol 65:327–332, 1988; Ped Derm 3:384–389, 1986; JAAD 5:183–190, 1981*

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans *JAAD 31:1–19, 1994*

Acne vulgaris – cyst

Atopic cheilitis *Allergy 46:125–128, 1991; Dermatologica 177:360–364, 1988*

Cheilitis glandularis (Volkmann's cheilitis) (Puente's disease) – inflammatory condition of the lower lip minor salivary glands; enlargement with a mucus ductal discharge, crusts and scale eversion, and hardening of the lip; deep-seated abscesses and fistulae *BJD 148:362, 2003; Oral Surg Oral Med Oral Pathol 78:319–322, 1994; Oral Surg Oral Med Oral Pathol 62:654–656, 1986 J Derm Surg 1:372–375, 1985*

Congenital sensory neuropathy with anhidrosis – lip erosions *Ped Derm 11:231–236, 1994*

Hydroa vacciniforme – cheilitis with lip ulcers *Ped Derm 21:555–557, 2004*

Lichen planus

Premature dermatochalasis

## SYNDROMES

Ackerman syndrome – taurodontism, pyramidal and fused molar roots, juvenile glaucoma, unusual upper lip *Am J Phys Anthropol 38:681–694, 1973*

Ascher's syndrome – blepharochalasis with progressive enlargement of upper lip; increased thickness of eyelids *AD 139:1075–1080, 2003; JAAD 29:650–651, 1993; Ped Derm 8:122–123, 1991*; *BJD 66:129–138, 1954; Klin Monatsbl Augenheilkd 65:86–97, 1920*

Beare–Stevenson syndrome – cutis gyrata (furrowed skin), acanthosis nigricans, hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and umbilical herniation *Skin and Allergy News p.37, Sept 2000*

Char syndrome – short philtrum, patulous lips, ptosis, low-set pinnae *Birth Defects 14 (6B):303–305, 1978*

Coffin–Lowry syndrome *J Med Genet 25:344–348, 1988*

Coffin–Siris syndrome *Rook p.3140, 1998, Sixth Edition*

Cowden's syndrome

Darier's disease

Double lip

Down's syndrome

Familial cold urticaria *Br Dent J 175:417–418, 1993*

Facial edema with eosinophilia

Familial idiopathic macrocheilia

Fountain syndrome – coarse face with progressive swelling of lips, mental retardation, sensorineural deafness, and musculoskeletal abnormalities *J Med Genet 26:722–724, 1989*

Fucosidosis *Rook p.3140, 1998, Sixth Edition*

Gingival fibromatosis

Hereditary angioneurotic edema

Hughes syndrome – acromegaloid features and thickened oral mucosa; thickened fissured lips *J Med Genet 22:119–125, 1985*

Kawasaki's disease – mucocutaneous lymph node syndrome – cheilitis *Rook p.3135, 1998, Sixth Edition*

Keratosis–ichthyosis–deafness syndrome – bright red thickened lips; hyperkeratotic papules and plaques of face, scalp, trunk, extremities; exaggerated diaper dermatitis *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990*

Leprechaunism (Donohue syndrome) *Ann Genet 30:221–227, 1987*

Melkersson–Rosenthal syndrome (granulomatous cheilitis) *Dermatol Clin 14:371–379, 1996; JAAD 21:1263–1270, 1989*

Morateaux–Lamy syndrome (MPS VI) *Helv Paediatr Acta 25:337–362, 1970*

Multicentric reticulohistiocytosis

Multiple mucosal neuroma syndrome IIB – thick fleshy everted lips with papules *AD 139:1647–1652, 2003; JAAD 42:939–969, 2000; Ped Derm 8:124–128, 1991*

Neurofibromatosis

PHACES syndrome *J Pediatr 122:379–384, 1993*

Schei syndrome

Setleis syndrome

Smith–Magenis syndrome – upper lip eversion, brachycephaly, midface hypoplasia, prognathism, short broad hands with short fingers, clinodactyly of fifth fingers, fingertip pads, mental retardation *Am J Med Genet 41:225–229, 1991*

Sturge–Weber syndrome (encephalofacial angiomatosis) – facial port wine stain with homolateral leptomeningeal angiomatosis *Oral Surg Oral Med Oral Pathol 22:490–497, 1966*

Sweet's syndrome *JAAD 53:S135–138, 2005*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – macrocheilia, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

X-linked anhidrotic ectodermal dysplasia

Williams syndrome – premature laxity of skin, congenital heart disease (supravalvular aortic stenosis), baggy eyes, full cheeks, prominent lips, dental malocclusion, delayed motor skills, cocktail party personality *J Pediatr 113:318–326, 1988*

Winchester syndrome – lip hypertrophy, diffuse thickening, hyperpigmentation, hypertrichosis *Ped Derm 21:154–159, 2004*

### TRAUMA

Electrical burn

Hematoma

Intubation – pressure necrosis of lip *Anesthetis 24:136–137, 1975*

Physical trauma

Sunburn

Surgery – prolonged intubation with pressure ulceration of mucosal surface of lower lip and accompanying edema

### VASCULAR

Arteriovenous malformation

Elephantiasis nostras *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 84:297–300, 1997; J Allergy Clin Immunol 75:450–451, 1985; Angiology 22:448–455, 1971*

Hemangioma (proliferating hemangioma; resolved hemangioma *Rook p.563,3140, 1998, Sixth Edition*

Hematoma

Kimura's disease *JAAD 38:143–175, 1998*

Lymphangiectasia – macrocheilia *South Med J 69:485–486, 1976*

Lymphangioma *Rook p.3140, 1998, Sixth Edition*

Lymphedema

Pyogenic granuloma

Sclerosing lymphangitis of the lip *J Dermatol 17:127–129, 1990*

Superior vena cava syndrome

Vascular malformation

Venous obstruction

Venous lake

Wegener's granulomatosis *Rook p.3079, 1998, Sixth Edition*

## LIVEDO RETICULARIS WITH OR WITHOUT NECROSIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – livedo reticularis and multiple ulcers *J Eur Acad DV 11:48–50, 1998*

Hypogammaglobulinemia, congenital *JAAD 52:1009–1019, 2005*

Lupus erythematosus – systemic lupus erythematosus *BJD 135:355–362, 1996;* livedo – of upper or lower extremities *Rook p.2474, 1998, Sixth Edition; J Rheumatol 6:204–209, 1979*; discoid lupus *Rook p.964, 966, 2452, 1998, Sixth Edition*; tumid lupus – livedoid telangiectasias *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition;* subacute cutaneous lupus erythematosus *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988;* lupus vasculitis *JAAD 48:311–340, 2003*

Mixed connective tissue disease

Rheumatoid arthritis *Rook p.964, 2568, 1998, Sixth Edition;* vasculitis *JAAD 53:191–209, 2005; JAAD 48:311–340, 2003; BJD 147:905–913, 2002*; intravascular or intralymphatic histiocytosis in rheumatoid arthritis; red livedoid plaques *BJD 152:1385–1387, 2005; JAAD 50:585–590, 2004*

Scleroderma *AD 119:803–807, 1983*

Sjögren's syndrome *JAAD 52:1009–1019, 2005*

Still's disease *JAAD 52:1009–1019, 2005*

## CONGENITAL LIVEDO

Angioma serpiginosum

Capillary nevi

Congenital livedo reticularis

Cutis marmorata telangiectatica congenita *JAAD 20:1098–1104, 1989*

Diffuse phlebectasia (Bockenheimer's syndrome)

Divry–van Bogaert syndrome (corticomeningeal angiomatosis)

Klippel–Trenaunay–Weber syndrome

Lupus erythematosus, neonatal

Port wine stain with reticulate pattern

## DEGENERATIVE

Brain injury *JAAD 52:1009–1019, 2005*

Encephalitis *JAAD 52:1009–1019, 2005*

Multiple sclerosis *JAAD 52:1009–1019, 2005*

Paralysis – stasis

Parkinson's disease *JAAD 52:1009–1019, 2005*

Poliomyelitis *JAAD 52:1009–1019, 2005*

## DRUG-INDUCED

Amantadine *BJD 149:656–658, 2003; JAAD 125:417–422, 1989*

Arsphenamine *JAAD 52:1009–1019, 2005*

Bismuth injection, intra-arterial *Rook p.964, 1998, Sixth Edition*

Catecholamines *JAAD 52:1009–1019, 2005*

Coumarin – coumarin necrosis, coumarin purple toe syndrome *Thromb Haemost 78:785–790, 1997*

Ergotism, chronic

Erythromycin/lovastatin interaction *JAAD 52:1009–1019, 2005*

Gemcitabine *JAAD 52:1009–1019, 2005*

GCSF – recombinant human GCSF; livedo reticularis, edema, with thrombotic and necrotizing panniculitis *BJD 142:834–836, 2000*

Heparin *JAAD 52:1009–1019, 2005*

Interferon-β-1b *JAAD 37:553–558, 1997*

Minocycline-induced p-ANCA$^{+}$ cutaneous polyarteritis nodosa – vasculitis *Eur J Dermatol 13:366–368, 2003; JAAD 48:311–340, 2003; JAAD 44:198–206, 2001*

Pentazocine injection *J R Soc Med 75:903–909, 1982*

Quinidine – photosensitive purpuric livedo *JAAD 12:332–336, 1985; Dermatologica 148:371–376, 1974; AD 108:100–101, 1973*

Quinine

Sonodor (diphenhydramine and pyrithyldione) *JAAD 52:1009–1019, 2005*

## EXOGENOUS CAUSES

Arterial cannula

Arterial embolization with hyaluronic acid – livedo reticularis of nose and face *BJD 146:928–929, 2002*

Carbon dioxide arteriography *JAAD 52:1009–1019, 2005*

Crack inhalation – acrocyanosis, necrotizing livedo reticularis (livedo racemosa), and muscle infarction *Ann Intern Med 108:843, 1988*

Intra-arterial injections

Nitrogen – decompression sickness *JAAD 52:1009–1019, 2005*

Ventilator gas embolism *JAAD 52:1009–1019, 2005*

## INFECTIONS AND INFESTATIONS

Bacterial endocarditis – acute or subacute

*Brucella JAAD 52:1009–1019, 2005*

*Coxiella burnetii JAAD 52:1009–1019, 2005*

Endocarditis *JAAD 52:1009–1019, 2005*

Hepatitis C – symmetric polyarthritis with livedo reticularis *JAAD 37:817–823, 1997*

Infectious mononucleosis

Meningococemia *JAAD 52:1009–1019, 2005*

*Mycobacterium tuberculosis JAAD 52:1009–1019, 2005; Rook p.964, 1998, Sixth Edition*

*Mycoplasma pneumoniae* – cold agglutinins *JAAD 52:1009–1019, 2005*

Parvovirus B19 with myasthenia gravis-like syndrome *AD 131:744–745, 1995*

Pneumococcal sepsis *Ghatan p.41, 2002, Second Edition*

Q fever (*Coxiella burnetii*) *JAAD 41:842–844, 1999*

Rheumatic fever *Rook p.2575, 1998, Sixth Edition*

Rickettsial diseases *JAAD 52:1009–1019, 2005*

Rubella – congenital rubella syndrome – seborrhea, cutis marmorata, hyperpigmentation *JAAD 46:161–183, 2002*

Septic emboli – with pseudoaneurysms due to *Staphylococcus aureus* following percutaneous transluminal coronary angioplasty; palpable purpura, petechiae, and livedo reticularis *Cutis 66:447–452, 2000*

Streptococcemia *JAAD 52:1009–1019, 2005*

Syphilis *Rook p.964, 1998, Sixth Edition*

Typhus *JAAD 52:1009–1019, 2005*

Varicella – livedo reticularis as the only manifestation *Tyring p.125, 2002*

Viral syndromes *JAAD 52:1009–1019, 2005*

## INFILTRATIVE DISEASES

Amyloidosis *JAAD 52:1009–1019, 2005*

Intravascular or intralymphatic histiocytosis in rheumatoid arthritis – livedoid red patches *JAAD 50:585–590, 2004*

## INFLAMMATORY DISEASES

Fibromyalgia *JAAD 52:1009–1019, 2005*

Pancreatitis, chronic – livedo reticularis; 'Walzel's sign' *JAAD 39:1035–1036, 1998*

## METABOLIC

Anti-thrombin III deficiency *JAAD 52:1009–1019, 2005*

Calciphylaxis (vascular calcification cutaneous necrosis syndrome) (chronic renal failure and hyperparathyroidism) *JAAD 40:979–987, 1999; JAAD 33:53–58, 1995*; *JAAD 33:954–962, 1995*;*J Dermatol 28:27–31, 2001; Br J Plast Surg 53:253–255, 2000; J Cutan Med Surg 2:245–248, 1998; JAAD 33:954–962, 1995; AD 131:786, 1995; AD 127:225–230, 1991; Arch Int Med 136:1273–1280, 1976;* acute reversible

renal failure; associated with hepatitis C infection *JAAD 50:S125–128, 2004*

Cardiac failure *JAAD 52:1009–1019, 2005*

Cold agglutininemia *Rook p.964, 1998, Sixth Edition*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Cryofibrinogenemia *Am J Med 116:332–337, 2004*

Cryoglobulinemia *JAAD 48:311–340, 2003; Rook p.964, 1998, Sixth Edition*

Cushing's syndrome *JAAD 52:1009–1019, 2005*

Diabetes mellitus – peripheral neuropathy *JAAD 52:1009–1019, 2005*

Disseminated intravascular coagulation, including symmetric peripheral gangrene *JAAD 52:1009–1019, 2005*

Hemolytic uremic syndrome *JAAD 52:1009–1019, 2005*

Homocystinuria – cystathionine-beta synthase deficiency *JAAD 40:279–281, 1999*

Hypercalcemia *JAAD 52:1009–1019, 2005*

Hyperparathyroidism with vascular calcification *Rook p.964, 1998, Sixth Edition*

Hyperviscosity

Hypothyroidism *JAAD 52:1009–1019, 2005*

Pellagra *JAAD 52:1009–1019, 2005*

Pernicious anemia *JAAD 52:1009–1019, 2005*

Pregnancy – cutis marmorata of legs *Ghatan p.297, 2002, Second Edition*

Primary oxalosis (primary hyperoxaluria) – type 1 – alanine glyoxalate aminotransferase (transaminase) deficiency; chromosome 2q36–37; type 2 (rare) – D-glyceric acid dehydrogenase deficiency *JAAD 49:725–728, 2003; JAAD 46:S16–18, 2002; AD 137:957–962, 2001; JAAD 22:952–956, 1990; AD 131:821–823, 1995; AD 125:380–383, 1989;* livedo reticularis, ulcers, and peripheral gangrene *AD 136:1272–1274, 2000*

Protein S and C deficiency *JAAD 52:1009–1019, 2005*

Renal disease, chronic – calciphylaxis

Thrombocytopathy *JAAD 52:1009–1019, 2005*

Thrombotic thrombocytopenic purpura *JAAD 52:1009–1019, 2005*

## NEOPLASTIC

Aortic tumors – aortic angiosarcoma with cutaneous metastases *JAAD 43:930–933, 2000;* primary aortic tumors *Oncology 39:167–172, 1982*

Atrial myxoma *BJD 147:379–382, 2002; Cutis 62:275–280, 1998; JAAD 32:881–883, 1995; JAAD 25:110–111, 1991*

Gamma heavy chain disease *JAAD 23:988–991, 1990*

Inflammatory breast carcinoma *JAAD 52:1009–1019, 2005*

Leukemia – chronic myelogenous leukemia with leukostasis; acral livedo *AD 123:921–924, 1987;* acute lymphocytic leukemia *JAAD 52:1009–1019, 2005*

Lymphomas – cutaneous T-cell lymphoma *JAAD 52:1009–1019, 2005*; intravascular large cell lymphoma *JAAD 39:318–321, 1998*

Multiple myeloma with paraproteins and crystaloglobulins *JAAD 52:1009–1019, 2005*

Livedo reticularis, primary *JAAD 52:1009–1019, 2005*

Nevus oligemicus *AD 117:111–113, 1981*

Pheochromocytoma *JAAD 52:1009–1019, 2005*

Polycythemia vera *JAAD 26:264–265, 1992*

Renal cell carcinoma *JAAD 52:1009–1019, 2005*

Essential thrombocythemia *JAAD 24:59–63, 1991; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

Waldenström's macroglobulinemia *AD 134:1127–1131, 1998;* cryoglobulin-associated livedo reticularis *JAAD 45:S202–206, 2001*

## NORMAL

Cutis marmorata – physiologic *JAAD 52:1009–1019, 2005*

Physiologic

## PHOTODERMATOSES

Livedo reticularis, photosensitive *AD 108:100–101, 1973*

## PRIMARY CUTANEOUS DISEASES

Lichen planus *Rook p.966, 1998, Sixth Edition*

Livedo reticularis, primary *JAAD 52:1009–1019, 2005*

Nevus anemicus

Psoriasis *Cutis 39:429–432, 1987*

Symmetrical lividity of the soles *BJD 37:123–125, 1925*

## SYNDROMES

Adams–Oliver syndrome – aplasia cutis congenita, cutis marmorata telangiectatica congenital, transverse limb defects *Ped Derm 22:206–209, 2005*

Antiphospholipid antibody syndrome *NEJM 346:752–763, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989;* IgG-1 antibodies to $\beta_2$-glycoprotein 1 *Am J Med 101:472–281, 1996*

Carcinoid syndrome *JAAD 52:1009–1019, 2005*

Cardio-facio-cutaneous syndrome

Cornelia de Lange (Brachmann–de Lange) syndrome – generalized hypertrichosis, confluent eyebrows, low hairline, hairy forehead and ears, hair whorls of trunk, cutis marmorata, single palmar crease, physical and mental retardation *JAAD 52:1009–1019, 2005; Am J Med Genet 47:959–964, 1993;* marbling around the eyes and nose

Corticomeningeal angiomatosis *Eur Neurol 9:202–215, 1973*

Down's syndrome *JAAD 52:1009–1019, 2005*

Macrocephaly cutis marmorata syndrome – hemangioma of philtrum of upper lip, syndactyly of toes, hyperelastic skin capillary and cavernous hemangiomas *Clin Dysmorphol 6:291–302, 1997*

Neurofibromatosis – vasculopathy *JAAD 51:656–659, 2004;* neurofibromatosis type I – plexiform neurofibroma with pressure-induced arterial occlusion and livedo racemosa *JAAD 50:S107–109, 2004*

Nicolau syndrome – following intramuscular injection (of bismuth, diclofenac, ibuprofen), intra-arterial, acute ischemia, severe pain, livedo, necrosis of skin and muscle, dendritic extension, ulcer, necrotic eschar, atrophic scar *BJD 150:385–387, 2004; J Eur Acad Dermatol 15:585–588, 2001; Ped Derm 12:187–190, 1995; Ann Intern Med 117:1058, 1992*

Phakomatosis cesiomarmorata – Mongolian spot and cutis marmorata telangiectatica congenita *AD 141:385–388, 2005*

POEMS syndrome *JAAD 37:887–920, 1997; JAAD 40:808–812, 1999*; *JAAD 19:979–982, 1988*

Reflex sympathetic dystrophy *JAAD 52:1009–1019, 2005*

Relapsing polychondritis *Clin Exp Rheumatol 20:89–91, 2002*

Riley–Day syndrome (familial dysautonomia) – mottling *Rook p.2734, 1998, Sixth Edition*

Rothmund–Thomson syndrome

Sharp's syndrome *JAAD 52:1009–1019, 2005*

Sneddon's syndrome – livedo reticularis associated with arterial disease of cerebral, coronary, renal, and peripheral vessels; hypertension and neurologic signs and symptoms; cerebrovascular episodes; antiphospholipid antibodies and lupus anticoagulant often but not invariably present *Cutis 67:211–214, 2001; BJD 142:374–376, 2000; Sem Derm 14:166–172, 1995; JAAD 22:633–639, 1990; Int J Dermatol 29:45–49, 1990; BJD 77:180–185, 1965;* livedo racemosa generalisata *JAAD 22:633–9, 1990;* cutaneous thrombosis, cerebrovascular thrombosis, and lupus anticoagulant *Int J Dermatol 29:45–49, 1990*

Trisomy 18 *JAAD 52:1009–1019, 2005*

## TOXINS

Acrodynia (pink disease) – reticulate erythema of hands; mercury poisoning

## TRAUMA

Cold injury – cutis marmorata

Compressed air illness (decompression sickness) (Caisson's disease) *Rook p.964, 1998, Sixth Edition*

Erythema ab igne *Rook p.937,967, 1998, Sixth Edition*

Frostbite

Infrared radiation – erythema ab igne

Intra-arterial cannula

Intravenous drug abuse – intra-arterial buprenorphine tablets injected within brachial artery *BJD 150:1–10, 2004*

Midline catheter insertion *JAAD 52:1009–1019, 2005*

## VASCULAR

Arteriosclerosis *Rook p.964,2229, 1998, Sixth Edition*

Atrophie blanche – livedo with summer (winter) ulcerations *JAAD 8:792–798, 1983; AD 119:963–969, 1983*

Cholesterol emboli *BJD 146:1107–1108, 2002; BJD 146:511–517, 2002; BJD 146:511–517, 2002; Rook p.2229, 1998, Sixth Edition; Medicine 74:350–358, 1995; Angiology 38:769–784, 1987; AD 112:1194–1198, 1986; JAAD 13:235–242, 1985*

Churg–Strauss disease *Medicine 78:26–37, 1999; JAAD 37:199–203, 1997; BJD 127:199–204, 1992*

Coarctation of the aorta – cutaneous mottling of arm *BJD 148:1066–1068, 2003*

Congestive heart failure – stasis

Down's syndrome *Rook p.373, 1998, Sixth Edition*

Factor XII deficiency – livedo with ulceration *BJD 143:897–899, 2000*

Fat emboli *JAAD 52:1009–1019, 2005*

Hypertensive ulcer (Martorell's ulcer) – very painful ulcer of lower lateral leg with livedo at edges *Phlebology 3:139–142, 1988*

Intramural thrombus – embolus

Klippel–Trenaunay–Weber syndrome

Livedo racemosa

Livedo reticularis – acquired idiopathic

Livedo reticularis with winter ulceration

Malignant angioendotheliomatosis (angiocentic lymphoma) – scalp; livedoid red plaque of thigh with woody induration *Rook p.2396, 1998, Sixth Edition; JAAD 18:407–412, 1988*

Moyamoya disease – narrowing or occlusion of supraclinoid portion of the internal carotid artery and stems of anterior and middle cerebral arteries *Ped Derm 20:124–127, 2003*

Neurologic syndromes – cerebral vascular accidents, transient ischemic attacks

Parkes–Weber syndrome

Peripheral vascular disease
- Vessel wall disease – arteriosclerotic, hyperparathyroidism, arteritis (PAN, rheumatoid arthritis, LE, dermatomyositis, lymphoma, syphilis, tuberculosis, pancreatitis) *JAAD18:1003–1019, 1988*

Port wine stain (nevus flammeus) with reticulate pattern

Primary pulmonary hypertension

Raynaud's disease and phenomenon

Sturge–Weber syndrome

Symmetric peripheral gangrene

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Tumor emboli

Vascular malformation with overlying slow flow

Vasculitis *(adopted from Current Prob Derm, Vol V, No.2, 1993)*
- Small vessel vasculitis
  - Circulating immune complexes
  - Collagen vascular disease – SLE, rheumatoid arthritis, dermatomyositis, Sjögren's syndrome, scleroderma *Cutis 39:429–432, 1987*
  - Drug-induced vasculitis
  - Erythema elevatum diutinum
  - Familial Mediterranean fever
  - Henoch–Schönlein purpura; HSP of adults *AD 125:53–56, 1989*
  - Livedoid vasculitis – livedo with summer ulcerations *JAAD 51:574–579, 2004*
  - Mixed cryoglobulinemia
  - Organ transplant vasculitis
  - Paraneoplastic vasculitis
  - Serum sickness
  - Transplacental transient vasculitis *JAAD 52:1009–1019, 2005*
  - Vasculitis of C2 deficiency
  - Vasculitis associated with cystic fibrosis
  - Vasculitis associated with subacute bacterial endocarditis
  - Small vessel lymphocytic vasculitis with winter or summer ulcerations
- Small and medium-sized vessel vasculitis
  - Churg–Strauss granulomatosis *JAAD 47:209–216, 2002*
  - Dermatomyositis
  - Lupus erythematosus
  - Lymphomatoid granulomatosis
  - Lymphomas
  - Microscopic polyangiitis *JAAD 52:1009–1019, 2005*
  - Necrotizing sarcoid granulomatosis
  - Nodular vasculitis *JAAD 52:1009–1019, 2005*
  - Pancreatitis
  - Polyarteritis nodosa (PAN) – nodules along the course of superficial arteries around knee, anterior lower leg and dorsum of foot *JAAD 53:724–728; JAAD 48:311–340,*

*2003; JAAD 31:561–566, 1994; Ann Rheum Dis 54:134–136, 1995; Ann Intern Med 89:66–676, 1978;* infantile systemic – red patch heralding cutaneous infarction *J Pediatr 120:206–209, 1992*
Polyarteritis nodosa, cutaneous (livedo with nodules) – starburst livedo; painful or asymptomatic red or skin colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *JAAD 52:1009–1019, 2005; BJD 146:694–699, 2002; Ped Derm 15:103–107, 1998; JAAD 31:561–566,1994;* cutaneous associated with Crohn's disease *Dis Colon Rectum 23:258–262, 1980*
Rheumatoid arteritis
Syphilis
Tuberculosis
Vasculitis of collagen vascular diseases
Wegener's granulomatosis
Large vessel vasculitis
Giant cell arteritis
Takayasu's arteritis
Infectious vasculitis
Bacterial, including meningococcemia, *Vibrio vulnificus*, etc.
Fungal – including cryptococcosis, aspergillosis
Mycobacterial
Mycoplasmal
Protozoal
Rickettsial
Septic emboli *JAAD 52:1009–1019, 2005*
Spirochetal – syphilis, Borrelial
Viral – cytomegalovirus *AD 116:1174–1176, 1980*
Thrombotic vasculitis
Antiphospholipid antibodies
Anti-thrombin III deficiency
Caisson's disease – intravascular occlusion
Cardiac failure – intravascular obstruction
Cryofibrinogenemia
Cryoglobulinemia
Emboli – intravascular occlusion
Hyperviscosity – intravascular occlusion
Hypercoagulable states (DIC)
Macroglobulinemia
Paralysis – intravascular obstruction
Protein C or S deficiency
Sneddon's syndrome
Stasis – intravascular obstruction
Thrombocytosis

Venous gangrene

Venous thrombosis, deep *JAAD 52:1009–1019, 2005*

# MACRODACTYLY (ENLARGED DIGIT)

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus

Rheumatoid arthritis

## CONGENITAL LESIONS

Congenital lipomatosis – adipose tissue malformation *Rook p.550, 1998, Sixth Edition*

Double digit

Duplication of the thumb *JAAD 39:114–115, 1998*

Monstrous congenital macrodactyly with syndactyly of the foot *Acta Orthop Scand 69:201–202, 1998*

Syndactyly *Caputo p.172, 2000*

## DEGENERATIVE DISEASES

Osteoarthritis

## EXOGENOUS AGENTS

Foreign body granuloma

## INFECTIONS

Brodie abscess – chronic abscess of bone surrounded by dense fibrous connective tissue and sclerotic bone

*Eikenella corrodens* – cellulitis *Clin Infect Dis 33:54–61, 2001;* felon with fingertip necrosis *Diabetes Care 19:1011–1013, 1996*

Erysipelas

Erysipeloid

Felon

Leprosy

*Mycobacterium tuberculosis* – tuberculous dactylitis

Seal finger (speck finger) – *Mycoplasma* species (*M. phocacerebrale* and *M. phocarhinis*) *Clin Infect Dis 27:1168–1170, 1998*

Syphilis, congenital

Tenosynovitis – acute suppurative tenosynovitis

Warts

## INFILTRATIVE DISEASES

Amyloidosis

Sarcoidosis

Xanthoma disseminatum *AD 121:1313–1317, 1985*

## INFLAMMATORY DISEASES

Chronic granulomatous paronychia – pseudomegadactyly *Dermatologica 169:86–87, 1984*

Osteoperiostitis

## METABOLIC DISEASES

Acromegaly

Adrenal tumor with hemihypertrophy *JAAD 33:154–155, 1995*

Clubbing (Hippocratic fingers) (acropachy) *JAAD 52:1020–1028, 2005; Rook p.422–423, 1998, Sixth Edition; Ghatan p.79, 2002, Second Edition; JAMA 286:341–347, 2001*
Amyloid, liver abscess
Aortic aneurysm
Arsenic
Asbestosis *JAAD 52:1020–1028, 2005*
Asymmetric
Unidigital
Enchondroma *Rook p.2847, 1998, Sixth Edition*
Epidermoid cyst
Felon

- Gout
- Median nerve injury
- Osteoid osteoma *Rook p.2847, 1998, Sixth Edition*
- Sarcoid
- Trauma

Unilateral
- Aneurysm – left innominate artery
- Axillary Pancoast tumors
- Brachial arteriovenous aneurysm
- Patent ductus arteriosus with pulmonary hypertension
- Prolonged hemiplegia

Bronchogenic carcinoma
Bronchiectasis, cysts
Carcinoma of the nasopharynx, colon, esophagus, stomach *Ghatan p.79, 2002, Second Edition*
Celiac sprue *JAAD 52:1020–1028, 2005*
CINCA syndrome *JAAD 52:1020–1028, 2005*
Cirrhosis
Crohn's disease
Congestive heart failure
Cyanotic congenital heart disease *JAAD 52:1020–1028, 2005*
Cystic fibrosis *JAAD 52:1020–1028, 2005*
Diarrhea, chronic
Down's syndrome
Familial
Hemochromatosis
Hereditary – autosomal dominant
Hereditary mucoepithelial dysplasia
HIV disease *JAAD 52:1020–1028, 2005*
Hyperparathyroidism
Hypertrophic osteoarthropathy
Hypersensitivity pneumonitis *JAAD 52:1020–1028, 2005*
Hypervitaminosis A
Idiopathic
Idiopathic pulmonary fibrosis *JAAD 52:1020–1028, 2005*
Infective endocarditis *JAAD 52:1020–1028, 2005*
Inflammatory bowel disease *JAAD 52:1020–1028, 2005*
Juvenile polyposis coli *JAAD 52:1020–1028, 2005*
Laxative abuse *SMJ 76:1071, 1983; Lancet 2:947, 1978*
Liver disease *JAAD 52:1020–1028, 2005*
Lung abscess, empyema
Lupus erythematosus *BJD 89:533–535, 1973*
Lymphoma *JAAD 52:1020–1028, 2005*
Malabsorption
Malaria
Malnutrition *Ghatan p.79, 2002, Second Edition*
Marfan's syndrome – pseudoclubbing
Myxedema, Graves' disease (thyroid acropachy) *Med Clin North Am 52:393–395, 1968*
Marie–Bamberger syndrome
Mesothelioma *JAAD 52:1020–1028, 2005*
Nasopharyngeal carcinoma *JAAD 52:1020–1028, 2005*
Parasitic bacillary dysentery *JAAD 52:1020–1028, 2005*
Phosphorus toxicity
Pleural tumors *JAAD 52:1020–1028, 2005*
POEMS syndrome *JAAD 52:1020–1028, 2005*
Polycythemia
Psoriatic onycho-pachydermoperiostitis *BJD 143:901–902, 2000; Rev Rheum Mal Osteoartic 56:579–582, 1989*
Pulmonary arteriovenous malformation *JAAD 52:1020–1028, 2005*
Pycnodysostosis – pseudoclubbing (acro-osteolysis) *Br Med J iii:712–714, 1967*
Sarcoidosis *JAAD 52:1020–1028, 2005*
Sprue
Subacute bacterial endocarditis
Syringomyelia
Systemic lupus erythematosus
Thymoma, malignant
Thyroid disease *JAAD 52:1020–1028, 2005*
Tuberculosis *JAAD 52:1020–1028, 2005*
Ulcerative colitis
Venous stasis *JAAD 52:1020–1028, 2005*
X-linked reticulate pigmentary disorder with systemic manifestations (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation (dyschromatosis) with hypopigmented corneal dystrophy (dyskeratosis), coarse unruly hair, unswept eyebrows, silvery hair, hypohidrosis, recurrent pneumonia with chronic obstructive disease, clubbing; failure to thrive, female carriers with linear macular nevoid Blascko-esque hyperpigmentation *Ped Derm 22:122–126, 2005; Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65:1981*
Gout
Hyperthyroidism – thyroid acropachy *JAAD 26:885–902, 1992*
Mucopolysaccharidoses – Sly syndrome, Hurler's syndrome
Multiple sulfatase deficiency – broad thumbs, ichthyosis, gargoylism *Ped Derm 18:388–392, 2001*
Pulmonary osteoarthropathy
Tuberous xanthomas *JAAD 13:1–30, 1986*

## NEOPLASTIC DISEASES

Aggressive digital papillary adenoma (adenocarcinoma) *Cutis 69:179–182, 2002; AD 120:1612, 1984*
Chondrosarcoma
Connective tissue nevi *JAAD 33:154–155, 1995*
Epidermal nevus *JAAD 33:154–155, 1995*
Epidermoid cyst *Rook p.2847, 1998, Sixth Edition;* intraosseous epidermoid cyst *BJD 145:366–368, 2001*
Epithelioid sarcoma *JAAD 26:302–305, 1992*
Exostosis *JAAD 19:132, 1988*
Fibrolipoma
Fibromatosis – localized digital fibromatosis *Acta DV 74:386–387, 1994; Clin Exp Dermatol 16:121–123, 1991*
Fibro-osseous pseudotumor of the digits *BJD 144:1274–1275, 2001*
Fibrosarcoma
Fibrous hamartoma *Ped Derm 17:270–276, 2000*
Garlic clove tumor – acquired periungual fibrokeratoma *Cutis 46:118–124, 1990*
Giant cell tumor of the tendon sheath *BJD 146:125–128, 2002*
Glomus tumor
Growth promoting neoplasm – adrenocortical tumor, testicular tumor, Wilms tumor *Ped Derm 17:270–276, 2000*
Infantile desmoid-type fibromatosis *Ped Derm 12:149–151, 1995*
Intraosseous chondroid syringoma *JAAD 30:374–378, 1994*
Kaposi's sarcoma – epidemic; endemic African Kaposi's sarcoma *JAAD 22:1237–1250, 1990*
Lipofibromatous hamartoma *J Hand Surg 13:67–75, 1988;* lipofibromatous hamartoma of the median nerve *Ped Derm 15:378–380, 1998;* congenital lipofibromatosis *Foot Ankle 12:40–46, 1991;* hyperostotic macrodactyly and lipofibromatous hamartoma of the median nerve *Chir Main 18:261–271, 1999;* fibrolipomatous hamartoma of the nerve (nerve territory-oriented macrodactyly) (macrodystrophia lipomatosa) *Skeletal Radiol 24:296–297, 1995*

Lipomas *BJD 146:125–128, 2002; J Foot Ankle Surg 38:223–226, 1999; J Bone Surg Am 70:128–130, 1998;* subungual lipoma *BJD 149:418, 2003*

Macrodystrophia lipomatosa (hamartomatous macrodactyly) *Ped Derm 17:270–276, 2000*

Melanoma, subungual *Caputo p.94, 2000*

Metastases – especially bronchogenic carcinoma *JAAD 31:259–263, 1994*

Myxoid cyst *BJD 146:125–128, 2002*

Neural fibrolipoma (neurofibrolipomatous hamartoma) *JAAD 53:528–529, 2005; Ped Derm 17:270–276, 2000; AD 135:707–712, 1999*

Neurinoma

Neurofibroma, including plexiform neurofibroma *J Pediatr Orthop 6:489–492, 1986;* subungual *BJD 146:125–128, 2002*

Onychoblastoma (hamartoma of the nail unit) *BJD 152:1077–1078, 2005*

Osteochondroma

Osteocystoma

Osteoid osteoma *J Hand Surg 12B:387–390, 1987*

Osteogenic sarcoma

Osteophytes *Foot Ankle Int 17:283–285, 1996*

Pachydermodactyly – fusiform swelling of fingers *AD 141:1035–1040, 2005*

Perineuroma (subungual) *BJD 146:125–128, 2002*

Plexiform schwannoma (neurilemmoma) *J Hand Surg 21:707–710, 1996*

Recurrent digital fibrous tumors of childhood

## PRIMARY CUTANEOUS DISEASES

Digital gigantism (double digit) *JAAD 33:154–155, 1995*

Epidermolysis bullosa, junctional – letalis; atrophicans generalisata gravis, Herlitz type – extensive blistering and erosions at birth; bulbous finger tips with crusting and erosions *Rook p.1828–1829, 1998, Sixth Edition*

Erythema elevatum diutinum *Caputo p.29, 2000*

Familial macrodactyly *Arch Ped Adolescent Med 148:1309–1310, 1994*; mother to daughter *J Pods 5:650, 1935*; siblings *Arch Neurol and Psych 14:824, 1925*

Hyperostotic macrodactyly *J Hand Surg 13:544–548, 1988*

Idiopathic macronychia and macrodactyly *Ped Derm 17:270–276, 2000*

Macrodactylia simplex congenita – static type, digit enlarged at birth, does not grow – usually a form of lipomatosis *Ped Derm 17:270–276, 2000; S Ar Med J 70:755–758, 1986*

Progressive macrodactyly *J Foot Ankle Surg 38:143–146, 1999*

Psoriatic onychopachydermoperiostitis *BJD 153:858–859, 2005*

Racket nails

Segmental fibrous dysplasia *Genet Couns 10:373–376, 1999*

Tarsomegaly

## SYNDROMES

Aase–Smith syndrome II – triphalangeal thumbs *J Pediatr 74:471–474, 1969*

Acrocallosal syndrome – broad halluces *Helv Paediatr Acta 34:141–146, 1979*

Acrofacial dysostosis – triphalangeal thumbs *Am J Med Genet 14:225–229, 1983*

ADULT (acro-dermato-ungual-lacrimal-tooth) syndrome – closely resemble EEC syndrome; hypodontia, ectrodactyly, obstruction of lacrimal ducts, onychodysplasia, freckling *Am J Med Genet 45:642–648, 1993*

Apert syndrome – acrocephalopolysyndactyly; broad halluces *Birth Defects 11:137–189, 1975*

Auro-digital-anal syndrome – broad thumbs

Bannayan–Zonana–Ruvalcaba syndrome – macrodactyly, subcutaneous lipomatosis, megalencephaly *Acta Pathol Jpn 36:269–277, 1986; Ped Derm 17:270–276, 2000*

Carpenter syndrome (acrocephalsyndactyly type II) – broad halluces *Am J Dis Child 124:716–718, 1972*

Craniofrontonasal dysplasia – broad halluces *Birth Defects 15:85–89, 1979*

del (4p) syndrome (Wolf–Hirschhorn syndrome) – broad halluces *Am J Med Genet 21:351–358, 1985*

del (7p) syndrome – broad halluces *Hum Genet 35:117–123, 1976*

Dysplasia epiphysialis hemimelica *J Hand Surg (Br) 10:249–250, 1985*

Ectrodactyly–ectodermal dysplasia cleft lip/palate (lobster claw deformity) (EEC syndrome) – peg-shaped teeth *Clin Dysmorphol 5:115–127, 1996; JAAD 29:347–350, 1993*

Facio-digito-genital syndrome – syndactyly

Familial mandibuloacral dysplasia (craniomandibular dermatodysostosis) – atrophy of skin over hands and feet with club shaped terminal phalanges and acro-osteolysis, mandibular dysplasia, delayed cranial suture closure, short stature, prominent eyes and sharp nose *BJD 105:719–723, 1981; Birth Defects x:99–105, 1974*

Femoral hypoplasia–unusual facies syndrome – broad halluces *Syndromes of the Head and Neck, p.31, 1990*

FG syndrome – broad halluces *Am J Med Genet 19:379–382, 1984*

Frontonasal malformation – broad halluces *Clin Genet 10:214–217, 1976*

Gardner's syndrome – autosomal dominant; osteomas of skull, epidermoid cysts, and fibromas before age 10; polyposis of colon

Goltz's syndrome

Gorham's syndrome

Greig cephalopolysyndactyly syndrome (frontodigital syndrome) – broad halluces *Clin Genet 24:257–265, 1983*

Jackson–Weiss syndrome – broad halluces *J Pediatr 88:963–968, 1976*

Juvenile hyaline fibromatosis *JAAD 16:881–883, 1987*

Kasabach–Meritt syndrome *JAAD 29:117–119, 1993*

Keipert syndrome (broad terminal phalanges and facial abnormalities) *Aust Paediatr J 9:10–13, 1973*

Klippel–Trenaunay–Weber syndrome *Cutis 60:127–132, 1997; J Bone Joint Surg Am 73:1537–1546, 1991*

LADD syndrome – triphalangeal thumbs *Eur J Pediatr 146:536–537, 1987*

Larsen syndrome *Syndromes of the Head and Neck, p.722–724, 1990*

Macrodystrophia lipomatosa progressiva – dynamic type; overgrowth of fatty tissue occurs and digits enlarge

dysproportionately *Arch Orthop Traum Surg 110:220–221, 1991; A J Roentgenol 128:101–105, 1977*

Maffucci's syndrome (enchondromatosis) *Ped Derm 17:270–276, 2000*

Maghazaji syndrome *Dev Med Child Neurol 25:798–800, 1983*

Multiple exostoses syndrome *JAAD 25:333–335, 1991*

Multiple symmetric lipomatosis of the hands *Clin Exp Dermatol 14:58–59, 1989*

Munchmeyer's syndrome – broad thumb

Neurofibromatosis *Am J Pathol 261:1059–1083, 1950; Ped Derm 17:270–276, 2000; JAAD 43:1136–1137, 2000*

Nevus comedonicus syndrome *Ped Derm 15:304–306, 1998*

Oculo-dento-digital dysplasia

Ollier's disease – multiple enchondromata *Ped Derm 12:55–58, 1995; Ped Derm 17:270–276, 2000*

Oral–facial–digital syndromes – types 1, 2 – syndactyly

Oto-palato-digital syndrome – broad thumb *Birth Defects 5:43–44, 1969; Am J Dis Child 113:214–221, 1967*

Pachydermodactyly *JAAD 27:303–305, 1992;* distal pachydermodactyly (acquired digital fibrosis) *JAAD 38:359–362, 1998*

Pachydermoperiostosis – primary (Touraine–Solente–Gole syndrome) – autosomal dominant – folds and furrows of forehead and cheeks, heavy thick eyelids, cutis verticis gyrata; thick skin of hands and feet; palmoplantar hyperhidrosis; enlarged hands *JAAD 31:947–953, 1994*; *Medicine 70:208–214, 1991; AD 124:1831–1834, 1988;* secondary – pulmonary disease, lung cancer, carcinoma of stomach, esophagus, thymus

Pfeiffer syndrome *Birth Defects 11:137–189, 1975*

Proteus syndrome – macrodactyly, hemihypertrophy, lipomas, lymphangiomas, epidermal nevi, decreased subcutaneous fat, superficial venous prominence, palmar or plantar cerebriform connective tissue nevi, cutis marmorata, exostoses, macrocephaly, asymmetric growth *AD 140:947–953, 2004; AD 137:219–224, 2001; JAAD 25:377–383, 1991; Ped Derm 17:270–276, 2000; Ped Derm 11:222–226, 1994*

Robinson's syndrome – nail dystrophy–deafness syndrome – polysyndactyly

Rubinstein–Taybi syndrome – broad thumb *JAAD 46:161–183, 2002; JAAD 46:159, 2002; Ped Derm 19:177–179, 2002; Ped Derm 11:21–25, 1994;* mental deficiency, small head, broad thumbs and great toes, beaked nose, malformed low-set ears, capillary nevus of forehead, hypertrichosis of back and eyebrows, keloids, cardiac defects *Cutis 57:346–348, 1996; Am J Dis Child 105:588–608, 1963*

Sly syndrome

Saethre–Chotzen syndrome – broad halluces *J Pediatr 76:928–930, 1970*

Temtamy syndrome *J Ped 89:924–927*

Townes–Brocks syndrome – triphalangeal thumbs *Dysmorphol Clin Genet 2:104–108, 1988*

Trichorhinophalangeal syndrome

Trisomy 21

Tuberous sclerosis – Koenen's tumors, periosteal hyperplasia, fibrous plaques of hand and fingers *Ped Derm 18:364–365, 2001; Ped Derm 17:463–465, 2000; Skeletal Radiol 28:116–118, 1999; J R Soc Med 87:419–420, 1994*

Weaver syndrome *J Med Genet 17:174–178, 1980*

Zunich syndrome – broad second toes *Ped Derm 13:363–371, 1996*

### TRAUMA

Physical trauma

### VASCULAR DISORDERS

Aneurysm – cirsoid aneurysm (arteriovenous fistula) – blue non-pulsatile nodules of nail fold with macrodactyly *BJD 115:361–366, 1986*

Angiodysplasia, localized *Ann Med Interne (Paris) 140:237–239, 1989*

Blue rubber bleb nevus syndrome *AD 129:1505–1509, 1993*

Hemangioma, congenital, subungual – pseudoclubbing *JAAD 53:S123–126, 2005*

Lymphangiosarcoma

Lymphatic malformation

Lymphedema, congenital (Milroy's disease) or acquired – chronic *Ped Derm 17:270–276, 2000*

Vascular hamartoma *Ped Derm 17:270–276, 2000*

Vascular malformation *Textbook of Neonatal Dermatology, p.326, 2001;* Klippel–Trenaunay–Weber *Ped Derm 17:270–276, 2000*

## MARFANOID HABITUS

Alpha-2-deficient collagen disease Klin Wschr 52:906–912, 1974

Beals–Hecht syndrome (congenital contractural arachnodactyly) – autosomal dominant; crumpled ears, arachnodactyly with congenital joint contractures, confused with Marfan's syndrome but no cardiovascular abnormalities *Am J Med Genet 25:763–773, 1986; J Bone Joint Surg 53:987–993, 1971*

Camurati–Engelmann disease type II – progressive diaphyseal dysplasia with striation of bones; waddling gait, muscle weakness, intense leg pain *J Med Genet 107:5–11, 2002*

Cataract, microcornea, dental anomalies *Ophthalmology 86 (10):1764–1793, 1979*

Cerebro-oculo-renal syndrome of Bhaskar *Ophthalmology 86 (10):1764–1793, 1979*

Cohen syndrome – mental retardation, congenital hypotonia, microcephaly, pleasant affect, micrognathia, open mouth with prominent incisors

Congenital contractural acachnodactyly – joint contractures (elbows and knees), crumpled ears

Cotlier–Reinglass syndrome *Ophthalmology 86 (10):1764–1793, 1979*

Cowden's syndrome

Craniostenosis

Cutis laxa – congenital cutis laxa type V with Marfanoid habitus *Ann DV 117:823–824, 1990*

Cytoplasmic body and mitochodrial DNA deletion – marfanoid habitus and perceptive hearing loss *J Neurol Sci 99:291–300, 1990*

Diverticulosis, hernia, retinal detachment *Ophthalmology 86 (10):1764–1793, 1979*

Ehlers–Danlos syndrome type VIa *JID 103:47S-52S, 1994*

Familial Marfan habitus *Am J Med Genet 62:417–426, 1996*

Familial mitral valve prolapse syndrome *Am J Med Genet 62:417–426, 1996*

Familial myopathy with marfanoid features and multicores *Aust N Z J Med 14:495–499, 1984*

Goodman campylodactyly syndrome B *Ophthalmology 86 (10):1764–1793, 1979*

Homocystinuria – cystathionine-β synthase deficiency – marfanoid habitus, malar rash, larger facial pores, livedo reticularis, tissue paper scars, sparse fine hair, superficial thrombophlebitis *JAAD 46:161–183, 2002; JAAD 40:279–281, 1999*

Klinefelter syndrome *Ophthalmology 86 (10):1764–1793, 1979*

Klippel–Trenaunay syndrome

Loeys–Dietz syndrome *Nature Genet 37:275–281, 2005*

Lujan–Fryns syndrome – X-linked; hypernasal voice, large head and long narrow face; mental retardation with marfanoid habitus *Am J Med Genet 119A:363–366, 2003*

Marfan's syndrome – long extremities, arachnodactyly, skeletal, ocular, cardiovascular defects *Rook p.2030–2031, 1998, Sixth Edition; Am J Med Genet 62:417–426, 1996; Int J Derm 28:291–299, 1989*

Marfan's syndrome with neurogenic muscle atrophy *Kurume Med J 38:275–279, 1991*

Marfanoid body habitus with crystalline lens subluxation, acute exophthalmos with intraocular hemorrhage and coma *Medicina (Buenos Aires) 52:563–569, 1992*

Marfanoid body habitus with acquired tracheobronchomegaly *Chest 98:491–492, 1990*

Marfanoid body habitus – with excessive hyperextensibility (Ehlers–Danlos syndrome type VIB) *Am J Med Genet 36:269–272, 1990; Nippon Naika Gakkai Zasshi 77:499–505, 1988*

Marfanoid body habitus with situs inversus *Am J Med Genet 127A:310–312, 2004*

Marfanoid features, visceral diverticula, diaphragmatic eventration *Arch Dis Child 75:247–248, 1996*

Marfanoid hypermobility syndrome – microcephaly, mental retardation, focal glomerulonephritis *Clin Dysmorphol 1:111–113, 1992; Ann Intern Med 71:349–352, 1969*

Marfanoid phenotype, congenital contractures with ocular and cardiovascular anomalies, cerebral white matter hypoplasia, and spinal axonopathy *Eur J Pediatr 143:228–231, 1985*

MASS phentotype – myopia, mitral valve prolapse, mild aortic dilatation, skin striae, skeletal involvement *Am J Med Genet 62:417–426, 1996*

Megaduodenum megacystis *Ophthalmology 86 (10):1764–1793, 1979; Arch Surg 96:549–553, 1968*

Mental retardation, X-linked, Snyder–Robinson type *Clin Pediatr 8:669–674, 1969*

Methylmalonic aciduria and homocystinuria, cb1C type *Biochem Med 4:500–515, 1970*

Mirhosseini syndrome *Ophthalmology 86 (10):1764–1793, 1979*

Multifocal Langerhans cell granulomatosis and diabetes insipidus with marfanoid habitus *J Assoc Physicians India 36:665–667, 1988*

Multiple endocrine neoplasia, type I – marfanoid habitus, optic atrophy

MEN IIA – Sipple syndrome

Multiple mucosal neuroma syndrome (MEN IIB) (Gorlin's syndrome) – skin-colored papules and nodules of lips, tongue, oral mucosa *AD 139:1647–1652, 2003; JAAD 36:296–300, 1997; Am J Med 31:163–166, 1961*

MEN type III – Froboese' syndrome

Myotonic dystrophy *Ophthalmology 86 (10):1764–1793, 1979*

Nemaline myopathy *Ophthalmology 86 (10):1764–1793, 1979*

Nerve deafness, eye anomalies, and Marfanoid habitus – autosomal dominant *Birth Defects: Original Article Series. 07 (4):137–139, 1971*

Nevoid basal cell carcinoma syndrome *JAAD 11:98–104, 1984*

Pachydermoperiostosis, cryptorchidism, and marfanoid appearance *Arch Belg Dermatol Syphiligr 23 (1):121–135, 1967*

Peculiar facies and marfanoid habitus with psychomotor retardation *Clin Genet 25:187–190, 1984*

Shprintzen–Goldberg syndrome – marfanoid features and craniostenosis (craniosynostosis), mental retardation *Am J Med Genet 76:202–212, 1998; J Craniofac Genet Dev Biol 2:65–74, 1982;* without mental retardation *Clin Dysmorphol 2:220–224, 1993*

Sickle cell anemia

Stickler syndrome (hereditary arthro-ophthalmopathy) – autosomal dominant; flat midface, cleft palate, myopia with retinal detachment, cataracts, hearing loss, arthropathy *J Med Genet 36:353, 359, 1999; Birth Defects 11:77–103, 1975*

Tall people *Rook p.2031, 1998, Sixth Edition*

Transforming growth factor-beta receptor type II (TGFBR2) *Nature Genet 36:855–860, 2004*

Wagner–Stickler syndrome (dystrophia vitreoretinalis hereditaria) – hereditary arthro-ophthalmopathy

47,XYY syndrome *Am J Dis Child 124:266–277, 1972*

# MASSES OF THE HEAD AND NECK

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus, including tumid lupus *JAAD 41:250–253, 1999; Am J Dermatopathol 21:356–360, 1999*

Rheumatoid nodulosis *Arthritis Rheum 40:175–178, 1997*

## CONGENITAL

Accessory auricle

Amnion rupture sequence *Syndromes of the Head and Neck, 3rd Edition, pp.11–13, 1990*

Branchial cleft cyst – over the sternocleidomastoid muscle (second pharyngeal arch)

Cephalocoele – includes encephalocele, meningocoele (rudimentary meningocoele), meningoencephalocele, meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Cephalohematoma (cephalohematoma deformans) – blood between outer table of skull and periosteum; fixed *Ped Clin North Am 6:1151–1160, 1993*

Congenital rhabdomyomatous mesenchymal hamartoma (striated muscle hamartoma) – skin-colored pedunculated (polypoid) nodule of neck, midline of chin, upper lip *Ped Derm 16:65–67, 1999; Ped Derm 7:199–204, 1990; Ped Derm 3:153–157, 1986*

Craniofacial deformations *Syndromes of the Head and Neck, 3rd Edition, pp.1–4, 1990*

Dermoid cyst

Ectopic thyroid tissue

Holoprosencephalic disorders *Syndromes of the Head and Neck, 3rd Edition, pp.573–582, 1990*

Hydrocephalus *Syndromes of the Head and Neck, 3rd Edition, pp.592, 1990*

Midline
- Encephalocoele
- Nasal dermoid
- Nasal glioma

Sialadenitis – in dehydrated neonates

Thyroglossal duct cyst and/or sinus – midline cervical mass *Ped Clin North Am 6:1151–1160, 1993; J Pediatr Surg 24:966–969, 1989;* cleft with sinus tract *JAAD 26:885–902, 1992; J Pediatr Surg 19:437–439, 1984*

Thyroid gland – goiter; enlarged pyramidal lobe of the thyroid gland *Ped Clin North Am 6:1151, 1993*

## DEGENERATIVE DISEASES

Facial nerve palsy

## EXOGENOUS AGENTS

Paraffinomas – lumpy scalp *AD 121:382–385, 1985*

## INFECTIONS AND INFESTATIONS

Abscesses *JAAD 46:934–941, 2002*

AIDS – lymphoepithelioid cysts of the parotid glands in AIDS *Head Neck 12:337–341, 1990*

Actinomycosis

Botryomycosis

Cervical adenitis

Chromomycosis – face, and neck *AD 113:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Cryptococcosis – supraclavicular mass *Head and Neck 21:239–246, 1999*

Lymphadenopathy, reactive – supraclavicular mass *Head and Neck 21:239–246, 1999*

*Mycobacterium tuberculosis* – scrofuloderma (cervical scrofula) – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *BJD 134:350–352, 1996; Ped Clin North Am 6:1151–1160, 1993; Head Neck 11:60–66, 1989*

Myiasis, furuncular – *Dermatobia hominis* – scalp cyst in a child *Ped Derm 15:116–118, 1998;* mimicking ruptured epidermoid cyst *Can J Surg 33:145–146, 1990;* house fly *BJD 76:218–222, 1964;* New World screw worm (*Cochliomyia*), Old World screw worm (*Chrysomya*), Tumbu fly (*Cordylobia*) *BJD 85:226–231, 1971*; black blowflies (*Phormia*) *J Med Entomol 23:578–579, 1986;* greenbottle (*Lucilia*), bluebottle (*Calliphora*), flesh flies (*Sarcophaga*, *Wohlfartia*) *Neurosurgery 18:361–362, 1986;* rodent botflies (*Cuterebra*) *JAAD 21:763–772, 1989;* human botflies (*Dermatobia hominis*) *AD 121:1195–1196, 1985; AD 126:199–202, 1990*

Nocardia

North American blastomycosis

Onchocercoma

Osteomyelitis

Periapical abscess

Pharyngeal abscess

Pott's puffy tumor – fluctuant nodule over frontal region in patients with chronic sinusitis *JAAD 46:934–941, 2002*

Pseudomycetoma of scalp – multiple scalp nodules; *Trichophyton schoenleinii BJD 145:151–153, 2001*

Rhinosporidiosis – vascular nodules of nose, extending to pharynx or lips *Mycopathologica 73:79–82, 1981*

South American blastomycosis

Tinea capitis (T. verrucosum, T. mentagrophtes) – kerion *AD 114:371–372, 1978*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis, including eosinophilic granuloma

## INFLAMMATORY DISEASES

Cervical adenitis

Giant cell granuloma

Lymphocytoma cutis *Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982; Cancer 24:487–502, 1969*

Sialadenitis – in neonate due to dehydration

## METABOLIC DISEASES

$\alpha_1$ anti-trypsin panniculitis

## NEOPLASTIC DISORDERS

Cancer of the oral cavity

Cheek tag

Cylindroma; malignant cylindroma *Dermatology 201:255–257, 2000*

Cysts of neck
- Branchial cleft anomaly (cyst, sinus, and/or fistula)
- Bronchogenic cyst
- Dermoid cyst
- Epidermoid cyst
- Eruptive vellus hair cysts
- Heterotopic salivary gland tissue
- Milia
- Pilar cyst
- Steatocystoma multiplex/simplex
- Thyroglossal duct cyst
- Teratomas

Dermal dendrocytoma of the face *AD 126:689–690, 1990*

Epidermoid cyst, including epidermoid cysts of the cranial bones *JAAD 46:934–941, 2002; Plast Reconstr Surg 97:1246–1248, 1996; Head Neck 14:415–418, 1992*

Eruptive fibromas *J Cut Pathol 25 (2):122–125, 1998*

Exostosis

Extraskeletal Ewing's sarcoma *Ped Derm 5:123–126, 1988*

Fibrous dysplasia – side of eyebrow; resembles dermoid

Ganglioneuroma of cervical sympathetic chain *Ped Clin North Am 6:1151–1160, 1993*

Hibernoma – neck, axilla, central back; vascular dilatation overlying lesion *AD 73:149–157, 1956*

Infantile myofibromatosis – red scalp nodule *AD 123:1391–1396, 1987*

Intracranial neoplasms with extension through the skull *JAAD 46:934–941, 2002*

Kaposi's sarcoma *Otolaryngol Head Neck Surg 111:618–624, 1994; Ann Intern Med 103:744–750, 1985*

Keloids *Rook p.2056–2057, 1998, Sixth Edition*

Keratoacanthoma *Dermatology 200:317–319, 2000; Otolaryngol Head Neck Surg 93:112–116, 1985; Ann Plast Surg 3:172–176, 1979*

Leukemia cutis *JAAD 34:375–378, 1996*

Lipoma *JAAD 46:934–941, 2002*

Lymphoma *JAAD 46:934–941, 2002;* follicular-center B-cell lymphoma – nodules of face, scalp, trunk, extremities *BJD 144:1239–1243, 2001; AD 132:1376–1377, 1996;* CTCL (fungating ulcerative mass) *AD 124:409–413, 1988,* Hodgkin's disease Hodgkin's disease – ulcerated papules, plaques, and nodules of the scalp and face *AD 127:405–410 408, 1991;* spindle cell B-cell lymphoma *BJD 145:313–317, 2001*

Malignant eccrine spiradenoma of the scalp *Derm Surg 25:45–48, 1999*

Melanocytic nevus – giant cerebriform intradermal nevus *Ann Plast Surg 19:84–88, 1987*

Merkel cell tumor

Metastases to scalp *JAAD 46:934–941, 2002;* to cervical lymph nodes; supraclavicular masses; breast, uterine, cervical, lung, stomach, oropharyngeal carcinomas *Head and Neck 21:239–246, 1999*

Mucocoele of lower lip

Multiple myeloma

Neurofibroma – lateral eyelid; mimics dermoid

Neurothekoma – skin-colored scalp nodule *BJD 144:1273–1274, 2001*

Odontogenic cyst

Osteoma

Paraganglioma – neck mass *Ped Clin North Am 6:1151–1160, 1993*

Pilar cyst *Plast Reconstr Surg 92:1207–1208, 1993*

Pilomatrixoma

Pilomatrix carcinoma – multiple of head and neck *Otolaryngol Head Neck Surg 109:543–547, 1993; JAAD 23:985–988, 1990*

Plasmacytoma

Post-auricular cyst

Pre-auricular cyst

Pre-auricular tag

Proliferating trichilemmal tumor of the scalp *J Dermatol 27:687–688, 2000; Ann Plast Surg 43:574–575, 1999; Mund Kiefer Gesechtschir 2:216–219, 1998;* with malignant transformation *Ann Plast Surg 41:314–316, 1998*

Rhabdomyosarcoma – neck nodule in children *JAAD 31:871–876, 1994; Ped Clin North Am 6:1151–1160, 1993*

Salivary gland tumors

Sarcoma *JAAD 46:934–941, 2002*

Schwannoma – supraclavicular mass *Head and Neck 21:239–246, 1999*

Sebaceoma, giant *J Dermatol 21:367–369, 1994*

Sebaceous gland carcinoma *AD 137:1367–1372, 2001; Nippon Ganka Gakkai Zasshi 104:740–745, 2000*

Skin tags

Spiradenocarcinoma – vascular scalp nodule *Cutis 69:455–458, 2002*

Squamous cell carcinoma *Derm Surg 28:268–273, 2002; JAAD 23:1174–1175, 1990; JAAD 10:372–378, 1984*

Submaxillary cyst

Thyroid adenoma, carcinoma, colloid cysts – neck nodules *Ped Clin North Am 6:1151–1160, 1993*; thyroid carcinoma *Head Neck 11:410–413, 1989*

Trichoblastoma – scalp *Am J Dermatopathol 15:497–502, 1993*

Warthin's tumor, extraparotid – skin-colored neck nodule *JAAD 40:468–470, 1999*

## SYNDROMES

Adiposis dolorosa

Brooke–Spiegler syndrome – trichoepitheliomas and cylindromas of face, scalp, and upper trunk *Dermatol Surg 26:877–882, 2000*

Cloverleaf skull *Syndromes of the Head and Neck, 3rd Edition, pp.536–539, 1990*

COH syndrome – cloverleaf skull, polymicrogyria, absent olfactory tracts and bulbs, proptosis, low nasal bridge, short upturned nose, downturned mouth, narrow palate, thumb duplication, small fifth fingers, micropenis, bifid scrotum, agenesis of cervical thymic lobes, bilobed lungs *Syndromes of the Head and Neck, 3rd Edition, pp.546–547, 1990*

Craniofacial dysostosis *Syndromes of the Head and Neck, 3rd Edition, pp.549, 1990*

Craniotelencephalic dysplasia *Syndromes of the Head and Neck, 3rd Edition, pp.550, 1990*

Encephalocutaneous cranial lipomatosis *J Paediatr Child Health 36:603–605, 2000; Am J Med Genet 91:261–266, 2000; Ann DV 124:549–551, 1997*

Epidermal nevus syndrome *Syndromes of the Head and Neck, 3rd Edition, pp.364, 1990*

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibrodysplasia ossificans progressiva – fibrous scalp nodules *Clev Clin Q 51:549–552, 1984*

Frontonasal malformation (frontonasal dysplasia, median cleft face syndrome) *Syndromes of the Head and Neck, 3rd Edition, pp.785–789, 1990*

Gardner's syndrome – nuchal-type fibroma *Am J Surg Pathol 24:1563–1567, 2000; Syndromes of the Head and Neck, 3rd Edition, pp.367, 1990*

Great hypertrophy of masseter

Infantile myofibromatosis – red to skin-colored nodules *AD 134:625–630, 1998*

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck,

trunk, gingival hypertrophy, flexion contractures of large and small joints *Ped Derm 18:400–402, 2001; JAAD 16:881–883, 1987*

Kawasaki's disease – cervical adenopathy *Ped Clin North Am 6:1151–1160, 1993*

Lateral proboscis and cleft lip-palate *Syndromes of the Head and Neck, 3rd Edition, pp.775–776, 1990*

Lowry syndrome – craniosynostosis with tower skull, ptosis of eyelids, strabismus *Syndromes of the Head and Neck, 3rd Edition, pp.555, 1990*

Lumpy scalp syndrome – autosomal dominant; irregular scalp nodules, deformed pinnae, rudimentary nipples *Clin Exp Dermatol 15:240, 1989*

Madelung's deformity

Maffucci's syndrome *Syndromes of the Head and Neck, 3rd Edition, pp.383, 1990*

Meckel syndrome – dysencencephalia splanchnocystica *Syndromes of the Head and Neck, 3rd Edition, pp.724–727, 1990*

Multiple endocrine neoplasia syndrome type II – medullary carcinoma of the thyroid *Ped Clin North Am 6:1151–1160, 1993*

Neurofibromatosis *Syndromes of the Head and Neck, 3rd Edition, pp.395, 1990*

Nevoid basal cell carcinoma syndrome (Gorlin's syndrome) – jaw cysts *Syndromes of the Head and Neck, 3rd Edition, pp.373, 1990*

Oculo-auriculo-vertebral spectrum (Goldenhaar syndrome) *Syndromes of the Head and Neck, 3rd Edition, pp.641–649, 1990*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Pediatrics 76:984–989, 1985; Am J Med Genet 27:87–97, 1987; Eur J Pediatr 140:5–12, 1986; Arch Fr Pediatr 47:441–444, 1990 (French)*

Steatocystoma multiplex

### VASCULAR DISORDERS

Aneurysmal dilatation of the internal jugular vein – soft blue neck mass *Ped Clin North Am 6:1151–1160, 1993*

Angiosarcoma (Wilson–Jones angiosarcoma) – nodule or plaque *JAAD 40:872–876, 1999; Int J Dermatol 38:697–699, 1999; JAAD 38:143–175, 1998; BJD 136:752–756, 1997; Cancer 59:1046–1057, 1987;* multiple nodules *BJD 144:380–383, 2001*

Arteriovenous malformation *JAAD 46:934–941, 2002*

Cystic hygroma (lymphatic malformation) *Ped Clin North Am 6:1151–1160, 1993; NEJM 309:822–825, 1983*

Hemangioma of face and scalp – giant hemangiomas of scalp *S Afr Med J 55:47–49, 1979;* of face; symptomatic hemangiomas of the airway with airway obstruction and cutaneous hemangiomas in a 'beard' distribution *J Pediatr 131:643–646, 1997*

Lymphangioma

Retiform hemangioendothelioma – exophytic masses of scalp, arms, legs, and penis *JAAD 38:143–175, 1998*

Thrombus in temporal artery aneurysm

Venous malformation – of scalp *Zentralbl Neurochir 59:274–277, 1998*

Wegener's granulomatosis

## MELANOMA – CLINICAL SIMULATORS

***JAAD 40:545, 1999***

### MELANOCYTIC

Acquired melanocytic nevus

Blue nevus

Congenital melanocytic nevus

Dysplastic melanocytic nevus

Halo nevus

Simple lentigo

Spitz nevus

### MELANOTIC LESIONS

Bowenoid papulosis

Inverted follicular keratosis

Keratoacanthoma

Labial lentigo

Lichen planus-like keratosis

Melanosis of the vulva or penis

Pigmented basal cell carcinoma

Pigmented actinic keratosis (large cell acanthoma)

Pigmented Bowen's disease

Solar lentigo

Seborrheic keratosis

Squamous cell carcinoma

### VASCULAR LESIONS

Angiokeratoma

Blue rubber bleb nevus syndrome – mimics metastatic melanoma

Hemangioma

Kaposi's sarcoma

Pyogenic granuloma

Sclerosing hemangioma (dermatofibroma)

Thrombosed capillary aneurysm

Venous lake

### PURPURIC LESIONS

Infarcted acrochordon

Chalazion

Hemorrhage in the stratum corneum (talon noir)

Nailbed or nailplate hemorrhage

Ruptured epidermoid cyst

### TATTOOS OR FOREIGN BODY DEPOSITION

Acquired localized ochronosis

Cosmetic tattoos

Foreign body granuloma

Mercury injections

Minocycline – periungual pigmentation

Silver nitrate cautery

Silver particles

Suture granuloma

Tattoos

Traumatic (graphite tattoo)

### INFECTIONS

Mycetoma

Plantar wart

Tinea nigra

### ADNEXAL TUMORS

Apocrine hidrocystoma

Eccrine hidrocystoma

Pigmented eccrine poroma

Pigmented eccrine porocarcinoma

Pigmented pilomatrixoma

Plantar pseudochromhidrosis

Trichilemmoma

## MELANONYCHIA

***JAAD 21:1165–1175, 1989***

### SINGLE BAND

***NON-NEOPLASTIC***

Bacterial subungual infections – *Pseudomonas aeruginosa*, *Klebsiella* spp. – *Proteus* spp. – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Bleomycin

Blood – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Carpal tunnel syndrome

Cyclophosphamide

Doxorubicin

Hydroxyurea *JAAD 49:339–341, 2003*

5-fluorouracil, topical *BJD 112:621–625, 1985*

Foreign body (subungual)

Friction *Dermatologica 174:280–284, 1987*

Laugier–Hunziker syndrome – one or more digits *JAAD 25:632–636, 1991*

Lichen planus *BJD 113:369–374, 1985*

Longitudinal melanonychia striata – black

Nail biting *Dermatologica 181:126–128, 1990*

Onychomycosis – *Trichophyton rubrum JAAD 31:311–316, 1994*; Scytalidium dimidiatum *Dermatology 202:183–185, 2001*

Phaeohyphomycosis of nail – *Wangiella* dermatitidis *Clin Exp Derm 17:83–86, 1992*

Post-inflammatory hyperpigmentation

Radiotherapy *AD 139:1209–1214, 2003*

Subungual hemorrhage *Ped Derm 21:462–465, 2004;* hematoma – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Trauma, acute or chronic *AD 139:1209–1214, 2003*

Verruca vulgaris

Zidovudine

***NEOPLASTIC***

Atypical melanocytic hyperplasia – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Basal cell carcinoma *JAAD 16:229–233, 1987*

Blue nevus – common blue nevus of nail matrix *AD 139:1209–1214, 2003*

Bowen's disease *Cutis 72:305–309, 2003; JAAD 39:490–493, 1998; JAAD 18:1359–1360, 1988*

Fibrous histiocytoma, subungual

Keratosis, subungual of the nail bed *BJD 140:730–733, 1999*

Lentigo simplex – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Melanocytic hyperplasia, benign – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Melanocytic nevus – longitudinal melanonychia *Derm Surg 27:580–584, 2001;* nail matrix nevi *JAAD 34:765–771, 1996;* junctional nevus *Ped Derm 21:462–465, 2004;* multiple congenital melanocytic nevi *JAAD 27:853–854, 1992;* spotted grouped pigmented nevi *Act DV 56:345–351, 1976;* deep penetrating nevus *AD 139:1608–1610, 2003;* recurrent nevus phenomenon

Melanoma *Derm Surg 27:294–295, 2001; BJD 143:431–434, 2000; Ann Surg 161:545–552, 1987; Cancer 46:2492–2504, 1980;* melanoma *in situ AD 140:1102–1106, 2004*

Metastatic breast carcinoma *Ghatan p.82, 2002, Second Edition*

Metastatic melanoma

Mucous cyst

Proliferation of normal melanocytes

Postoperative recurrent/persistent melanocytosis

### MULTIPLE BANDS

***NON-NEOPLASTIC***

Acanthosis nigricans *Ghatan p.82, 2002, Second Edition*

AIDS *AD 134:1216–1220, 1998; Tyring p.366, 2002; Int J Derm 16:615–630, 1987*

Acrotherium nigrum

Addison's disease *Ped Derm 21:462–465, 2004*

Adrenalectomy for Cushing's disease

Alternaria grisea tenius

Amlodipine *BJD 153:219–220, 2005*

Antimalarials – amodiaquine, quinacrine, chloroquine *JAAD 53:S112–114, 2005; Rook p.2831, 1998, Sixth Edition*

Arsenic poisoning *AD 139:1209–1214, 2003*

Bacterial subungual infections – *Pseudomonas aeruginosa*, *Klebsiella* spp., *Proteus* spp. – longitudinal melanonychia *Derm Surg 27:580–584, 2001*

Bacteria coexisting with onychomycosis

Blastomycetes

Bleomycin *JAAD 21:1165–1175, 1989*

Busulfan *JAAD 21:1165–1175, 1989*

*Candida*

Cushing's syndrome *Ghatan p.82, 2002, Second Edition*

Cyclophosphamide *JAAD 21:1165–1175, 1989*

Dacarbazine *JAAD 53:S112–114, 2005*

Daunorubicin

Diquat

Doxorubicin *JAMA 228:460, 1974*

Electron beam therapy – transverse melanonychia *JAAD 53:S112–114, 2005*

5-fluorouracil *JAAD 21:1165–1175, 1989*

Fluconazole *Int J Derm 37:719–720, 1998*

*Fusarium oxysporum*

Gold therapy *Ped Derm 21:462–465, 2004*

Hemochromatosis *Ped Derm 21:462–465, 2004*

Hemosiderosis

*Hendersonula toruloidea*

*Hormodendrum elatum*

Hydroxyurea *JAAD 49:339–341, 2003; Int J Derm 39:928–931, 2000*

Hyperbilirubinemia

Hyperthyroidism

Infliximab – transverse melanonychia *J Eur Acad DV 16:250, 2002*

Irradiation (systemic)

Ketoconazole

Laugier–Hunziker syndrome *J Eur Acad Dermatol Venereol 15:574–577, 2001; Hautarzt 42:512–515, 1991; JAAD 25:632–636, 1991; Clin Exp Derm 15:111–114, 1990*

Lichen planus *Acta DV 70:338–339, 1990; BJD 113:369–370, 1985*

Lichen striatus

Lupus erythematosus – diffuse melanonychia *JAAD 47:S187–188, 2002*

Malnutrition

Melphalan *Arch Derm Res 258:81–83, 1977*

Mepacrine

Mercury

Methotrexate *JAAD 21:1165–1175, 1989*

Minocycline *Rook p.2852, 1998, Sixth Edition*

Nail biting and/or picking *Dermatologica 181:126–128, 1990*

Nitrogen mustard

Nitrosourea *JAAD 21:1165–1175, 1989*

Onychomycosis *Rook p.2852, 1998, Sixth Edition*

Pernicious anemia *Ped Derm 21:462–465, 2004*

Peutz–Jeghers syndrome

Phenolphthalein *Ghatan p.82, 2002, Second Edition*

Phenothiazine

Phenytoin

Pinta

Plaquenil

Porphyria

Pregnancy *AD 139:1209–1214, 2003*

*Proteus mirabilis*

Psoralen (PUVA) *JAAD 48:S31–32, 2003; Photodermatol 6:98–99, 1989*

Racial variation – longitudinal brown streaks of nails; African–American, Hispanic, Indian, Japanese *AD 105:548–550, 1972; AD 25:876–881, 1932*

Sulfonamide

Syphilis, secondary

Tetracycline

Timolol

*Trichophyton soudanense*

Vitamin $B_{12}$ deficiency

X-ray therapy – transverse melanonychia *AD 90:174–176, 1964; JAMA 150:210–211, 1952*

Zidovudine *BJD 126:387–391, 1992*

***NEOPLASTIC***

Breast carcinoma

# MICRONYCHIA AND ANONYCHIA

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – anonychia *Ghatan p.76, 2002, Second Edition*

Graft vs. host disease – onychoatrophy *Textbook of Neonatal Dermatology, p.509, 2001*

Epidermolysis bullosa acquisita *Rook p.1885, 1998, Sixth Edition*

Scleroderma *Rook p.2529, 1998, Sixth Edition*

## CONGENITAL DISEASES

Congenital hydantoin syndrome *Ghatan p.76, 2002, Second Edition*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic *duVivier; p.529, 2003; J R Soc Med 8:290–291, 1995*

## INFLAMMATORY DISEASES

Stevens–Johnson syndrome – anonychia (onychoatrophy) *Ped Derm 1:298–300, 1984; AD 113:970, 1977*

## METABOLIC DISEASES

Homocystinuria – arachnodactyly and micronychia

Porphyria – congenital erythropoietic porphyria – anonychia *Ped Derm 20:498–501, 2003*

## PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa – junctional and dystrophic; anonychia at birth *Textbook of Neonatal Dermatology, p.507, 2001;* Herlitz type – anonychia *Ped Derm 18:217–222, 2001;* dominant dystrophic *AD 138:269–270, 2002; Rook p.1837, 1998, Sixth Edition*

Exfoliative dermatitis – anonychia *Ghatan p.76, 2002, Second Edition*

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition; AD 96:434–435, 1967*

## SYNDROMES

Acrofacial dysostosis

Acrogeria – onychoatrophy (anonychia) *BJD 142:178–180, 2000; Textbook of Neonatal Dermatology, p.509, 2001*

Amniotic bands *Textbook of Neonatal Dermatology, p.507, 2001*

Anhidrotic ectodermal dysplasia (Clouston syndrome) *Cutis 71:224–225, 2003; Textbook of Neonatal Dermatology, p.507, 2001*

Ankyloblepharon–ectrodactyly–cleft lip/palate (AEC) syndrome

Anonychia congenita *Dermatology 200:84–85, 2001; AD 107:752–753, 1973*

Anonychia of the thumbnails *Textbook of Neonatal Dermatology, p.506, 2001*

Anonychia with ectrodactyly *Textbook of Neonatal Dermatology, p.506, 2001*

Anonychia with flexural pigmentation *Textbook of Neonatal Dermatology, p.506, 2001*

Anonychia with limb defects *Textbook of Neonatal Dermatology, p.506, 2001*

Anonychia and microcephaly *Am J Med Genet 66:257–260, 1996*

Anonychia with onychodystrophy, type B brachydactyly and ectrodactyly *Clin Genet 30:219–225, 1986*

Anonychia with sensorineural hearing loss (DOOR syndrome – deafness, onycho-osteodystrophy, retardation) *Textbook of Neonatal Dermatology, p.506, 2001*

Apert syndrome

Aplasia cutis congenita *Syndromes of the Head and Neck p.417–419*

Brachydactyly with nail dysplasia – fourth digit nail absent

Brachydactyly type A5 – absence of middle and distal phalanges of hands and feet; fingernail dysplasia 2–5 *BJD 152:1339–1342, 2005*

Brachydactyly type B – hypoplasia or absence of distal phalanges 2–5 of hands, fingernail hypoplasia of 2–5, with lesser affected toes *BJD 152:1339–1342, 2005*

Chromosome type C trisomy

Chromosome 21 long arm deletion syndrome

Coffin–Siris syndrome – anonychia of fifth finger and toenails *Am J Dis Child 132:1044, 1978;* micronychia *Textbook of Neonatal Dermatology, p.507, 2001*

Congenital brachydactyly and nail dysplasia – micronychia and anonychia *BJD 152:1339–1342, 2005*

Congenital onychodysplasia of index fingernails (COIF) (Iso–Kikuchi syndrome) or toenails *Ped Derm 16:201–204, 1999; Clin Exp Derm 21:457–458, 1996; J Hand Surg 15A:793–797, 1990; AD 119:8–12, 1983; Ann DV 107:431–435, 1980*

Cooks syndrome – hypoplasia/absence of digits 2–5 of hands and feet; hypoplasia of fingernails 1–3, anonychia 4–5; toenail aplasia *BJD 152:1339–1342, 2005*

Cornelia de Lange syndrome *Am J Med Genet 25:163–165, 1986*

Cryptophthalmos syndrome (Fraser)

Dyskeratosis congenita *Textbook of Neonatal Dermatology, p.507, 2001*

Ectrodactyly–ectodermal–dysplasia–cleft lip syndrome (EEC syndrome) *Clin Genet 3:43–51, 1971*

Ellis–van Creveld syndrome (chondroectodermal dysplasia) *J Med Genet 17:349–356, 1980*

Familial micronychia

Fetal alcohol syndrome *Textbook of Neonatal Dermatology, p.507, 2001; Drug Alcohol Depend 14:1–10, 1984* Fetal alcohol syndrome

Fetal hydantoin syndrome *Textbook of Neonatal Dermatology, p.507, 2001; Am J Dis Child 127:758, 1974*

Fetal valproate syndrome *Teratology 35:465–474, 1987*

Fetal warfarin syndrome – nasal hypoplasia, stippled epiphyses *Textbook of Neonatal Dermatology, p.507, 2001; J Pediatr 87:838, 1975*

Fryns syndrome (cleft palate, diaphragmatic hernia, coarse facies, acral hypoplasia) – anonychia *Clin Genet 35:191–201, 1989*

Fused digits with micronychia

Gingival fibromatosis with ear, nose, bone, nail defects, and hepatosplenomegaly

Goltz's syndrome *JAAD 4:273–277, 1981*

Hidrotic ectodermal dysplasia *Textbook of Neonatal Dermatology, p.507, 2001*

Hirschsprung disease with hypoplastic nails and dysmorphic facial features

Hutchinson–Gilford syndrome (progeria) – small, thin, dystrophic nails *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Hypoglossia–hypodactylia syndrome *Syndromes of the Head and Neck, p.666–668, 1990*

Idiopathic atrophy of the nails *Ped Derm 7:39–41, 1990*

Keratosis–ichthyosis–deafness (KID) syndrome

Laband syndrome (Zimmermann–Laband syndrome) – gingival fibromatosis, aplasia or dysplasia of fingernails, hypertrophy of nasal tip and ears, hypermobility, limb asymmetry *Am J Med Genet 31:691–695, 1988; Am J Med Genet 25:543–548, 1986*

Nail dysplasia with onychonychia and absence and/or hypoplasia of the distal phalanges

Nail–patella syndrome – micronychia *Textbook of Neonatal Dermatology, p.507, 2001; Rook p.2833, 1998, Sixth Edition*

Noonan syndrome *Textbook of Neonatal Dermatology, p.507, 2001*

Oculodentodigital syndrome

Onychotrichodysplasia with neutropenia

Oto-onychoperoneal syndrome *Eur J Pediatr 138:317–320, 1982*

Rapp–Hodgkin ectodermal dysplasia

Scleroatrophic and keratotic dermatosis of the limbs

Triphalangeal thumbs–onychodystrophy–deafness syndrome

Trisomy 3q

Trisomy 8 *Textbook of Neonatal Dermatology, p.507, 2001*

Trisomy 13 – hypoplastic toenails; micronychia *Textbook of Neonatal Dermatology, p.507, 2001*

Trisomy 18 – hypoplasia of the 5th finger and toe nails; micronychia *Textbook of Neonatal Dermatology, p.507, 2001*

Trisomy 21 (Noack's (Pfeiffer's) syndrome) – fused digits with micronychia

Complete trisomy 22 – primitive low-set ears, bilateral preauricular pit, broad nasal bridge, antimongoloid palpebral fissures, macroglossia, enlarged sublingual glands, cleft palate, micrognathia, clinodactyly of fifth fingers, hypoplastic fingernails, hypoplastic genitalia, short lower limbs, bilateral sandal gap, deep plantar furrows *Pediatrics 108:E32, 2001*

Turner's syndrome *Textbook of Neonatal Dermatology, p.507, 2001*

Williams' syndrome

Witkop tooth–nail syndrome *Oral Pathology, Tiecke RW (ed), McGraw–Hill, New York, 1965*

Yunis–Varon syndrome – dysplastic clavicles, sparse hair, digital anomalies – anonychia *Am J Dis Child 134:649–653, 1980*

### TOXINS

Polychlorinated biphenyls – natal teeth, pigment anomalies *Textbook of Neonatal Dermatology, p.507, 2001*

### TRAUMA

Onychotillomania

Physical trauma – anonychia *Ghatan p.76, 2002, Second Edition*

### VASCULAR DISEASES

Digital artery occlusion due to emboli – phalangeal necrosis with onychoatrophy *Textbook of Neonatal Dermatology, p.509, 2001*

Lymphedema *Br J Plast Surg 19:37–42, 1966*

Raynaud's phenomenon – anonychia *Ghatan p.76, 2002, Second Edition*

## MIDLINE FACIAL NODULES OF CHILDREN

Abscess

Angioma

Dermoid cyst

Encephalocoele

Epidermoid cyst

Facial trauma (hematoma, edema)

Fibrous dysplasia

Hemangioma

Histiocytosis

Infiltrative tumor (rhabdomyosarcoma)

Lymphoma

Meningioma

Metastatic tumor

Nasal glioma

Nasolacrimal duct cyst

Neurofibroma

Olfactory neuroblastoma

Teratoma

## MIDLINE NASAL MASSES

***Ped Derm 17:62–64, 2000; AD 127:362–366, 1991***

Abscess *Ghatan p.87, 2002, Second Edition*

Cartilaginous tumor

Chondroma *Ghatan p.87, 2002, Second Edition*

Chordoma *Ghatan p.87, 2002, Second Edition*

Dermoid cyst

Dermoid sinus

Encephalocele (anterior encephalocele)

Epidermoid cyst

Ethmoidal cyst

Fibroma *Ghatan p.87, 2002, Second Edition*

Ganglioneuroma *Ghatan p.88, 2002, Second Edition*

Hemangioma

Lacrimal duct cyst

Lipoma

Meningocoele

Metastatic carcinoma

Midline malignant B-cell lymphoma *Cancer 70:2958–2962, 1992*

Nasal glioma *Ear Nose Throat J 80:410–411, 2001*

Nasal polyp *Ghatan p.88, 2002, Second Edition*

Neurofibroma *Ghatan p.87, 2002, Second Edition*

Olfactory neuroblastoma *Ghatan p.87, 2002, Second Edition*

Papilloma

Pilomatrixoma *JAAD 51:577–579, 2004; Ghatan p.87, 2002, Second Edition*

Rhabdomyosarcoma *Ghatan p.87, 2002, Second Edition*

Teratoma of nasal tip

## MILIA OR MILIA-LIKE LESIONS (FINE WHITE PAPULES)

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Contact Dermatitis 35:49–50, 1996*

Bullous pemphigoid *Rook p.1869–1870, 1998, Sixth Edition*

Epidermolysis bullosa acquisita *JAAD 44:818–828, 2001; Cutis 32:521–527, 1983*

Linear IgA disease *Ped Derm 14:303–306, 1997*

Lupus erythematosus – bullous LE, resolved *JAAD 27:389–394, 1992; Arthritis Rheum 21:58–61, 1978*; subacute; discoid LE with milia en plaque *BJD 149:424–426, 2003; BJD 137:649–651, 1997*

### CONGENITAL

Congenital persistent milia – associated with transverse nasal groove *Dermatology 200:151–152, 2000*

Epstein's pearls (milia) in oral cavity of newborns; pearls of areolae, scrotum and labia majora of newborn *Rook p.452, 1998, Sixth Edition*

Primary milia in infants

## DRUG-INDUCED

Acetretin *JAAD 37:353–356, 1997; Acta DV 73:235, 1993*

Benoxaprofen – pseudoporphyria *J R Soc Med 76:525–527, 1983; BJD 106:613, 1982*

Corticosteroids, topical *JAAD 21:215–217, 1989; AD 122:139–140, 1986*

Cyclosporine

5-fluorouracil *Ghatan p.257, 2002, Second Edition*

Penicillamine dermopathy *Rook p.3451, 1998, Sixth Edition; AD 125:92–97, 1989*

## EXOGENOUS

Calcium *JAMA 242:455–456, 1979*

Liquid nitrogen cryotherapy

## INFECTIONS AND INFESTATIONS

Erysipelas, bullous

Herpes simplex infection, resolved

Herpes zoster scars *J Dermatol 23:556–558, 1996*

Leprosy *Int J Lepr Other Mycobact Dis 62:609–610, 1994*

Syphilis – congenital syphilis – palmar and plantar milia *JAAD 18:760–771, 1988; Ped Derm 3:395–398, 1986*

## INFILTRATIVE

Amyloidosis, bullous – healing phase *AD 124:1683–1686, 1988*

Mucinosis – plaque-like erythema with milia in renal transplant patient *JAAD 39:334–347, 1998*

## METABOLIC

Calcinosis cutis (pseudomilia) (milia-like calcinosis cutis) *Ped Derm 21:483–485, 2004; JAAD 45:152–153, 2001; Eur J Dermatol 10:637–638, 2000;* perforating calcinosis cutis *J Cutan Pathol 8:247–250, 1981;* calcinosis cutis of the penile shaft *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.61, 1998*

Gout

Oxalosis *JAAD 31:368–372, 1994*

Porphyria – hepatoerythropoietic porphyria *AD 138:957–960, 2002;* porphyria cutanea tarda – vesicles, bullae, crusts, skin fragility, atrophic scars, milia *Rook p.2589–2590, 1998, Sixth Edition;* variegate porphyria – as in PCT *Rook p.2586–2587, 1998, Sixth Edition*; pseudoporphyria *Mayo Clin Proc 76:488–492, 2001*

Uremia

Vitamin D-dependent resistant rickets type IIA – autosomal recessive; hair present at birth then lost in first 12 months; forehead milia; clinically and histologically similar to atrichia with papular lesions *AD 141:343–351, 2005*

## NEOPLASTIC

Basaloid follicular hamartoma – yellow plaque with milia *AD 129:915–917, 1993*

Desmoplastic trichoepithelioma

Eruptive vellus hair cysts

Generalized follicular hamartoma *AD 131:454–458, 1995*

Lymphoma – CTCL *JAAD 50:368–374, 2004;* pilotropic (follicular) cutaneous T-cell lymphoma *BJD 141:315–322, 1999; AD 132:683–687, 1996*

Milia, including multiple eruptive milia – face, earlobe *Rook p.1669, 1998, Sixth Edition; Ped Derm 16:108–110, 1999; JAAD 37:353–356, 1997; Cutis 60:183–184, 1997; Clin Exp Dermatol 21:58–60, 1996*

Nevus depigmentosus with milia *BJD 132:317–318, 1995*

Pilomatrixomas – multiple eruptive pilomatrixomas *Ped Derm 10:382–384, 1993*

Syringomas – familial syringomas *JAAD 20:702–703, 1989;* milia-like syringomas *Ped Derm 21:269–271, 2004; JAAD 16:310–314, 1987;* eruptive syringomas associated with milia *Int J Derm 34:193–195, 1995;* perianal milia-like syringomas *Dermatology 191:249–251, 1995;* syringomas with calcinosis cutis *JAAD 23:372–375*

Trichoepitheliomas – linear facial plaque with milia – *AAD '97, Ped Derm section*

## PHOTODERMATOSES

Chronic actinic damage

## PRIMARY CUTANEOUS DISEASES

Acne-associated milia

Alopecia mucinosa (follicular mucinosis)

Atrichia with papular lesions – milia of ears and face *AD 141:343–351, 2005*

Atrophoderma vermiculata *Z Hautkr 56:1473–1477, 1981*

Darier's disease

Epidermolysis bullosa – dominant dystrophic *JID 112:815–817, 1999*; generalized atrophic benign epidermolysis bullosa *AD 122:704–710, 1986*; autosomal recessive epidermolysis bullosa simplex *AD 125:931–938, 1989;* Dowling–Meara EB *Cutis 70:19–21, 2002; AD 122:190–198, 1986;* dystrophic epidermolysis bullosa inversa – flexural bullae, oral ulcers, dental caries, milia *Ped Derm 20:243–248, 2003*; epidermolysis bullosa pruriginosa – reticulate scarring, dermatitis with lichenified plaques, violaceous linear scars, albopapuloid lesions of the trunk, prurigo nodularis-like lesions, milia *BJD 152:1332–1334, 2005*

Lichen planus *Clin Exp Dermatol 24:266–269, 1999;* bullous lichen planus *Rook p.1904–1912, 1998, Sixth Edition;* lichen planus follicularis tumidus with milia and comedones *Clin Exp Dermatol 17:346–348, 1992*

Lichen sclerosus et atrophicus, bullous *BJD 92:711–714, 1975*

Milia en plaque *Derm Surg 28:291–295, 2002; Int J Derm 39:614–615, 2000; Clin Exp Dermatol 24:183–185, 1999; Cutis 22:67–70, 1978*

Primary milia *AD 135:1545, 1548, 1999*

Transverse nasal line with congenital persistent milia *Dermatology 200:151–152, 2000; Clin Exp Derm 18:289–290, 1993*

Transient bullous dermolysis of the newborn *Ped Derm 20:535–537, 2003; J Cutan Pathol 18:328–332, 1991; JAAD 21:708–713, 1989; AD 121:1429–1438, 1985*

Vulvar milia *J Dermatol 23:427–428, 1996*

## SYNDROMES

Absent dermatoglyphics and transient facial milia *JAAD 32:315–318, 1995*

Anhidrotic ectodermal dysplasia – milia like lesions with enlarged sebaceous glands on biopsy *BJD 149:443–444, 2003*

Bart's syndrome with germ line mosaicism

Basaloid follicular hamartoma syndrome – autosomal dominant; multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, dermatosis papulosa nigra, skin tag-like lesions, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 45:644–645, 2001; JAAD 43:189–206, 2000*

Bazex–Dupre–Christol syndrome (X-linked dominant) – milia and comedo-like papules, hypotrichosis, follicular atrophoderma, anhidrosis *AD 130:337–342, 1994; Ped Derm 16:108–110, 1999; Ann Dermatol Syphilgr (Paris) 93:241–254, 1966*

Bazex–Dupre–Christol-like syndrome – basal cell carcinomas, hypohidrosis, hypotrichosis, milia *Derm Surg 26:152–154, 2000; AD 130:337–342, 1994*

Congenital hypotrichosis and milia *Am J Med Genet 56:423–424, 1995*

Down's syndrome – idiopathic milia-like calcinosis cutis *Ped Derm 19:271–273, 2002; JAAD 45:152–153, 2001; BJD 134:143–146, 1996; JAAD 32:129–130, 1995; AD 125:1586–1587, 1989;* perforating milia-like calcinosis with syringomas in Down's syndrome *Ped Derm 11:258–260, 1994*

Extensive reticular hyperpigmentation and milia *Ped Derm 16:108–110, 1999*

Familial multiple eruptive milia *Birth Defects 7:333–337, 1971; Ped Derm 16:108–110, 1999*

Hereditary perioral pigmented follicular atrophoderma with milia-like epidermoid cysts *BJD 139:713–718, 1998*

Hypotrichosis with light-colored hair and facial milia *Ped Derm 16:108–110, 1999*

Marie–Unna type congenital hypotrichosis *Rook p.452, 1998, Sixth Edition*

Milia with nodular calcinosis and palmoplantar keratoderma *Ann Dermatol Venereol (Paris) 107:273–277, 1980*

Multiple follicular hamartomas with sweat gland and sebaceous differentiation, vermiculate atrophoderma, milia, hypotrichosis, and late development of basal cell carcinomas *JAAD 39:853–857, 1998*

Multiple trichoepitheliomas, cylindromas, and milia *Ann DV 114:175–182, 1987*

Nevoid basal cell carcinoma syndrome *BJD 145:508–509, 2001; JAAD 42:939–969, 2000;* with palmar epidermoid cyst, milia, and maxillary cysts *BJD 145:508–509, 2001*

Nicolau and Balus syndrome – syringomas, milia, and atrophoderma vermiculata *Dermatologica 162:281–286, 1981*

Oral–facial–digital syndrome type 1 *Am J Med Genet 86:269–273, 1999; JAAD 31:157–190, 1994*; *Ped Derm 9:52–56, 1992*

Pachyonychia congenita, Jackson–Lawler type (type 2) – white milia-like cysts at birth *JAAD 38:1007–1009, 1998*

Persistent milia, steatocystoma multiplex and eruptive vellus hair cysts within a family *Dermatology 196:392–396, 1998*

Pseudoxanthoma elasticum with milia en plaque *J Cutan Pathol 24:61–63, 1997*

Rasmussen syndrome – trichoepitheliomas, milia, and cylindromas *AD 111:610, 1975;* with palmoplantar keratoderma *Ped Derm 16:108–110, 1999*

Reticular pigmented genodermatosis with milia (Naegeli–Franceschetti–Jadassohn syndrome?) *Clin Exp Dermatol 20:331–335, 1995*

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, hypotrichosis, trichoepitheliomas, peripheral vasodilatation with cyanosis *BJD 144:1215–1218, 2001; JAAD 39:853–857, 1998; Acta DV 61:497–503, 1981*

Trichoepitheliomas and milia *Ped Derm 16:108–110, 1999*

### TRAUMA

Autologous skin transplants *Br J Plast Surg 6:153, 1950*

Burns, second degree

Carbon dioxide laser resurfacing

Dermabrasion *J Derm Surg Oncol 14:1301, 1988; AD Syphilol 68:589, 1953*

Physical trauma

Post-radiation therapy

Surgical scar

X-rays

### VASCULAR LESIONS

Congenital hemangioma with milia-like structures *Ped Derm 15:307–308, 1998*

## MUCINOSES

### PRIMARY

#### *GENERALIZED*

Hereditary progressive mucinous histiocytosis *AD 130:1300, 1994*

Lichen myxedematosus (scleromyxedema)

Mucopolysaccharidoses – Hunter's, Hurler's, Schei, Sly syndromes

Myxedema (generalized, pretibial)

Scleredema

#### *LOCALIZED*

Acral persistent papular mucinosis *JAAD 21:293, 1989*

Angiomyxoma *Ped Derm 20:230, 2003*

Congenital linear cutaneous mucinosis of infancy *AD 122:790, 1986*

Cutaneous focal mucinosis (digital mucous or myxoid cyst, extradigital cutaneous myxoma)

Cutaneous mucinosis of infancy *JAAD 24:265–270, 1991*

Cutaneous myxomas, spotty pigmentation, endocrine overactivity *AD 122:790, 1986*

Discrete papular lichen myxedematosus *Cutis 75:105–112, 2005*

Juvenile hyaline fibromatosis

Follicular mucinosis (alopecia mucinosa)

Lipoid proteinosis

Mucinous nevus *Ped Derm 20:230, 2003*

Neuropathia mucinosa cutanea *Ped Derm 20:230, 2003*

Nodular lichen myxedematosus *Cutis 75:105–112, 2005*

Pachydermoperiostosis

Plaque-like cutaneous mucinosis *AD 130:1433–1438, 1994*

Pretibial myxedema

Reticular erythematous mucinosis

Self-healing juvenile cutaneous mucinosis

### SECONDARY

Degos' disease

Dermatomyositis

Eosinophilia–myalgia syndrome associated with L-tryptophan ingestion

Fibrocytic–histiocytic proliferations (dermatofibroma, fibromatosis, nodular fasciitis, atypical fibroxanthoma)

HIV disease and papular mucinosis *AD 128:996–997, 1992*

Hypothyroidism – focal mucinosis *Cutis 32:449, 1983*

Toxic oil syndrome – ingestion *JAAD 16:139–140, 1987*

Lupus erythematosus – papulonodular mucinosis associated with systemic lupus erythematosus; plaque-like cutaneous lupus mucinosis *AD 129:383, 1993*

Mucinosis of obesity (localized lichen myxedematosus (papular mucinosis) in morbid obesity) *BJD 148:165–168, 2003*

Neoplasms (neurofibroma, neurilemmoma, adenoid basal cell carcinoma, adnexal carcinomas)

Nephrogenic fibrosing dermopathy *Am J Med 114:563–572, 2003;* scleromyxedema-like cutaneous disease in renal dialysis patients) *Lancet 356:1000–1001, 2000*

Ultraviolet light and PUVA therapy

## NASAL INFILTRATION OR ENLARGEMENT

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic rhinitis

Pemphigus vegetans *Ghatan p.88, 2002, Second Edition*

Pemphigus vulgaris *Cutis 34:394–395, 1984*

Rheumatoid nodule – nasal nodule *JAAD 53:191–209, 2005; JAAD 8:439–457, 1983*

### CONGENITAL ANOMALIES

Dermoid cyst *AD 135:463–468, 1999*

Dermoid sinus *Dermatol Therapy 18:104–116, 2005*

Embryonal rhabdomyosarcoma – orbit, nasopharynx, nose *Rook p.2369, 1998, Sixth Edition*

Encephalocele *Textbook of Neonatal Dermatology, p.121, 2001*

Epidermoid cyst – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Hemangioma congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Lacrimal duct cyst

Lymphoma – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Meningocoele

Meningoencephalocoele

Meningioma – extracranial meningioma

Metastatic tumor – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Nasal glioma – red or bluish nodules; resemble hemangiomas, nasal encephalocoele, meningoencephalocoele, extracranial meningioma, dermoid cyst, lacrimal duct cyst, neuroblastoma, rhabdomyosarcoma *Ear Nose Throat J 80:410–411, 2001; Rook p.603, 1998, Sixth Edition*

Nasal midline masses *Dermatol Therapy 18:104–116, 2005; AD 127:362–366, 1991*

Neuroblastoma – olfactory neuroblastoma *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Neurofibroma – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Rhabdomyosarcoma – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Subcutaneous abscess – congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

Teratoma of nasal tip *Ann Plast Surg 35:522–524, 1995*

Trauma, facial congenital midline mass *Soc Ped Derm Annual Meeting, Poster Session, July 2005*

### EXOGENOUS AGENTS

Silicone granulomas – nasal enlargement *JAAD 52:S53–56, 2005*

Smoking-induced nasopharyngeal lymphoid hyperplasia *Laryngoscope 107:1635–1642, 1997*

### INFECTIONS AND INFESTATIONS

Abscess

Actinomycosis – indurated red nose *JAAD 38:310–313, 1998*

Aspergillosis *Oral Surg Oral Med Oral Pathol 59:499–504, 1985*

Candidiasis – chronic mucocutaneous candidiasis

Chromomycosis

Cryptococcosis – indurated red nose *JAAD 38:310–313, 1998*

Erysipelas

*Fusarium* – of sinuses; nasal erythema with conjunctivitis *JAAD 47:659–666, 2002*

Granuloma inguinale

Herpes simplex virus

Herpes zoster

Histoplasmosis – indurated red nose *JAAD 38:310–313, 1998; Mycopathologia 115:13–18, 1991*

Leishmaniasis – mucocutaneous leishmaniasis; indurated red nose *JAAD 38:310–313, 1998; Am J Trop Med Hyg 59:49–52, 1998; Leishmania aethiopica* – nasal infiltration with edema but no destruction *Trans R Soc Trop Med Hyg 63:708–737, 1969;* mucocutaneous leishmaniasis with destruction of the nose and midface *JAAD 34:257, 1996*

Leprosy – indurated red nose *JAAD 38:310–313, 1998; Rook p.1224, 1998, Sixth Edition*

*Mycobacterium avium-intracellulare* – nasal papules *JAAD 33:528–531, 1995*

*Mycobacterium tuberculosis* – lupus vulgaris; indurated red nose *JAAD 38:310–313, 1998;* starts as red–brown plaque; vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; nasal papules; *Rook p.1196, 1998, Sixth Edition; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Nasal septum abscess

North American blastomycosis – indurated red nose *JAAD 38:310–313, 1998; Laryngoscope 103:53–58, 1993*

Paracoccidiodomycosis – indurated red nose *JAAD 38:310–313, 1998*

Pinta

Rhinoscleroma – *Klebsiella rhinoscleromatis* (Frisch bacillus) exudative stage with rhinorrhea; then proliferative stage with exuberant friable granulation tissue of nose (Hebra nose), pharynx, larynx; progresses to nodules; then fibrotic stage *Acta Otolaryngol 105:494–499, 1988; Cutis 40:101–103, 1987;* indurated red nose *JAAD 38:310–313, 1998*

Rhinosporidiosis – soft polyps with minute white spots; Indian sand dredgers *Ghatan p.144, 2002, Second Edition*

Sinusitis, acute

Sporotrichosis – indurated red nose *JAAD 38:310–313, 1998;* fixed cutaneous

*Staphylococcus aureus* – nasal carriage with intranasal folliculitis or vestibulitis

Subcutaneous zygomycosis (*Conidiobolus*) – very disfiguring *JAAD 30:904–908, 1994*

Syphilis

Verruga peruana

Yaws – proliferative osseous form (goundou) *Rook p.1149,1270, 1998, Sixth Edition*

Zygomycosis (Basidiobolus coronatus) *AD 141:1211–1213, 2005*

## INFILTRATIVE DISEASES

Juvenile xanthogranuloma

Langerhans cell histiocytosis

Lichen myxedematosus

## INFLAMMATORY DISEASES

Crohn's disease *J Otolaryngol 14:399–400, 1985*

Lymphocytoma cutis – idiopathic or due to Lyme borreliosis *JAAD 38:877–905, 1998*

Lymphoid hyperplasia of the nasal cavity in AIDS *Ann Otolaryngol Chir Cervicofac 105:543–547, 1988*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) *J Cutan Pathol 25:563–567, 1998; BJD 134:749–753, 1996*

Sarcoid – rhinophymatous sarcoid *J Drugs Dermatol 3:333–334, 2003; Rook p.1149,2108,2694, 1998, Sixth Edition;* lupus pernio *JAAD 39:835–838, 1998; Lupus 1:129–131, 1992; JAAD 22:439–443, 1990*

## METABOLIC DISEASES

Acromegaly

## NEOPLASTIC DISEASES

Aggressive intranasal carcinoma – edema and erythema of nose *Cutis 42:288–293, 1988*

Angiosarcoma – indurated red nose *JAAD 38:310–313, 1998; JAAD 38:837–840, 1998;* resembling rhinophyma *JAAD 49:530–531, 2003*

Basal cell carcinoma mimicking rhinophyma – indurated red nose *JAAD 38:310–313, 1998*

Carcinoma of the nasal columella *Am J Surg 170:453–456, 1995*

Carcinoma of the nasal vestibule *Int J Radiat Oncol Biol Phys 10:627–637, 1984*

Cellular neurothekoma – papule *Ped Derm 12:191–194, 1995*

Epidermoid cyst

Folliculosebaceous cystic hamartoma – nasal nodule *JAAD 34:77–81, 1996*

Kaposi's sarcoma – enlargement of tip of nose in AIDS *Rook p.1063,1998, Sixth Edition*; mimicking pyogenic granuloma of the nasal mucosa *J Laryngol Otol 112:280–282, 1998*

Keratoacanthoma

Lacrimal duct cyst

Leukemia *J Laryngol Otol 106:261–263, 1992*

Lymphoma *Rook p.1149, 1998, Sixth Edition; JAAD 38:310–313, 1998; Br J Haematol 97:821–829, 1997;* primary cutaneous B-cell lymphoma – rhinophyma-like enlargement of nose *AD 140:751–756, 2004;* midline malignant B-cell lymphoma *Cancer 70:2958–2962, 1992;* angiocentric T-cell lymphoma *JAAD 26:31–38, 1992;* nasal type $CD56^+$ natural killer cell/T-cell lymphoma *BJD 142:1021–1025, 2000;* primary cutaneous follicular center cell lymphoma *JAAD 52:S73–75, 2005*

Malignant eccrine spiradenoma *Dermatol Surg 27:417–420, 2001*

Malignant histiocytosis *J Clin Pathol 35:599–605, 1982*

Melanocytic nevus, congenital

Meningioma

Merkel cell carcinoma – reddish-blue nodules; legs, lip, eyelid, scalp, nose *Histopathology 7:229–249, 1983*

Metastasis – rhinophyma-like metastatic carcinoma *Cutis 57:33–36, 1996*

Nasal septal carcinoma – mimicking rosacea *J Derm Surg 13:1021–1024, 1987*

Nasopharyngeal carcinoma *Laryngoscope 111:645–649, 2001*

Neuroblastoma *Minim Invasive Neurosurg 44:79–84, 2001*

Neurofibroma

Osteosarcoma of the orbit *Ophthal Plast Reconstr Surg 14:62–66, 1998*

Papilloma

Plasmacytosis, mucocutaneous

Polyps *Allergy 54 Suppl 53:7–11, 1999*

Rhabdomyosarcoma

Schwannoma *No Shinkei Geka 20:1189–1194, 1992. Japanese*

Sebaceous adenoma

Sebaceous carcinoma

Sebaceous hyperplasia

Striated muscle hamartoma of the nostril *J Dermatol 22:504–507, 1995*

Squamous cell carcinoma

Trichoepitheliomas, multiple *BJD 95:225–232, 1976*

## PARANEOPLASTIC DISEASES

Acrokeratosis paraneoplastica (Bazex syndrome) *Cutis 55:233–236, 1995; Medicine 70:269–280, 1991*

## PRIMARY CUTANEOUS DISEASES

Acne necrotica varioliformis

Alopecia mucinosa

Darier's disease

Granuloma faciale *BJD 153:851–853, 2005; Am J Otolaryngol 4:184–186, 1983*

Granulosis rubra nasi *G Ital DV 125:275–276, 1990*

Malignant pyoderma *AD 122:295–302, 1986*

Rhinophyma – acne rosacea *Rook p.2104–2110,3581, 1998, Sixth Edition*

### SYNDROMES

Bonnet–Dechaume–Blanc syndrome – midfacial arteriovenous malformation *Textbook of Neonatal Dermatology, p.329, 2001*

Brancho-oculo-facial syndrome – bulbous nose *Ped Derm 12:24–27, 1995*

Costello's syndrome – nasal papillomas *Ped Derm 11:277–279, 1994*

Fibropapule multiplex of the nose – a possible variant of Cowden's disease *Dermatology 192:379–381, 1996*

Fibrous dysplasia

Hereditary progressive mucinous histiocytosis *JAAD 35:298–303, 1996*

Juvenile hyaline fibromatosis – bulbous nose *Ped Derm 6:68–75, 1989; Am J Med Genet 26:123–131, 1987*

Laband syndrome *J Oral Pathol Med 19:385–387, 1990*

Lipoid proteinosis – papules *Ped Derm 9:264–267, 1992*

Mucopolysaccharidoses

Muir–Torre syndrome

Multicentric reticulohistiocytosis *Hautarzt 46:118–120, 1995*

Proteus syndrome *J Craniofac Surg 6:151–160, 1995*

Pseudohypoparathyroidism – depressed nasal bridge *Ped Derm 9:11–18, 1993*

Steatocystoma multiplex, congenital linear *Ped Derm 17:136–138, 2000*

Trichorhinophalangeal syndrome – bulbous nose *Ped Derm 10:385–387, 1993*

### TRAUMA

Trauma – nasal fracture

### VASCULAR DISEASES

Angioendotheliosarcoma *Acta DV 64:88–90, 1984*

Angiofibromas (tuberous sclerosis)

Angiomatous nevus

Arteriovenous malformation *Bolognia p.1625, 2003*

Hemangioma – diffuse hemangioma *AD 139:869–875, 2003; Rook p.556, 1998, Sixth Edition*

Wegener's granulomatosis *Rook p.1149, 1998, Sixth Edition*

### MIDLINE NASAL MASSES

*Ped Derm 17:62–64, 2000; AD 127:362–366, 1991*

Abscess *Ghatan p.87, 2002, Second Edition*

Cartilaginous tumor

Chondroma *Ghatan p.87, 2002, Second Edition*

Chordoma *Ghatan p.87, 2002, Second Edition*

Dermoid cyst

Dermoid sinus

Encephalocele (anterior encephalocele)

Epidermoid cyst

Ethmoidal cyst

Fibroma *Ghatan p.87, 2002, Second Edition*

Ganglioneuroma *Ghatan p.88, 2002, Second Edition*

Hemangioma

Lacrimal duct cyst

Lipoma

Meningocoele

Metastatic carcinoma

Midline malignant B-cell lymphoma *Cancer 70:2958–2962, 1992*

Nasal glioma *Ear Nose Throat J 80:410–411, 2001*

Nasal polyp *Ghatan p.88, 2002, Second Edition*

Neurofibroma *Ghatan p.87, 2002, Second Edition*

Olfactory neuroblastoma *Ghatan p.87, 2002, Second Edition*

Papilloma

Pilomatrixoma *JAAD 51:577–579, 2004; Ghatan p.87, 2002, Second Edition*

Rhabdomyosarcoma *Ghatan p.87, 2002, Second Edition*

Teratoma of nasal tip

## NASAL SEPTAL ULCERATIONS/ PERFORATIONS/RHINOPHAGIC ULCERATION

***NEJM 352:609–615, 2005; Cutis 65:73–76, 2000***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus, systemic *Arch Otolaryngol 99:456–457, 1974*

Mixed connective tissue disease

### CONGENITAL DISEASES

Nasal aplasia, heminasal aplasia with or without proboscis *Syndromes of the Head and Neck, p.585–586, 1990*

Noma neonatorum – deep ulcers with bone loss, mutilation of nose, lips, intraorally, anus, genitalia; *Pseudomonas*, malnutrition, immunodeficiency *Textbook of Neonatal Dermatology, p.149, 2001*

### DEGENERATIVE DISEASES

Trigeminal trophic syndrome (Wallenberg's syndrome) *JAAD 50:549–552, 2004*

- Acoustic neuroma
- Alcohol or glycerol injection of gasserian ganglion
- Astrocytoma
- Cortical and brainstem infarcions
- Herpes zoster ophthalmicus
- Intracranial meningioma
- *Mycobacterium leprae* neuritis
- Postencephalitic parkinsonism
- Posterior, inferior cerebellar artery insufficiency
- Spinal cord degeneration
- Syringobulbia
- Trauma
- Trigeminal rhizotomy
- Vertebrobasilar insufficiency

## DRUGS

Corticosteroids, topical *J Pediatr 105:840–841, 1984*

Sweet's syndrome, drug-induced – red plaques, nasal ulcers, perianal ulcers – celecoxib *JAAD 45:300–302, 2001*

## EXOGENOUS AGENTS

Button batteries – foreign body in the nose *J Otolaryngol 21:458–460, 1992*

Chrome plating *Occup Med (Lond) 48:135–137, 1998*

Cocaine abuse – cocaine sniffing ulcer *NEJM 352:609–615, 2005; Cutis 65:73–76, 2000*; mimicking midline granuloma *JAAD 32:286–287, 1995*

## INFECTIONS

Alternariosis

Anthrax *JAAD 50:549–552, 2004*

Aspergillosis *JAAD 50:549–552, 2004*

*Balamuthia mandrillaris* (granulomatous amebic infection) – central facial destruction *JAAD 50:S38–41, 2004*

Cancrum oris (noma) – nasopharyngeal mutilation *J Craniofac Surg 12:273–283, 2001*

Coccidioidomycosis

Cryptococcosis

Cytomegalovirus

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction and mutilation; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Herpes simplex virus

Histoplasmosis *NEJM 352:609–615, 2005; Mycopathologia 115:13–18, 1991*

Leishmaniasis – espundia (mucocutaneous leishmaniasis) – nasopharyngeal ulceration and/or mutilation *NEJM 352:609–615, 2005; Am J Trop Med Hyg 59:49–52, 1998*

Leprosy – lepromatous leprosy – misshapen nose with collapse of nose and saddle nose deformity *NEJM 352:609–615, 2005; Rook p.1224, 1998, Sixth Edition;* primary diffuse lepromatous leprosy (la lepra bonita) *JAAD 51:416–426, 2004;* leprous trigeminal neuritis – nasopharyngeal mutilation *Rook p.1149, 1998, Sixth Edition*

Mucormycosis *JAAD 50:549–552, 2004*

*Mycobacterium africanum Clin Inf Dis 21:653–655, 1995*

*Mycobacterium tuberculosis* – lupus vulgaris; vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); saddle nose deformity; nasal involvement with friable nodules which ulcerate *NEJM 352:609–615, 2005; Rook p.1149, 1998, Sixth Edition; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Myiasis *J Dermatol 22:348–350, 1995*

North American blastomycosis – nasopharyngeal mutilation *Laryngoscope 103:53–58, 1993*

Paracoccidioidomycosis – nasopharyngeal ulceration and/or mutilation *NEJM 352:609–615, 2005; JAAD 50:549–552, 2004*

Rhinoentomophthoromycosis *JAAD 50:S38–41, 2004*

Rhinoscleroma – nasopharyngeal mutilation *NEJM 352:609–615, 2005; Ped Derm 21:134–138, 2004; Acta Otolaryngol 105:494–499, 1988; Cutis 40:101–103, 1987; Wien Med Wochenschr 20:1–5, 1870*

Rhinosporidiosis – nasopharyngeal mutilation *NEJM 352:609–615, 2005*

Sporotrichosis *JAAD 50:549–552, 2004*

Syphilis – congenital – destruction of nasal septum *Rook p.1252, 1998, Sixth Edition;* tertiary (gumma) *NEJM 352:609–615, 2005; Tyring p.329, 2002; Rook p.1149, 1998, Sixth Edition;* endemic (bejel) – nasopharyngeal mutilation

Yaws – nasopharyngeal mutilation (gangosa) *Rook p.1149,1270–1271, 1998, Sixth Edition*

## INFLAMMATORY DISEASES

Crohn's disease *Ear Nose Throat J 79:520–523, 2000*

Lethal midline granuloma – nasopharyngeal mutilation *Rook p.1149, 1998, Sixth Edition*

Pyoderma gangrenosum *BJD 141:1133–1135, 1999*

Sarcoid, ulcerative – nasopharyngeal mutilation *NEJM 352:609–615, 2005; Dermatology 199:265–267, 1999; JAAD 39:835–838, 1998; BJD 99 (Suppl.16):54–55, 1978*

## METABOLIC DISORDERS

Porphyria – congenital erythropoietic porphyria – mutilation of the nose due to photosensitivity *Semin Liver Dis 2:154–63, 1982*

Prolidase deficiency – autosomal recessive; saddle nose deformity; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; JAAD 29:819–821, 1993; AD 127:124–125, 1991*; *AD 123:493–499, 1987*

## NEOPLASTIC

Adenocarcinoma

Basal cell carcinoma *NEJM 352:609–615, 2005; Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Chondrosarcoma

Lymphoma, including nasal NK T-cell lymphoma (nasal lymphoma, polymorphic reticulosis, lymphomatoid granulomatosis, and malignant midline granuloma) *JAAD 52:708–709, 2005; AD 133:1156–1157, 1997;* angiocentric lymphoma *Cancer 66:2407–2413, 1990*

Malignant epithelial and mesenchymal tumors (sarcomas) – nasopharyngeal mutilation

Malignant histiocytosis – mimicking lethal midline granuloma *Pathol Res Pract 171:314–324, 1981*

Melanoma

Nasal polyps – nasopharyngeal mutilation

Squamous cell carcinoma *NEJM 352:609–615, 2005;* associated with HPV-5 in epidermodysplasia verruciformis *Tyring p.278, 2002*

## PRIMARY CUTANEOUS DISEASES

Eosinophilic angiocentric fibrosis (variant of granuloma faciale) – red facial plaque with saddle nose deformity *BJD 152:574–576, 2005; Histopathology 9:1217–1225, 1985*

Hydroa vacciniforme – saddle nose deformity *Ped Derm 21:555–557, 2004*

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis *JAAD 50:549–552, 2004*

### SYNDROMES

Anhidrotic ectodermal dysplasia – saddle-nose deformity *Ghatan p.264, 2002, Second Edition*

Anti-phospholipid antibody syndrome – nasal tip necrosis *BJD 142:1199–1203, 2000*

Hurler's syndrome – saddle-nose deformity *Ghatan p.264, 2002, Second Edition*

Hyper-IgE syndrome *J Invest Allergol Clin Immunol 3:217–220, 1993*

Relapsing polychondritis – saddle nose deformity, red ears, and airway collapse *NEJM 352:609–615, 2005; Rook p.2042, 1998, Sixth Edition; Chest 91:268–270, 1987; Medicine 55:193–216, 1976*

### TOXINS

Alkaline dusts (soap powders)

Anhydrous sodium carbonate (soda ash)

Arsenic

Bromoderma – nasopharyngeal mutilation

Capsaicin (active agent in capsicum)

Chromium inhalation – chrome ulcers *Am J Ind Med 26:221–228, 1994*

Copper salts

Dimethyl sulfate

Fluorides

Iododerma – nasopharyngeal mutilation

Lime

Mercury organic compounds

Snuff

### TRAUMA

Digital trauma

Recurrent cautery

Surgery – trophic ulcer following surgery – nasopharyngeal mutilation

### VASCULAR DISEASES

Churg–Strauss syndrome *Otolaryngol Head Neck Surg 88:85–89, 1980*

Hemangioma, infantile *Rook p.556, 1998, Sixth Edition*

Vasculitis

Vascular neoplasm

Wegener's granulomatosis *NEJM 352:609–615, 2005; NEJM 352:392, 2005; Rook p.1149,2218, 1998, Sixth Edition; AD 130:861–867, 1993*

## NECK LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – cosmetics, nail polish *Contact Dermatitis 34:140–141, 1996;* fragrances, necklaces *Rook p.786, 1998, Sixth Edition;* Compositae dermatitis – lichenified dermatitis along posterior hairline *Rook p.788, 1998, Sixth Edition;* airborne allergic contact dermatitis *JAAD 15:1–10, 1986*

Atopic dermatitis – poikiloderma-like lesions of the neck *J Dermatol 17:85–91, 1990*

Autoimmune progesterone dermatitis

Bullous pemphigoid

Dermatitis herpetiformis

Dermatomyositis – erythema of neck *Rook p.2559–2560, 1998, Sixth Edition*

Epidermolysis bullosa acquisita

Graft vs. host disease, acute – papules *Taiwan I Hsueh Hui Tsa Chih 88:657–672, 1989*

Hyper-IgE syndrome – papular, pustular, excoriated dermatitis of scalp, buttocks, neck, axillae, groin; furunculosis; growth failure *Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983*

Linear IgA disease

Lupus erythematosus – systemic LE; tumid lupus *JAAD 41:250–253, 1999; Am J Dermatopathol 21:356–360, 1999;* bullous dermatosis of SLE (annular bullae) – face, neck, upper trunk, oral bullae *JAAD 27:389–394, 1992; Ann Intern Med 97:165–170, 1982; Arthritis Rheum 21:58–61, 1978;* discoid lupus, subacute cutaneous lupus erythematosus – annular and polycyclic lesions *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988*

Morphea

Pemphigus foliaceus of children – arcuate, circinate, polycyclic lesions *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986*

Rheumatoid neutrophilic dermatitis *AD 133:757–760, 1997*

Scleroderma

Still's disease *Rook p.2570, 1998, Sixth Edition*

Urticaria

### CONGENITAL ANOMALIES

***Dermatol Therapy 18:104–116, 2005***

Branchial cleft cyst, sinus and/or fistula; overlying anterior border of the sternocleidomastoid muscle *Int J Oral Maxillofac Surg 25:449–452, 1996; Int J Dermatol 19:479–486, 1980;* confused with malignant or tuberculous lymphadenopathy, parotid or thyroid tumor, thymopharyngeal cyst, thyroglossal cyst, dermoid cyst, teratoma, carotid body tumor, hemangioma, neurofibroma *Plastic Reconstruct Surg 100:32–39, 1997*; *Arch Otolaryngol Head Neck Surg 123:438–441, 1997; J Pediatr Surg 24:966–969, 1989;* Melnick–Fraser syndrome – preauricular pits, hearing loss, and renal anomalies

Branchial cleft sinus – pit in lower third of the neck along anterior border of sternocleidomastoid muscle; skin tag at opening *Clin Otolaryngol 3:77–92, 1978*

Branchial vestige (wattles) (cervical chondrocutaneous branchial remnants) – neck nodule in children – remnants include cysts (deep to middle or lower thirds of sternocleidomastoid muscles), sinus tracts, and cartilagenous remnants (overlying anterior border of sternocleidomastoid muscles); pinpoint firm masses or ear-like projections; (accessory tragus) (wattle or cervical auricle) *AD 134:499–504, 1998; Ped Clin North Am 6:1151–1160, 1993; JDSO 7:39–41, 1981*

Bronchogenic cyst – keratotic papule, sinus tract or cyst at the suprasternal notch; neck, shoulders, back and chest *AD 136:925–930, 2000; Ped Derm 15:277–281, 1998; Ped Derm 12:304–306, 1995; J Cutan Pathol 12:404–409, 1985*

Cartilaginous rest of the neck (wattle) *Cutis 58:293–294, 1996; Int J Derm 25:186–187, 1986; AD 127:404–409, 1985*

Cervical braid *Br J Plastic Surg 43:369–370, 1990*

Cervical tab

Cervicothymic cyst – resembles branchial cleft cyst

Congenital rhabdomyomatous mesenchymal hamartoma (striated muscle hamartoma) – skin-colored pedunculated (polypoid) nodule of neck, midline of chin, upper lip *Ped Derm 16:65–67, 1999; Ped Derm 7:199–204, 1990; Ped Derm 3:153–157, 1986*

Cystic hygromas

Cystic teratoma – large neck mass

Dermoid cyst – neck,midline *Ped Clin North Am 6:1151, 1993;* midline of nose, lateral eyebrow, scrotum, sternum, perineal raphe, and sacral areas *Curr Prob Derm 8:137–188, 1996; Acta Neurochir (Wien) 128:115–121, 1994*

Ectopic respiratory epithelium – red plaque of the neck *BJD 136:933–934, 1997*

Ectopic thyroid tissue *Ped Clin North Am 6:1151–1160, 1993*

Esophageal diverticulum *Ghatan p.241, 2002, Second Edition*

Fourth branchial sinus causing recurrent cervical abscess *Aust N Z J Surg 67:119–122, 1997*

Laryngocele *Ghatan p.241, 2002, Second Edition*

Midline cervical clefts – vertically oriented atrophic area of lower anterior neck, associated skin tags or sinus tracts, fibrous bands connect to platysma muscle *Ped Derm 17:118–122, 2000; Int J Derm 19:479–486, 1980*

Nevus simplex (capillary ectasias) – glabella, eyelids, nose, upper lip, nape of neck *Eichenfeld p.100, 2001*

Occult spinal dysraphism – papule *Ped Derm 12:256–259, 1995*

Pterygium colli medianum

Rhabdomyomatous mesenchymal hamartoma – pedunculated papule associated with a midline cervical cleft *AD 141:1161–1166, 2005*

Teratoma – bulky tumors of newborn *Ped Clin North Am 6:1151–1160, 1993*

Thymopharyngeal cyst

Thyroglossal duct cyst and/or sinus – midline cervical mass *Ped Clin North Am 6:1151–1160, 1993; J Pediatr Surg 24:966–969, 1989;* cleft with sinus tract *JAAD 26:885–902, 1992; J Pediatr Surg 19:437–439, 1984*

Thyroid gland – enlarged pyramidal lobe of the thyroid gland *Ped Clin North Am 6:1151, 1993*

## DRUG REACTIONS

Cyclosporine – acne keloidalis nuchae *BJD 143:465–466, 2000*

Penicillamine – elastosis perforans serpiginosa *AD 138:169–171, 2002*

Protease inhibitor (saquinavir, nelfinavir, indinavir) – buffalo hump *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Chrysiasis – papules *BJD 133:671–678, 1995*

Fiberglass dermatitis *Kao Hsiung I Hseveh Ko Hseueh Tsa Chih 12:491–494, 1996*

Iododerma *Australas J Dermatol 29:179–180, 1988*

Mudi-chood – due to oils applied to hair; papulosquamous eruption of nape of neck and upper back; begin as follicular pustules then brown-black papules with keratinous rim *Int J Dermatol 31:396–397, 1992*

## INFECTIONS

Abscess of neck – *Salmonella Head Neck 13:153–155, 1991*

Actinomycosis, cervicofacial – midline cervical cleft with sinus tract *Laryngoscope 94:1198–1217, 1984*

AIDS – photosensitivity

Anthrax – eschar of neck *Cutis 67:488–492, 2001; J Appl Microbiol 87:303, 1999; Clin Inf Dis 19:1009–1014, 1994; Cutis 48:113–114, 1991; Cutis 40:117–118, 1987*

Bacterial adenitis

Brucellosis

Candidiasis

Carbuncle

Cat scratch disease *Ped Clin North Am 6:1151–1160, 1993*

Chromomycosis *AD 113:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis *AD 1345:365–370, 1998*

Cryptococcosis – supraclavicular mass *Head and Neck 21:239–246, 1999*

Demodicidosis – papular eruption in HIV patients of head and neck *J Med Assoc Thai 74:116–119, 1991; JAAD 20:197–201, 1989*

Dental sinus – midline cervical cleft with sinus tract *J Derm Surg Oncol 7:981–984, 1981; JAAD 2:521–524, 1980*

*Eikenella corrodens* – neck wound *Clin Inf Dis 33:70–75, 2001*

Herpes simplex *Tyring p.83, 2002;* eczema herpeticum (Kaposi's varicelliform eruption) *Clin Inf Dis 32:1480, 1500–1501, 2001; Rook p.1028, 1998, Sixth Edition; Arch Dis Child 60:338–343, 1985*

Herpes zoster

Histoplasmosis

Impetigo

Infectious eczematoid dermatitis

Infectious mononucleosis *Ped Clin North Am 6:1151–1160, 1993*

Kaposi's varicelliform eruption

Leishmaniasis – nodule, crusting, ulceration, scarring *Trans R Soc Trop Med Hyg 81:606, 1987; Cutis 38:198–199, 1986*

Lemierre's syndrome (human necrobacillosis) – Fusobacterium necrophorum; suppurative thrombophlebitis of tonsillar and peritonsillar veins and internal jugular vein; oropharyngeal pain, neck swelling, pulmonary symptoms, arthralgias *Clin Inf Dis 31:524–532, 2000*

Lymphadenitis *Ped Clin North Am 6:1151, 1993*

Lymphadenopathy, reactive – supraclavicular mass *Head and Neck 21:239–246, 1999*

Molluscum contagiosum

*Mycobacterium avium-intracellulare Ped Clin North Am 6:1151–1160, 1993*

*Mycobacterium fortuitum* – following neck liposuction *Dermatol Surg 26:588–590, 2000;* red plaque mimicking lupus vulgaris *BJD 147:170–173, 2002*

*Mycobacterium scrofulaceum Ped Clin North Am 6:1151–1160, 1993*

*Mycobacterium tuberculosis* – scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *Tyring p.327, 2002; BJD 134:350–352, 1996; Ped Clin North Am 6:1151–1160, 1993;* scrofuloderma after BCG vaccination *Ped Derm 19:323–325, 2002; J Dermatol 21:106–110, 1924;* tuberculous cold abscess of the neck *BJD 142:387–388, 2000*

Nocardiosis

North American blastomycosis

Paracoccidioidomycosis *Br J Radiol 72:717–722, 1999*

*Pasteurella multocida*

Pediculosis

*Phaeoacremonium inflatipes* – fungemia in child with aplastic anemia; swelling and necrosis of lips, periorbital edema, neck swelling *Clin Inf Dis 40:1067–1068, 2005*

*Pityrosporum* folliculitis *Mycoses 40 (suppl 1):29–32, 1997*

Plague

Pyogenic lymphadenitis

Rat-bite fever

Roseola infantum (human herpesvirus 6) – rose–pink macules start on neck and trunk, then spread to face and extremities *Rook p.998,1025, 1998, Sixth Edition*

Scabies, nodular *Ped Derm 11:264–266, 1994*

Sporotrichosis

*Staphylococcus aureus* – folliculitis; furunculosis; staphylococcal lymphadenitis *Head and Neck 21:239–246, 1999*

Sycosis barbae

Syphilis – primary chancre *Rook p.1244, 1998, Sixth Edition* secondary *AD 133:1027, 1030, 1997*

Tinea corporis

Tinea versicolor

Toxoplasmosis

Tularemia

Verruca vulgaris

Verruga peruana *Am J Trop Med and Hygiene 50:143, 1994*

## INFILTRATIVE DISEASES

Amyloidosis – nodular amyloidoisis *AD 139:1157–1159, 2003*

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991*

Juvenile xanthogranuloma (generalized lichenoid juvenile xanthogranuloma) – face, neck, scalp, upper trunk *BJD 126:66–70, 1992*

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis *J Dermatol 25:178–184, 1998*

Folliculitis nuchae scleroticans *Hautarzt 39:739–742, 1988*

Malignant pyoderma

Pseudofolliculitis barbae

Rosai–Dorfman disease – sinus histiocytosis with massive lymphadenopathy

Sarcoid *Laryngoscope 87:2038–2048, 1977*

Toxic epidermal necrolysis

## METABOLIC DISEASES

$\alpha_1$-anti-trypsin panniculitis

Cryoglobulinemia – papules *JAAD 25:21–27, 1991*

Essential fatty acid deficiency

Goiter

Pellagra (niacin deficiency) – Casal's necklace; red pigmented sharply marginated photodistributed rash, including drug-induced pellagra-like dermatitis – 6–mercaptopurine, 5-fluorouracil,INH (all of the above – also seb derm-like); resembles Hartnup disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999; BJD 125:71–72, 1991*

Porphyria – porphyria cutanea tarda with calcinosis; congenital erythropoietic porphyria *BJD 148:160–164, 2003*

Pregnancy – hyperpigmentation of neck, nipples, anogenital skin *Rook p.1780, 1998, Sixth Edition*

Pretibial myxedema *JAAD 46:723–726, 2002*

Pruritic urticarial papules and plaques of pregnancy *Z hautkr 65:831–832, 1990*

Xanthomas, including plane xanthomatosis *BJD 133:961–966, 1995*

## NEOPLASTIC DISEASES

Acrochordon (skin tags)

Actinic keratosis

Adenoid cystic carcinoma *JAAD 17:113–118, 1987*

Angiomatoid fibrous histiocytoma *Dermatol Surg 26:491–492, 2000*

Apocrine carcinoma *Cancer 71:375–381, 1993*

Atypical fibroxanthoma

Basal cell carcinoma *Cancer 92:354–358, 2001;* following radiotherapy *AD 108:523–527, 1973*

Basosquamous carcinoma *Otolaryngol Head Neck Surg 87:420–427, 1979*

Bowenoid papulosis – neck papules *JAAD 41:867–870, 1999*

Carotid body tumor

Cephalic histiocytomas *Am J Dermatopathol 15:581–586, 1993*

Chondroid syringoma *Ear Nose Throat J 75:104–108, 1996*

Cylindromas – scalp, face, nose, around ears and neck

Cysts on neck
- Branchial cleft anomaly (cyst, sinus, and/or fistula)
- Bronchogenic cyst
- Dermoid cyst
- Epidermoid cyst
- Eruptive vellus hair cysts
- Heterotopic salivary gland tissue
- Milia
- Pilar cyst
- Steatocystoma multiplex/simplex
- Thyroglossal duct cyst
- Teratomas

Epidermal nevus

Epidermoid inclusion cyst

Eruptive fibromas *J Cut Pathol 25 (2):122–125, 1998*

Eruptive histiocytoma *J Dermatol 20:105–108, 1993*

Eruptive syringomas

Eruptive vellus hair cysts *Ped Derm 5:94–96, 1988*

Ganglioneuroma of cervical sympathetic chain *Ped Clin North Am 6:1151–1160, 1993*

Giant cell fibroblastoma of soft tissue – neck and trunk *Ped Derm 18:255–257, 2001*

Heterotopic submandibular salivary glands – submental mass *Ped Clin North Am 6:1151–1160, 1993*

Hibernoma – neck, axilla, central back; vascular dilatation overlying lesion *AD 73:149–157, 1956*

Benign cephalic histiocytosis – neck papules *AD 135:1267–1272, 1999*

Inflammatory linear verrucous epidermal nevus (ILVEN)

Infantile myofibromatosis – red to skin-colored nodules *AD 134:625–630, 1998*

Inverted follicular keratosis *J Clin Pathol 28:465–471, 1975*

Kaposi's sarcoma *Otolaryngol Head Neck Surg 111:618–624, 1994; Ann Intern Med 103:744–750, 1985*

Keloids *Rook p.2056–2057, 1998, Sixth Edition*

Keratoacanthoma, including Ferguson–Smith tumors *Ann Dermatol Venereol 104:206–216, 1977*

Leukemia cutis *Laryngoscope 86:1856–1863, 1976;* cervical adenopathy *Ped Clin North Am 6:1151–1160, 1993*

Lipofibromata, eruptive *AD 119:612–614, 1983*

Lipoma supraclavicular mass *Head and Neck 21:239–246, 1999; Rook p.2431, 1998, Sixth Edition;* spindle cell lipomas *JAAD 48:82–85, 2003*; large neck mass in infancy

Lymphadenoma, cutaneous – papules or nodules of head and neck *BJD 128:339–341, 1993*

Lymphadenopathy, malignant

Lymphoma – cutaneous T-cell lymphoma and Ki-1$^+$ lymphoma; anaplastic large cell B-cell lymphoma; cutaneous B-cell lymphomas *Am J Surg Pathol 10:454–463, 1986;* angiocentric lymphoma – edema of face and neck *Indian J Pathol Microbiol 34:293–295, 1991;* Hodgkin's disease – ulcerated papules and nodules *AD 133:1454–1455, 1457–1458, 1997;* Hodgkin's disease mimicking scrofuloderma *Dermatology 199:268–270, 1999;* granulomatous slack skin syndrome (CTCL) *BJD 142:353–357, 2000; Ped Derm 14:204–208, 1997; AD 121:250–252, 1985;* lymphomatous lymphadenopathy – neck masses *Ped Clin North Am 6:1151–1160, 1993;* Burkitt's lymphoma *Tyring p.155, 2002*

Lymphoplasmacytoid immunocytoma *Hautarzt 44:172–175, 1993*

Malignant proliferating trichilemmal tumor *BJD 150:156–157, 2004*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma *Acta Oncol 38:1069–1074, 1999; Am J Trop Med and Hygiene 50 (2):143, 1994*

Metastases – supraclavicular masses; breast, uterine, cervical, lung, stomach, oropharyngeal carcinomas *Head and Neck 21:239–246, 1999*

Mucoepidermoid carcinoma *Laryngoscope 93:464–467, 1983*

Neurilemmoma

Neuroblastoma of cervical sympathetic chain – neck mass *Ped Clin North Am 6:1151–1160, 1993*

Neurofibroma – plexiform neurofibromas of brachial plexus *Ped Clin North Am 6:1151–1160, 1993*

Neurothekoma *Am J Surg Pathol 14:113–120, 1990*

Nevi, melanocytic, including eruptive melanocytic nevi (papules) *JAAD 37:337–339, 1997; J Dermatol 22:292–297, 1995*

Nevus comedonicus

Nevus sebaceus

Paraganglioma – neck mass *Ped Clin North Am 6:1151–1160, 1993*

Pilomatrixoma *Otolaryngol Head Neck Surg 125:510–515, 2001; J Cutan Pathol 18:20–27, 1991*

Porokeratosis

Rhabdomyosarcoma – neck nodule in children *JAAD 31:871–876, 1994; Ped Clin North Am 6:1151–1160, 1993*

Schwannoma – supraclavicular mass *Head and Neck 21:239–246, 1999*

Squamous cell carcinoma *J Laryngol Otol 110:694–695, 1996*

Syringocystadenoma papilliferum *AD 121:1198–1201, 1985*

Syringoma

Thymus gland rests – mass of lower neck or suprasternal notch *Ped Clin North Am 6:1151–1160, 1993*

Thyroid adenoma, carcinoma, colloid cysts – neck nodules *Ped Clin North Am 6:1151–1160, 1993*

Verrucous carcinoma *Tyring p.271, 2002*

Warthin's tumor, extraparotid – skin-colored neck nodule *JAAD 40:468–470, 1999*

Warty dyskeratoma *Ghatan p.86, 2002, Second Edition*

## PARANEOPLASTIC DISORDERS

Acrokeratosis paraneoplastica (Bazex syndrome) *J Laryg Otol 110:899–900, 1996*

Necrobiotic xanthogranuloma with paraproteinemia

Normolipemic plane xanthomatosis *BJD 135:460–462, 1996*

## PHOTODERMATOSES

Actinic granuloma *AD 122:43–47, 1986*

Berloque dermatitis

Cutis rhomboidalis nuchae

Photoallergic contact dermatitis

Phytophotodermatitis

Poikiloderma of Civatte *Ann Dermatol Syphilol 9:381–420, 1938*

Riehl's melanosis *Ghatan p.86, 2002, Second Edition*

## PRIMARY CUTANEOUS DISORDERS

Acanthosis nigricans/pseudoacanthosis nigricans

Acne keloidalis nuchae

Acne vulgaris *AD 131:341–344, 1995*

Alopecia mucinosa (follicular mucinosis) – neck plaque *JAAD 38:622–624, 1998; Dermatology 197:178–180, 1998; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Atopic dermatitis

Anetoderma of Jadassohn *AD 120:1032–1039, 1984*

Centrifugal lipodystrophy *Dermatology 188:142–144, 1994*

Confluent and reticulated papillomatosis

Cutis laxa

Darier's disease *Dermatology 188:157–159, 1994*

Diaper dermatitis with rapid dissemination – expanding nummular dermatitis of trunk, and red scaly plaques of neck and axillae ('psoriasiform id') *BJD 78:289–296, 1966*

Dowling–Degos disease

Elastoderma *JAAD 53:S147–149, 2005*

Elastosis perforans serpiginosa *J Dermatol 24:458–465, 1997; Hautarzt 43:640–644, 1992; AD 97:381–393, 1968*

Epidermolysis bullosa – recessive inverse dystrophic – groin, axillae, neck, lower back, nail dystrophy, oral erosions (dermolytic dystrophic) *AD 124:544–547, 1988*

Epidermolytic hyperkeratosis

Erythema annulare centrifugum

Erythema of Jacquet

Fibroelastolytic papulosis of the neck *BJD 173:461–466, 1997*

Granuloma annulare *Citos 55:158–160, 1995*

Grover's disease (benign papular acantholytic dermatosis) *AD 112:814–821, 1976*

Hailey–Hailey disease *BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Ichthyosis vulgaris

Impetigo herpetiformis

Juxtaclavicular beaded lines *J Cutan Pathol 18:464–468, 1991*

Kimura's disease *Am J Kid Dis 11:353–356, 1988*

Lichen nitidus

Lichen planus

Lichen sclerosus et atrophicus, guttate

Lichen simplex chronicus *Rook p.668, 1998, Sixth Edition*

Lichen spinulosus *JAAD 22:261–264, 1990*

Miliaria rubra in infants *BJD 99:117–137, 1978*

Napkin psoriasis

Pityriasis rosea

Pityriasis rubra pilaris

Prurigo nodularis

Pseudofolliculitis barbae

Psoriasis

Scleredema of Buschke (pseudoscleroderma) *JAAD 11:128–134, 1984*

Seborrhiasis

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

Terra firme of teens – anterior neck

Upper dermal elastolysis *J Cutan Pathol 21:533–540, 1994*

Vitiligo

White fibrous papulosis of the neck *Int J Derm 35:720–722, 1996; BJD 127:295–296, 1992*

X-linked ichthyosis

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Acrogeria *Dermatology 192:264–268, 1996*

Becker's syndrome – discrete or confluent brown macules of neck, forearms *AD Syphilol 40:987–998, 1939*

Birt–Hogg–Dube syndrome *AD 133:1163–1166, 1997*

Branchio-oculo-facial syndrome (pseudocleft of upper lip, cleft-lip-palate, and hemangiomatous branchial cleft) *Am J Med Genet 27:943–951, 1987*

Branchio-oto-renal syndrome (Melnick–Fraser syndrome) – autosomal dominant, chromosome 8q – abnormal pinna, prehelical pits, renal anomalies, branchial cleft fistulae and/or cysts pre-auricular sinus tract or cyst *Am J Nephrol2:144–146, 1982; Am J Med Genet 2:241–252, 1978; Clin Genet 9:23–34, 1976*

Buschke–Ollendorff syndrome *Eur J Dermatol 11:576–579, 2001*

Coffin–Siris syndrome – webbed neck, bifid scrotum, umbilical and inguinal hernias *JAAD 46:161–183, 2002*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick, redundant palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 11:453–457, 2001; Am J Med Genet 82:187–193, 1999; JAAD 32:904–907, 1995*; *Am J Med Genet 47:176–183, 1993; Aust Paediat J 13:114–118, 1977*

Cowden's disease

Craniocarpotarsal dysplasia (whistling face syndrome) – webbed neck *Birth Defects 11:161–168, 1975*

Diffuse pigmentation of trunk and neck with subsequent white macules *Proc R Soc Med 48:179–180, 1955*

Diffuse pigmentation with macular depigmentation of trunk with reticulate pigmentation of neck *Hautarzt 6:458–460, 1955*

Distichiasis and lymphedema – webbed neck

Dowling–Degos disease

Down's syndrome – webbed neck

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28 *J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Ekbom's syndrome (myoclonic epilepsy and ragged muscle fibers) (mitochondrial syndrome) – cervical lipomas *JAAD 39:819–823, 1998*

Encephalocraniocutaneous lipomatosis *Ped Derm 10:164–168, 1993*

Epidermodysplasia verruciformis

Franceschetti–Jadassohn–Naegeli syndrome – generalized reticulated hyperpigmentation, accentuated in neck and axillae *JAAD 10:1–16, 1984*

Gardner's syndrome – nuchal-type fibroma *Am J Surg Pathol 24:1563–1567, 2000*

Goldenhaar syndrome (oculoauriculovertebral syndrome) – epibulbar dermoid cysts, vertebral defects, accessory tragi *Int J Derm 19:479–486, 1980*

Hidrotic ectodermal dysplasia *Hautarzt 42:645–647, 1991*

Hunter's syndrome – skin-colored to white papules of nape of neck *AD 113:602–605, 1977*

Infantile myofibromatosis *Int J Pediatr Otorhinolaryngol 51:181–186, 1999; Ped Derm 8:306–309, 1991; Ped Derm 5:37–46, 1988*

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, flexion contractures of large and small joints *JAAD 16:881–883, 1987*

Kawasaki's disease – cervical adenopathy *Ped Clin North Am 6:1151–1160, 1993*

Klippel–Feil anomaly – webbed neck *J Bone Jt Surg 56:1246–1253, 1974*

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; Am J Med 60:447–456, 1976; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973*

Lymphedema–distichiasis syndrome – periorbital edema, vertebral abnormalities, spinal arachnoid cysts, congenital heart disease, thoracic duct abnormalities, hemangiomas, cleft palate, microphthalmia, strabismus, ptosis, short stature, webbed neck *Ped Derm 19:139–141, 2002*

Madelung's deformity

McCune–Albright syndrome – café au lait macule *Ped Derm 8:35–39, 1991*

Menkes' kinky hair syndrome – silvery hair, generalized hypopigmentation, lax skin of brows, neck, and thighs *Ped Derm 15:137–139, 1998*

Microphthalmia with linear skin defects syndrome (MLS syndrome) (microphthalmia, dermal aplasia, and sclerocornea (MIDAS) syndrome) – X-linked dominant; atrophic Blaschko linear scars of face and neck; linear red atrophic skin (resembles aplasia cutis) *Textbook of Neonatal Dermatology, p.466–467, 2001; Am J Med Genet 49:229–234, 1994*

Mottled pigmentation of neck and elbows *Z Haut-u Geschl Krankh 32:33–44, 1962*

Multiple endocrine neoplasia syndrome type II – medullary carcinoma of the thyroid *Ped Clin North Am 6:1151–1160, 1993*

Multiple pterygium syndrome – webbed neck *J Med Genet 24:733–749, 1987*

Neu–Laxova syndrome – short neck; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead; small genitalia, eyelid and lip

closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990*

Neurofibromatosis – type I; segmental neurofibromatosis *J La State Med Soc 146:183–186, 1994*

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; J Med Genet 24:9–13, 1987*

Occipital horn syndrome (Ehlers–Danlos syndrome, type IX) – long neck *Am J Hum Genet 41:A49, 1987*

Oculo-auricular vertebral syndrome – short neck, epibulbar dermoid tumors, abnormal hair *Ped Derm 20:182–184, 2003*

Patau's syndrome (trisomy 13) – loose skin of posterior neck, parieto-occipital scalp defects, abnormal helices, low-set ears, simian crease of hand, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Pseudoxanthoma elasticum – linear and reticulated cobblestoned yellow papules and plaques *AD 124:1559, 1988; JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*; PXE and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Sjögren–Larsson syndrome – verrucous hyperkeratosis of flexures, neck, and periumbilical folds; mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo – deficiency of fatty aldehyde dehydrogenase *Chem Biol Interact 130–132:297–307, 2001; Am J Hum Genet 65:1547–1560, 1999; JAAD 35:678–684, 1996*

Steatocystoma multiplex

Sweet's syndrome – red plaque with or without bullae or pustules *JAAD 40:838–841, 1999; AD 134:625–630, 1998; Eur J Gastro Heptl 9:715–720, 1997; JAAD 31:535–536, 1994; BJD 76:349–356, 1964*

Thrombocytopenia–absent radius syndrome (TAR syndrome) – cutis laxa of neck; congenital thrombocytopenia, bilateral absent or hypoplastic radii, port wine stain of head and neck *AD 126:1520–1521, 1990; Am J Pediatr Hematol Oncol 10:51–64, 1988*

Trisomy 13 (Patau syndrome) – redundant skin of neck *J Genet Hum 23:83–109, 1975*

Trisomy 18 syndrome – redundant skin of neck *J Med Genet 15:48–60, 1978*

Turner's syndrome (XO in 50%) – webbed neck, lymphedema of neck; low posterior hairline, low misshapen ears, peripheral edema at birth which resolves by age 2; redundant neck skin in newborn; small stature, broad shield-shaped cest with widely spaced nipples, arms show wide carrying angle, high arched palate, cutis laxa of neck and buttocks, short fourth and fifth metacarpals and metatarsals, hypoplastic nails, keloid formation, increased numbers of nevi; skeletal, cardiovascular, ocular abnormalities; increased pituitary gonadotropins with low estrogen levels *JAAD 50:767–776, 2004; JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; NEJM 335:1749–1754, 1996;* halo nevi of the neck *JAAD 51:354–358, 2004*

Weaver–Williams syndrome (cleft palate, microcephaly, mental retardation, musculoskeletal mass deficiency) – long neck *Birth Defects 13:69–84, 1977*

49,XXXXY syndrome – webbed neck *Syndromes of the Head and Neck, p.59–60, 1990*

### TRAUMA

Dental treatment – soft tissue cervicofacial emphysema after dental treatment *AD 141:1437–1440, 2005*

Fiddler's neck – lichenification with erythema, hyperpigmentation, papules, pustules, and cysts *BJD 98:669–674, 1978*

Hickey (passion mark)

Strangulation purpura

Subcutaneous emphysema *AD 134:557–559, 1998*

### VASCULAR DISORDERS

Acquired elastotic hemangioma – red plaque with vascular appearance *JAAD 47:371–376, 2002*

Aneurysmal dilatation of the internal jugular vein – soft blue neck mass *Ped Clin North Am 6:1151–1160, 1993*

Angiosarcoma *BJD 138:692–694, 1998; Australas Radiol 39:277–281, 1995; Cancer 44:1106–1113, 1979*

Angioma serpiginosum

Arteriovenous fistulae – congenital or acquired; red pulsating nodules with overlying telangiectasia – extremities, head, neck, trunk *Rook p.2237, 1998, Sixth Edition*

Cystic hygroma (lymphatic malformation) *Ped Clin North Am 6:1151–1160, 1993; NEJM 309:822–825, 1983*

Dabska tumor (malignant endovascular papillary endothelioma) – head and neck of infants *JAAD 49:887–896, 2003*

Hemangioma – symptomatic hemangiomas of the airway with airway obstruction and cutaneous hemangiomas in a 'beard' distribution *J Pediatr 131:643–646, 1997*; large neck mass
Non-involuting congenital hemangioma *JAAD 53:185–186, 2005*

Lymphangioma

Pseudo-Kaposi's sarcoma

Salmon patch (nevus simplex) ('stork bite') – pink macules with fine telangiectasias of the nape of the neck, glabella, forehead, upper eyelids, tip of nose, upper lip, midline lumbosacral area *Ped Derm 73:31–33, 1983*

Tufted angioma – dull red, purple, or red–brown *JAAD 49:887–896, 2003; Ped Derm 19:388–393, 2002*

Unilateral nevoid telangiectasia

Venous lakes

## NECK PAPULES

### AUTOIMMUNE DISEASES, OR DISEASES OF IMMUNE DYSFUNCTION

Dermatitis herpetiformis

Graft vs. host reaction, acute *Taiwan I Hsueh Hui Tsa Chih 88:657–662, 1989*

Lupus erythematosus – papulonodular mucinosis; papules of neck *JAAD 32:199–205, 1995; AD 114:432–435, 1978*

Urticaria

### CONGENITAL DISORDERS

Accessory tragus – facial, glabellar papule – isolated, Treacher Collins syndrome (mandibulofacial dysostosis; autosomal dominant), Goldenhaar syndrome ((oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae,

facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies), Nagers syndrome, Wolf–Hirschhorn syndrome (chromosome 4 deletion syndrome), oculocerebrocutaneous syndrome *Ped Derm 17:391–394, 2000;* Townes–Brocks syndrome *Am J Med Genet 18:147–152, 1984;* VACTERL syndrome *J Pediatr 93:270–273, 1978*

Branchial remnants – branchial cleft cyst/sinus *Plastic and Reconstructive Surgery 100:32–39, 1997*

Cervical accessory auricle (wattle)

Cervical braid *Brit J Plast Surg 43:369–370, 1990*

Cutaneous cartilaginous rest *Textbook of Neonatal Dermatology, p.118–119, 2001; AD 121:22–23, 1985;* in oculo-auricular-vertebral spectrum *Syndromes of the Head and Neck; Oxford Monographs on Medical Genetics No. 19; Oxford University Press; Oxford/New York; 1990*

Occult spinal dysraphism *Ped Derm 12:256–259, 1995*

Rhabdomyomatous mesenchymal hamartoma – pedunculated papule associated with a midline cervical cleft *AD 141:1161–1166, 2005*

Supernumerary nipples *Cutis 71:344–346, 2003*

Thyroglossal duct cyst

## DRUG REACTIONS

Cyclosporine – pseudofolliculitis barbae-like lesions *Dermatologica 172:24–30, 1986*

## EXOGENOUS AGENTS

Chrysiasis *BJD 133:671–678, 1995*

Fiberglass dermatitis *Kao Hsiung I Hseveh Ko Hseueh Tsa Chih 12:491–494, 1996*

## INFECTIONS AND INFESTATIONS

Candidiasis

Chromomycosis – feet, legs, arms, face, and neck *AD 113:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis *Acta Cytologica 38:422–426, 1994*

Demodicidosis *J Med Assoc Thai 74:116–119, 1991*

Dental sinus

*Mycobacterium tuberculosis* – after BCG vaccination *J Derm 21:106–110, 1924*

Myiasis – cuterebrid myiasis; neck nodules *Ped Derm 21:515–516, 2004*

Pediculosis – head lice – pruritic papules of nape of neck *Rook p.1441, 1998, Sixth Edition*; generalized pruritic eruption *NEJM 234:665–666, 1946*

Pityrosporum folliculitis *Mycoses 40 (supp 1) 29–32, 1997*

Scabies *Ped Derm 11:264–266, 1994*

*Staphylococcus aureus* – folliculitis

Sycosis barbae

Tinea barbae

Verruca vulgaris

Verruga peruana *Am J Trop Med and Hygiene 50:143, 1994*

## INFILTRATIVE DISORDERS

Benign cephalic histiocytosis – cheeks, forehead, earlobes, neck *JAAD 47:908–913, 2002; Ped Derm 11:265–267, 1994; Ped Derm 6:198–201, 1989; AD 122:1038–43, 1986; JAAD 13:383–404, 1985*

Lichen myxedematosis *Rook p.2626–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995*; discrete papular lichen myxedematosus *Cutis 75:105–112, 2005*

Plane xanthomatosis *BJD 133:961–966, 1995*

Self-healing (papular) juvenile cutaneous mucinosis – arthralgias *Ped Derm 20:35–39, 2003; JAAD 44:273–281, 2001; Ped Derm 14:460–462, 1997; AD 131:459–461, 1995; JAAD 11:327–332, 1984; Ann DV 107:51–57, 1980;* of adult *JAAD 50:121–123, 2004, BJD 143:650–651, 2000; Dermatology 192:268–270, 1996*

## INFLAMMATORY DISORDERS

Eosinophilic pustular folliculitis *J Dermatol 25:178–184*

Erythema nodosum *Rook p.2200, 1998, Sixth Edition*

Folliculitis nuchae scleroticans *Hautarzt 39:739–742, 1988*

Kimura's disease *Am J Kidney disease 11:353–356, 1988*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

## METABOLIC DISEASES

Cryoglobulinemia *JAAD 25:21–27, 1991*

Pruritic urticarial papules and plaques of pregnancy (PUPPP) *Z Hautkr 65:831–832, 1990*

## NEOPLASTIC DISORDERS

Acrochordon (skin tag) *Rook p.1661, 1998, Sixth Edition*

Adenoid cystic carcinoma *JAAD 17:113–118, 1987*

Angiosarcoma *BJD 138:692–694, 1998*

Apocrine carcinoma *Cancer 71:375–381, 1993*

Atypical fibroxanthoma *Sem Cut Med Surg 21:159–165, 2002; Cutis 51:47–48, 1993; Cancer 31:1541–1552, 1973*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Basaloid carcinoma of lung – metastasis *JAAD 49:523–526, 2003*

Cephalic histiocytomas *Am J Dermatopathol 15:581–586, 1993*

Cutaneous lymphadenoma – papules or nodules of head and neck *BJD 128:339–341, 1993*

Cylindromas *BJD 151:1084–1086, 2004*

Dermal duct tumor – red nodule of neck *AD 140:609–614, 2004*

Dermatomyofibroma – oval nodule or firm plaque *Clin Exp Dermatol 21:307–309, 1996*

Desmoplastic trichoepithelioma *AD 138:1091–1096, 2002; AD 132:1239–1240, 1996; Cancer 40:2979–2986, 1977*

Encephalocraniocutaneous lipomatosis *Ped Derm 10:164–168, 1993*

Eruptive fibromas *J Cutan Pathol 25:122–125*

Eruptive histiocytoma *J Dermatol 20:105–108, 1993*

Eruptive lipofibromas *AD 119:612–614, 1983*

Eruptive vellus hair cysts

Fibrosarcoma, neonatal *JAAD 50:S23–25, 2004*

Fibrous hamartoma of infancy – neck nodule *Ped Dev Pathol 2:236–243, 1999*

Hamartoma moniliformis – linear array of skin-colored papules of face and neck *AD 101:191–205, 1970*

Infantile myofibromatosis – single or multiple; head, neck, trunk *JAAD 41:508, 1999; AD 134:625–630, 1998*

Inverted follicular keratosis *J Clin Pathol 28:465–471, 1975*

Kaposi's sarcoma *Ann Intern Med 103:744–750, 1985*

Keratoacanthomas of Ferguson–Smith – multiple self-healing keratoacanthomas *JAAD 49:741–746, 2003; Ann DV 104:206–216, 1977; BJD 46:267–272, 1934*

Leiomyomas – grouped, linear or dermatomal *JAAD 52:410–416, 2005; JAAD 46:477–490, 2002*

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Leukemia – chronic lymphocytic leukemia *Laryngoscope 86:1856–1863, 1976*

Lymphoepithelioma-like carcinoma *Mod Pathol 1:359–365, 1988*

Lymphoma – CTCL; Ki-1$^{+}$ lymphoma; Hodgkin's disease *AD 133:1454–1455, 1457–1458, 1997;* B-cell lymphoma *JAAD 53:479–484, 2005;* xanthomatous infiltration of the neck *Eur J Derm 10:481–483, 2000*

Lymphoplasmocytoid immunocytoma *Hautarzt 44:172–175, 1995*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* eruptive melanocytic nevi *JAAD 37:337–339, 1997; J Dermatol 22:292–297, 1995*

Melanoma

Merkel cell carcinoma – pink to violaceous nodule *Sem Cut Med Surg 21:159–165, 2002*

Milia *Acta Derm Venereol 71:334–336, 1991*

Mucinous carcinoma *JAAD 52:S76–80, 2005*

Multiple myeloma *AD 139:475–486, 2003*

Myofibroma *J Cutan Pathol 23:445–457, 1996; Histopathol 22:335–341, 1993*

Neurilemmoma (schwannoma) – pink–gray or yellowish nodules of head and neck *Rook p.2363, 1998, Sixth Edition*

Neurofibroma

Neuroma – palisaded encapsulated neuroma *AD 140:1003–1008, 2004*

Neurothekoma *Am J Surg Pathol 14:113–120, 1990*

Pilomatrixoma *J Cutan Pathol 18:20–27, 1991*

Pilomatrix carcinoma – multiple of head and neck *Otolaryngol Head Neck Surg 109:543–547, 1993*

Porokeratotic eccrine ostial and dermal duct nevus (linear eccrine nevus with comedones) *AD 138:1309–1314, 2002*

Rhabdomyosarcoma *JAAD 31:871–876, 1994*

Solitary fibrous tumor of the skin – facial, scalp, posterior neck nodule *JAAD 46:S37–40, 2002*

Squamous cell carcinoma

Syringocystadenoma papilliferum *AD 121:1198–1201, 1985;* linear verrucous papules *AD 138:1091–1096, 2002*

Syringomas, eruptive

Warty dyskeratoma – face, neck, scalp, axillae *Ghatan p.341, 2002, Second Edition*

## PARANEOPLASTIC DISORDERS

Acrokeratosis paraneoplastica (Bazex syndrome) *J Laryng Otol 110:899–900, 1996*

## PHOTODERMATOSES

Actinic granuloma *AD 122:43–47, 1986*

## PRIMARY CUTANEOUS DISORDERS

Acantholytic dermatosis *Nippon Hifuka Gakkai Zasshi 10:453–460, 1991*

Acne vulgaris *AD 131:341–344, 1995*

Alopecia mucinosa (follicular mucinosis) – neck papules *JAAD 38:622–624, 1998; Dermatology 197:178–180, 1998; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Anetoderma of Jadassohn

Benign papular acantholytic dermatosis *AD 112:814–821, 1976*

Darier's disease *Dermatology 188:157–159, 1994*

Disseminated and recurrent infundibulofolliculitis – neck, trunk, extremities *J Derm 25:51–53, 1998; Dermatol Clin 6:353–362, 1988; AD 105:580–583, 1972*

Elastosis perforans serpiginosa *J Dermatol 24:458–465, 1997*

Fibroelastolytic papulosis of the neck *BJD 173:461–466, 1997*

Granuloma annulare *Cutis 55:158–160, 1995*

Granuloma faciale, extrafacial *BJD 145:360–362, 2001*

Juxtaclavicular beaded lines *J Cutan Pathol 18:464–468, 1991*

Lichen sclerosus et atrophicus, guttate

Lichen spinulosus *JAAD 22:261–264, 1990*

Psoriasis

Upper dermal elastolysis *J Cutan Pathol 21:533–540, 1994*

White fibrous papulosis of the neck (fibroelastolytic papulosis) – cobblestoning with 2–4 mm skin-colored papules *JAAD 51:958–964, 2004; Int J Derm 35:720–722, 1996; JAAD 20:1073–1077, 1989*

## SYNDROMES

Acrogeria *Dermatol 192:264–268, 1996*

Atrichia with keratin cysts – face, neck, scalp; then trunk and extremities *Ann DV 121:802–804, 1994*

Basaloid follicular hamartoma syndrome (generalized basaloid follicular hamartoma syndrome) – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 49:698–705, 2003; BJD 146:1068–1070, 2002; JAAD 43:189–206, 2000*

Behçet's syndrome – erythema nodosum; nodule *AD 138:467–471, 2002*

Birt–Hogg–Dube syndrome *AD 133:1163–1166, 1997*

Down's syndrome – deep folliculitis of posterior neck *Ghatan p.242, 2002, Second Edition*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 131:710–712, 1995*

Hunter's syndrome – reticulated 2–10mm skin colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004; AD 113:602–605, 1977*

Hypohidrotic ectodermal dysplasia *Hautarzt 42:645–647, 1991*

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, flexion contractures of large and small joints *Ped Derm 21:154–159, 2004; JAAD 16:881–883, 1987*

Lipoid proteinosis *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002*

Nevoid basal cell carcinoma syndrome *JAAD 42:939–969, 2000;* basal cell carcinomas – skin tag-like lesions in children with nevoid basal cell carcinoma syndrome *JAAD 44:789–794, 2001*

Pseudoxanthoma elasticum – linear and reticulated cobblestoned yellow papules and plaques *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*; *AD 124:1559, 1988;* PXE and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977*

Steatocystoma multiplex

Sweet's syndrome *Eur J Gastro Hepatol 9:715–720, 1997*

Tuberous sclerosis – angiofibromas

### TRAUMA

Fiddler's neck *BJD 98:669–674, 1978*

Pseudofolliculitis barbae *Dermatol Clin 6:387–395, 1988*

### VASCULAR LESIONS

Glomus tumor *Rook p.2357, 1998, Sixth Edition*

Pseudo-Kaposi's sarcoma overlying arteriovenous anastomosis following carotid endarterectomy

Tufted angioma – deep red papule, plaque, or nodule of back or neck *JAAD 52:616-622, 2005*

Venous lakes

## NECROSIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – poison ivy or oak *NEJM 352:700–707, 2005*

Anti-centromere antibodies – ulcers and gangrene of the extremities *Br J Rheumatol 36:889–893, 1997*

Arthus reaction – necrosis of skin over deltoid muscle due to hepatitis B virus vaccine *Clin Inf Dis 33:906–908, 2001;* erythema, edema, hemorrhage, occasional necrosis *Rook p.3364, 1998, Sixth Edition*

Bowel arthritis dermatitis syndrome – necrotic papules *AD 135:1409–1414, 1999; Cutis 63:17–20, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Chronic granulomatous disease – necrotic ulcers; bacterial abscesses, perianal abscesses *JAAD 36:899–907, 1997; AD 130:105–110, 1994; NEJM 317:687–694, 1987; AD 103:351–357, 1971*

Congenital deficiency of leucocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18) (leukocyte adhesion deficiency syndrome) – necrotic cutaneous abscesses, psoriasiform dermatitis, gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *BJD 123:395–401, 1990*

Connective tissue disease – eosinophilic vasculitis in connective tissue diseases; digital microinfarcts *JAAD 35:173–182, 1996*

Dermatomyositis – epidermal necrosis associated with internal malignancy *Cutis 61:190–194, 1998*

Graft vs. host disease, acute – epidermal necrosis *AD 134:602–612, 1998*

Hypersensitivity angiitis *AD 138:1296–1298, 2002*

Intrauterine blood transfusion – Rh incompatibility

Linear IgA disease (TEN) *JAAD 31:797–799, 1994*

Lupus erythematosus – systemic – necrosis of the proximal nail fold *Rook p.2474, 1998, Sixth Edition;* epidermal necrosis mimicking toxic epidermal necrosis *Clin Rheum Dis 8:207, 1982;* vasculitis; gangrene of extremity due to vasculitis or thrombosis (anti-phospholipid antibodies) *J Rheumatol 13:740–747, 1986;* infarcts of fingertips *JAAD 48:311–340, 2003;* toxic epidermal necrolysis *JAAD 48:525–529, 2003*

Mixed connective tissue disease *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Myeloperoxidase deficiency – lip infection and necrosis *Ped Derm 20:519–523, 2003*

Pemphigus vegetans *NEJM 352:700–707, 2005*

Rheumatoid vasculitis – purpuric infarcts of paronychial areas (Bywater's lesions) *JAAD 53:191–209, 2005; BJD 77:207–210, 1965;* bullae of fingertips and toetips with purpura *Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* large hemorrhagic lesions, gangrene with necrotizing arteritis *Rook p.2214, 1998, Sixth Edition;* peripheral gangrene *JAAD 53:191–209, 2005;* mononeuritis multiplex; papulonecrotic lesions *JAAD 48:311–340, 2003*

Severe combined immunodeficiency – necrotic bacterial skin infections resembling ecthyma gangrenosum

### CONGENITAL LESIONS

Gangrene of abdominal wall – due to intrauterine red–cell transfusion *Am J Dis Child 117:593–596, 1969*

Intrauterine epidermal necrosis *JAAD 38:712–715, 1998*

Subcutaneous fat necrosis of the newborn – necrotic bulla *Ped Derm 20:257–261, 2003*

Umbilical artery catheterization – legs, lumbar, buttocks (perinatal gangrene of the buttock) *Textbook of Neonatal Dermatology, p.108,151, 2001;* gangrene of legs *AD 113:61–63, 1977;* unilateral necrosis of buttock *Arch Dis Child 55:815–817, 1980; JAAD 3:596–598, 1980*

### DRUG-INDUCED

Actinomycin D extravasation

Adriamycin – IV *J Surg Res 75:61–65, 1998; Cancer Treat Rep 63:1003–1004, 1979; Cancer 38:1087–1094, 1976*

Amiodarone

Amitryptiline *Burns 25:768–770, 1999*

Arsenic – endothelial damage

Beta blockers *BJD 143:1356–1358, 2000*

Bleomycin – gangrene *Eur J Dermatol 8:221, 1998; AD 107:553–555, 1973*

Buprenorphine – intra-arterial injection *AD 138:1296–1298, 2002*

Calcium gluconate infusion – IV *JAAD 6:392–395, 1982*

Chemotherapy injection site *BJD 143:1356–1358, 2000*

Cisplatin *Cancer Treat Rep 67:199, 1983*

IV cocaine *JAAD 16:462–468, 1987*

Compazine – intramuscular with infarction

Coumarin necrosis – eschar and ulceration; associations include acquired protein C deficiency in chronic liver disease, chronic renal failure and dialysis, acute leukemia, systemic lupus erythematosus, anti-phospholipid antibody syndrome,

Epstein–Barr virus infection, acute respiratory distress syndrome, acute intravascular coagulation, plasmapheresis *BJD 151:502–504, 2004; JAAD 47:766–769, 2002; Br J Surg 87:266–272, 2000; Thromb Haemost 78:785–790, 1997; Hematol Oncol Clin North Am 7:1291–1300, 1993; AD 128:105, 108, 1992; AD 123:1701a–1706a, 1987;* with mutation of prothrombin gene *NEJM 340:735, 1999;* with familial type II protein C deficiency *Am J Hematol 29:226–229, 1988;* with acquired protein C deficiency *Intensive Care Med 27:1555, 2001;* with protein S deficiency *Haemostasis 28:25–30, 1998;* with Factor V Leiden and protein S deficiency *Clin Lab Haematol 23:261–264, 2001;* intravascular coagulation necrosis *JAAD 25:882–888, 1991;* late onset coumarin warfarin necrosis *Am J Hematol 57:233–237, 1998*

Cyclophosphamide *BJD 143:1356–1358, 2000*

Daunorubicin extravasation *Oncol Nurs Forum 25:67–70, 1998*

Depo-Provera – intramuscular *BJD 143:1356–1358, 2000*

Dextran injections – intramuscular *AD 124:1722–1723, 1988*

Doxorubicin hydrochloride *Pharmazie 48:772–775, 1993*

DPT vaccination site – embolia cutis medicamentosa (Nicolau syndrome) *Actas Dermosifiliogr 95:133–134, 2004*

Calcium salts – IV

Dextrose – IV

Dopamine – IV

Ergot poisoning *Rook p.2231, 1998, Sixth Edition*

Enoxaparin *Ann Intern Med 125:521–522, 1996*

Epidural blockade – necrosis of lower extremities *Can J Anaesth 35:628–630, 1988*

Epinephrine-containing cream *Br J Clin Pract 38:191, 1984*

Fluorescein extravasation *Retina 7:89–93, 1987*

5-fluorouracil – epidermal necrosis of psoriatic plaques following intravenous 5-FU *BJD 147:824–825, 2002*

Flunitrazepam abuse *Acta DV 79:171, 1999*

G-CSF – necrotizing vasculitis *Ped Derm 17:205–207, 2000*

Heparin necrosis *Br J Haematol 111:992, 2000; Ann R Coll Surg Engl 81:266–269, 1999; JAAD 37:854–858, 1997; NEJM 336:588–589, 1997; Nephron 68:133–137, 1994;* low molecular weight heparin *Ann Haematol 77:127–130, 1998;* at injection site *Dermatology 196:264–265, 1998; Thromb Haemost 78:785–790, 1997; Australas J Dermatol 36:201–203, 1995;* eschar and ulceration *JAAD 47:766–769, 2002*

Hydantoin (Dilantin) extravasation

Hypertonic saline extravasation *J Derm Surg Oncol 19:641–646, 1993*

Infusion leakage in the newborn *Br J Plast Surg 54:396–399, 2001*

Interferon-$\alpha$ injection site *JAAD 37:118–120, 1997*; pegylated interferon alpha *JAAD 53:62–66, 2005*

Interferon-$\beta$ *JAAD 37:553–558, 1997; Dermatology 195:52–53, 1997*

Interleukin-2 *JAAD 29:66–70, 1993*

Interleukin-3 *BJD 143:1356–1358, 2000*

Intra-articular anesthesia *BJD 143:1356–1358, 2000*

Levophed ischemic necrosis

Mannitol – IV

Methadone *BJD 143:1356–1358, 2000*

Methotrexate necrosis *BMJ 299:980–981, 1989; S Afr Med J 72:888, 1987*

Nafcillin – IV

Norepinephrine – IV *BJD 143:1356–1358, 2000*

Oxymetazoline – intra-arterial injection *AD 138:1296–1298, 2002*

Parenteral nutrition formulation extravasation *J Miss State Med Assoc 40:307–311, 1999*

Phenergan injection

Phenytoin – IV *JAAD 28:360–363, 1993*

Photodynamic therapy *Photochem Photobiol 68:575–583, 1998*

Potassium salts – IV

Quinine sulfate – acral necrosis *Hautarzt 51:332–335, 2000*

Radio-opaque dye – IV

Sertraline – giant bulla with necrosis *BJD 150:164–166, 2004*

Sodium bicarbonate – IV

Sodium tetradecyl sulfate extravasation *J Derm Surg Oncol 19:641–646, 1993*

Streptokinase – IV *BMJ 309:378, 1994*

Toxic epidermal necrolysis *JAAD 40:458–461, 1999; JAAD 23:870–875, 1990*

Tumor necrosis factor *J Inflamm 47:180–189, 1995*

Vaccination – DPT – livedoid skin necrosis (Nicolau syndrome) *BJD 137:1030–1031, 1997*

Vasoconstricting agents *Ghatan p.31, 2002, Second Edition*

Vasopressin *BJD 143:1356–1358, 2000; Dermatology 195:271–273, 1997; Cutis 57:330–332, 1996; JAAD 15:393–398, 1986;* scrotal and abdominal skin necrosis *Dig Dis Sci 30:46–464, 1985*

Vinorelbine extravasation *Tumori 86:289–292, 2000*

## EXOGENOUS AGENTS

Acids and alkali *Rook p.867, 1998, Sixth Edition*

Alcohol – percutaneous absorption and necrosis in a preterm infant *Arch Dis Child 57:477–479, 1982*

Antiseptics (isopropyl alcohol) – in newborn *Pediatrics 68:587–588, 1981*

Calcium – percutaneous calcium salts (calcium chloride-containing EEG paste on abraded scalp skin) *Ped Derm 15:27–30, 1998; Dermatologica 181:324–326, 1990*

Collagen implant (bovine) – Zyderm or Zyplast *JAAD 25:319–326, 1991;* sterile abscesses with local necrosis *JAAD 25:319–326, 1991*

Dequalinium (quaternary ammonium antibacterial agent) – necrotizing ulcers of the penis *Trans St John's Hosp Dermatol Soc 51:46–48, 1965*

Drug abuse *NEJM 277:473–475, 1967*

Orthopedic braces *Am J Orthop 27:371–372, 1998*

Hepatitis B virus vaccine – Arthus reaction *Clin Inf Dis 33:906–908, 2001*

Hydrofluoric acid *Ann DV 122:512–513, 1995*

Intra-arterial injections *Rook p.2231, 1998, Sixth Edition*

Irritant contact dermatitis

Naphtha (charcoal lighter fluid), subcutaneous injection *Am J Emerg Med 16:508–511, 1998*

Phosphoric acid *Rook p.867, 1998, Sixth Edition*

PPD *NEJM 295:1263, 1976*

Sclerotherapy – high-concentration sclerotherapy for varicose veins *Dermatol Surg 26:535–542, 2000*

Silicone, injected *AD 141:13–15, 2005; Derm Surg 27:198–200, 2001*

Tibial cement extrusion *J Arthroplasty 13:826–829, 1998*

Tongue ring – mucosal necrosis

## INFECTIONS AND INFESTATIONS

*Acanthamoeba J Clin Inf Dis 20:1207–1216, 1995;* perianal gangrene *Trop Doct 12:162–163, 1982; Proc R Soc Med 66:677–678, 1973*

*Acremonium* – target-like lesions with central necrosis *Rook p.1375, 1998, Sixth Edition*

Actinomycosis *Ghatan p.31, 2002, Second Edition*

*Aeromonas hydrophilia* sepsis

African tick bite fever (*Rickettsia africae*) – crusted eschar *BJD 143:1109–1110, 2000;* hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks) – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

Alternariosis

Amebiasis *Ghatan p.31, 2002, Second Edition*

Anthrax – eschar of the fingers, face, or neck *Cutis 69:23–24, 2002; Cutis 67:488–492, 2001; Clin Inf Dis 19:1009–1014, 1994; Cutis 48:113–114, 1991; Cutis 40:117–118, 1987;* eschar and ulceration *NEJM 352:700–707, 2005; JAAD 47:766–769, 2002*

Arthropod bite *NEJM 352:700–707, 2005;* hypersensitivity to mosquito bites with intense erythema, edema and necrosis *AD 139:1601–1607*

Aspergillosis *NEJM 352:700–707, 2005; AD 141:633–638, 2005; Clin Inf Dis 22:1102–1104, 1996;* A. flavus, primary cutaneous – necrotic ulcer *AD 141:1035–1040, 2005;* necrotizing dermal plaque *Textbook of Neonatal Dermatology, p.229, 2001; BJD 85 (Suppl 17):95–97, 1971;* primary cutaneous aspergillosis *JAAD 38:797–798, 1998; Infect Control Hosp Epidemiol 17:365–366, 1996;* primary cutaneous aspergillosis in premature infants *Ped Derm 19:439–444, 2002; Aspergillus flavus JAAD 46:945–947, 2002;* zosteriform *A. flavus* – black eschar *JAAD 38:488–490, 1998;* eschar and ulceration *JAAD 53:213–219, 2005; JAAD 47:766–769, 2002*

Bacteroides – non-clostridial gas gangrene in diabetics *JAMA 233:958–963, 1975*

BCG lymphadenopathy with eschar *Ped Derm 21:646–651, 2004*

Beetle bite *J Cutan Med Surg 4:219–222, 2000*

Bejel *Ghatan p.31, 2002, Second Edition*

*Bilophila wadsworthia* and *Escherichia coli* – necrotizing fasciitis

Boutonneuse fever

Brown recluse spider bite *NEJM 352:700–707, 2005*

Brucellosis – necrotizing vasculitis

*Burkholderia pseudomallei* (melioidosis) – disseminated; ecthyma-like lesions *Clin Inf Dis 40:988–989, 1053–1054, 2005*

*Calymmatobacterium granulomatis* (Donovanosis) – penile necrosis *J Clin Inf Dis 25:24–32, 1997*

Cancrum oris (noma) – labial and buccal necrosis *J Dent Child 48:138–141, 1981*

Candidiasis, disseminated – necrotic eschar and pustules; ecthyma gangrenosum-like lesion *Rook p.2752, 1998, Sixth Edition*

*Capnocytophaga canimorsus* sepsis – dog and cat bites; necrosis with eschar *Cutis 60:95–97, 1997; JAAD 33:1019–1029, 1995*

Carbuncle *Rook p.1119, 1998, Sixth Edition*

Caterpillars, poisonous *Ann DV 125:489–491, 1998*

Cellulitis, erysipelas *Rook p.113, 1998, Sixth Edition*

*Cheyletiella* mites – dogs, cats; papulovesicles, pustules, necrosis *JAAD 50:819–842, 2004; AD 116:435–437, 1980*

*Chromobacterium violaceum NEJM 352:700–707, 2005*

*Clostridium botulinum* – wound botulism in drug addicts *Clin Inf Dis 31:1018–1024, 2000*

Clostridial cellulitis of the newborn *AD 113:683–684, 1977*

*Clostridium perfringens* (gas gangrene) – most common cause of necrotizing anorectal and perianal infection *Surgery 86:655–662, 1979*

*Clostridium septicum* – gas gangrene and myonecrosis

*Clostridium welchii Rook p.2188, 1998, Sixth Edition*

Coccidioidomycosis – primary cutaneous coccidioidomycosis; necrotic papule *JAAD 49:944–949, 2003*

*Corynebacterium urealyticum Clin Inf Dis 22:853–855, 1996*

Cowpox (feline orthopoxvirus) – eschar *JAAD 49:513–518, 2003; BJD 145:146–150, 2001; Tyring p.52, 2002*

Cryptococcosis *NEJM 352:700–707, 2005*

Diphtheria

Ecthyma – eschar and ulceration *JAAD 47:766–769, 2002*

Ecthyma gangrenosum – *Pseudomonas aeruginosa NEJM 352:700–707, 2005; JAAD 11:781–787, 1984;* Pseudomonas cepacia *AD 113:199–202, 1977*; gram-negative bacteria *Postgrad Med 106:249–250, 1999; AD 121:873–876, 1985; JAAD 11:781–787, 1984; Escherichia coli J Clin Gastroenterol 4:145–148, 1982; Rev Inf Dis 2:854–865, 1980; Aeromonas hydrophila NY State J Med 82:1461–1464, 1982; J Pediatr 83:100–101, 1973; Klebsiella pneumoniae Int J Dermatol 34:216–217, 1995; South Med J 84:790–793, 1991; Xanthomonas maltophiia Ann Intern Med 121:969–973, 1994; Morganella morganii Mil Med 153:400–401, 1988; Serratia marcescens Rev Inf Dis 2:854–865, 1980; Citrobacter freundii JAAD 50:S114–117, 2004; Aspergillus fumigatus*; *Aspergillus niger Am J Clin Pathol 72:230–232, 1979; Candida albicans Am J Med 70:1133–1135, 1982; Exserohilum* species *Ped Derm 20:495–497, 2003; Vibrio*, *Rhizopus*, *Fusarium*; *Scytalidium dimidiatum J Clin Microbiol Infect Dis 12:118–121, 1993; Pseudallescheria boydii*, *Curvularia* sp *Bone Marrow Transplant 27:1311–1313, 2001;* herpes simplex *Clin Infect Dis 29:454–455, 1999*

Endocarditis, bacterial – necrosis in children *AD 133:1500–1501, 1997*

Epidemic typhus *(Rickettsia prowazeki)* – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

*Erysipelothrix rhusiopathiae* – rare systemic form with localized swellings with central necrosis *Rook p.1138, 1998, Sixth Edition*

*Escherichia coli* – non-clostridial gas gangrene in diabetics *JAMA 233:958–963, 1975*

*Flavobacterium odoratum* – necrotizing fasciitis *J Clin Inf Dis 21:1337–1338, 1995*

Fournier's gangrene *Rook p.3176, 1998, Sixth Edition*

Fusarium – sepsis; red–gray macules or papules with central eschar *JAAD 47:659–666, 2002; Ped Derm 9:62–65, 1992; Fusarium solanae* – target-like lesions with central necrosis; violaceous nodules with central necrosis *Clin Inf Dis 32:1237–1240, 2001; Rook p.1375, 1998, Sixth Edition; Eur J Clin Microbiol Infect Dis 13:152–161, 1994*

*Fusobacterium* – abscesses with necrosis *Rook p.1157, 1998, Sixth Edition*

Gangrenous and crepitant cellulitis
- *Clostridium perfringens*
- Infected vascular gangrene
- Non-clostridial crepitant cellulitis (anaerobes)
- Phycomycotic gangrenous cellulitis
- Progressive bacterial synergistic gangrene
- *Vibrio vulnificus*

Gemella morbillorum – necrotizing fasciitis *JAAD 52:704–705, 2005*

Glanders – eschar and ulceration *JAAD 47:766–769, 2002*

Gonococcemia *NEJM 352:700–707, 2005;* periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985; NEJM 282:793–794, 1970;* in children *AD 133:1500–1501, 1997*

Gypsy moth caterpillar reaction

Hepatitis C – with cryoglobulins; thrombotic vasculitis *AD 131:1185–1193, 1995*

Herpes simplex – necrotizing balanitis *JAMA 248:215–216, 1982; Br J Vener Dis 55:48–51, 1979;* necrotic digits in chronic herpes simplex; neonatal herpes simplex – necrotic plaque of scalp at site of fetal monitor electrode placement *Textbook of Neonatal Dermatology, p.204, 2001*

Herpes zoster – cutaneous necrosis; jaw necrosis *Oral Surg 56:39–46, 1983*

Histoplasmosis – necrotic papules and ulcers *BJD 113:345–348, 1985*

HIV disease – polyarteritis-like vasculitis with acral necrosis *J Clin Inf Dis 23:659–661, 1996*

Insect bite – especially in Hodgkin's disease; eschar and ulceration *JAAD 47:766–769, 2002*

*Klebsiella* sepsis – including non-clostridial gas gangrene in diabetics *JAMA 233:958–963, 1975*

Leishmaniasis – eschar and ulceration *NEJM 352:700–707, 2005; JAAD 47:766–769, 2002;* necrosis of lips *Mycoses 41 Suppl 2:78–80, 1998* (*German*); *JAAD 28:495–496, 1993; Dermatologica 150:292–294, 1975; Leishmania aethiopica* – lip edema *Trans R Soc Trop Med Hyg 63:708–737, 1969;* espundia (mucocutaneous leishmaniasis) – nasopharyngeal mutilation with protuberant lips *Am J Trop Med Hyg 59:49–52, 1998*

Leprosy – plantar necrotic blister; Lucio's phenomenon – bullae and necrosis leaving deep painful ulcers *Int J Lepr 47:161–166, 1979;* stellate necrosis in Lucio's phenomenon *JAAD 51:416–426, 2004;* lepromatous leprosy including erythema nodosum leprosum (vasculitis) *JAAD 51:416–426, 2004; AD 111:1575–1580, 1975;* eschar and ulceration *JAAD 47:766–769, 2002*

Lyme disease – vesicular variant with secondary necrosis *NEJM 352:700–707, 2005; JAAD 49:363–392, 2003*

Malaria

Mediterranean spotted fever *AD 139:1545–1552, 2003*

Melioidosis – ecthyma gangrenosum-like lesions *AD 135:311–322, 1999*

Meningococcemia *Ann Plast Surg 46:199–200, 2001;* purpura fulminans *Burns 24:272–274, 1998;* chronic meningoccemia *Ped Derm 13:483–487, 1996*

Milker's nodule – eschar and ulceration *JAAD 47:766–769, 2002*

Mosquito bite hypersensitivity syndrome in EBV-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Mucormycosis – *Rhizopus oryzae*, *Absidia corymbifera*, *Cunninghamella berthelletiae*, *Rhizomucor pusillus BJD 150:1212–1213, 2004; Mucor circinelloides*, *Apophysomyces elegans*, *Saksanaea vasiformis*; face, scalp, extremities – necrotic ulcer *Ped Derm 20:411–415, 2003; AD 136:1165–1170, 2000; AD 133:249–251, 1997; J Clin Inf Dis 19:67–76, 1994;* palatal ulcer *Oral Surg 68:624–627, 1989;* eschar and ulceration *JAAD 47:766–769, 2002;* rhino-orbital mucormycosis – palatal and nasal mucosal necrosis *NEJM 341:265–273, 1999*

Mycetoma *JAAD 32:897–900, 1995*

*Mycobacterium chenonei* var. *abscessus*

*Mycobacterium haemophilum* – necrotic ulcer *J Infection 23:303–306, 1991*

*Mycobacterium kansasii* – papulonecrotic tuberculid *JAAD 40:359–363, 1999*

*Mycobacterium marinum Tyring p.55, 2002*

*Mycobacterium tuberculosis NEJM 352:700–707, 2005;* primary inoculation *Tyring p.55, 2002;* miliary tuberculosis – large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *JAAD 50:S110–113, 2004*; *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969;* lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* lupus vulgaris, miliary, papulonecrotic tuberculid *Dermatologica 173:189–195, 1986; BJD 91:263–270, 1974;* congenital tuberculosis – red papule with central necrosis *AD 117:460–464, 1981;* penile gangrene *Rook p.3194, 1998, Sixth Edition;* eschar and ulceration *JAAD 47:766–769, 2002*

*Mycobacterium ulcerans NEJM 352:700–707, 2005*

*Mycoplasma pneumoniae* – purpura and necrosis *Clin Exp Immunol 14:531–539, 1973*

*Necrolytic acral erythema* – hepatitis C infection *Int J Dermatol 35:252–256, 1996*

Necrotizing fasciitis – *Streptococcus pyogenes Curr Prob Dermatol 14:183–220, 2002; Ann DV 128:376–381, 2001;* methicillin-resistant *Staphylococcus aureus NEJM 352:1445–1453, 2005; Streptococcus pneumoniae* – due to intramuscular injection *Clin Inf Dis 33:740–744, 2001; Serratia marcescens Clin Inf Dis 23:648–649, 1996; JAAD 20:774–778, 1989; Bacteroides* spp.in penile necrotizing fasciitis *JAAD 37:1–24, 1997;* neonatal *Pediatrics 103:53, 1999;* in infancy *Ped Derm 2:55–63, 1984;* Clostridial cellulitis (gangrene); progressive synergistic gangrene; gangrenous cellulitis (*Pseudomonas*); Fournier's gangrene *Rook p.1164, 1998, Sixth Edition;* periorbital *AD 140:664–666, 2004*

*Nocardia asteroides AD 121:898–900, 1985; J Inf Dis 134:286–289, 1976*

Noma (cancrum oris) (necrotizing gingivitis) – *Fusobacterium necrophorum*, *Prevotella intermedia*, $\alpha$-hemolytic streptococci, *Actinomyces* spp.*Oral Dis 5:144–149,156–162, 1999*

Noma neonatorum – *Pseudomonas* infection *Ped Inf Dis 21:83–84, 2002*

Non-clostridial gas gangrene – cellulitis with necrosis; *Streptococcus angiosus, Streptococcus faecalis,* aerobic *streptococci, E. coli, Proteus, Bacteroides, Klebsiella* spp. *JAAD 40:347–349, 1999; Diabetalogia 13:373–376, 1977*

North American blastomycosis *Ghatan p.31, 2002, Second Edition*

North Asian tick typhus

Orf – eschar and ulceration *JAAD 47:766–769, 2002; Tyring p.53, 2002*

*Paecilomyces lilacinus* – red nodules with necrotic centers *Ann Intern Med 125:799–806, 1996;* ecthyma gangrenosum-like *JAAD 39:401–409, 1998*

*Penicillium marneffei* – necrotic papules and/or nodules *JAAD 37:450–472, 1997; Clin Inf Dis 23:125–130, 1996; Lancet 344:110–113, 1994; Mycoses 34:245–249, 1991*

*Phaeoacremonium inflatipes* – fungemia in child with aplastic anemia; swelling and necrosis of lips, periorbital edema, neck swelling *Clin Inf Dis 40:1067–1068, 2005*

Phaeohyphomycosis, subcutaneous *Ped Inf Dis 5:380–382, 1986;* phaeomycotic cyst of the hand – *Phialophora*, *Cladosporium*, *Alternaria JAAD 8:1–16, 1983*

Phagedenic balanitis *Rook p.3194, 1998, Sixth Edition*

Phlegmon – necrotic cutaneous phlegmon

Plague (*Yersinia pestis*) – ecthyma gangrenosum-like lesions at site of initial flea bite; eschars *AD 135:311–322, 1999; Clin Inf Dis 19:655–663, 1994;* eschar and ulceration *JAAD 47:766–769, 2002*

Portuguese man-of-war stings *J Emerg Med 10:71–77, 1992*

*Pseudallescheria boydii* – mycetoma – bulla with central necrosis *AD 132:382–384, 1996*

*Pseudomonas* – ecthyma gangrenosum in *Pseudomonas* sepsis; eschar and ulceration *JAAD 47:766–769, 2002; Textbook of Neonatal Dermatology, p.193, 2001; JAAD 11:781–787, 1984; Arch Int Med 128:591–595, 1971;* noma neonatorum – gangrenous changes in oronasal and perineal areas, scrotum, and eyelids (*Pseudomonas* in infants) *Lancet 2:289–291, 1978; Pseudomonas* sepsis – penile gangrene *J Urol 124:431–432, 1980;* non-clostridial gas gangrene in diabetics *JAMA 233:958–963, 1975*

*Pythium insidiosum* (pythiosis) (alga) – ascending gangrene of legs; Thailand *J Infect Dis 159:274–280, 1989;* cellulitis, infarcts, ulcers *JAAD 52:1062–1068, 2005*

Queensland tick typhus *AD 139:1545–1552, 2003*

Rat bite fever (Sodoku) – *Spirillium minor* – eschar (acrally) *Ann Emerg Med 14:1116–1118, 1985;* eschar and ulceration *JAAD 47:766–769, 2002*

*Rhizopus AD 125:952–956, 1989*; Rhizopus azygosporus *BJD 153:428–430, 2005*

Ricketsial pox (*Rickettsia akari*) (Kew Gardens spotted fever) – house mouse mite bite (*Liponyssus (Allodermanyssus) sanguineus*) *NY Med 2:27–28, 1946;* eschars in rickettsial pox, *R. conorii*, *R. sibirica*, *R. australis*, *R. japonicum AD 139:1545–1552, 2003; Clin Inf Dis 18:624–626, 1994;* eschar and ulceration *JAAD 47:766–769, 2002*

Rocky Mountain spotted fever *JAAD 49:363–392, 2003; Clin Inf Dis 16:629–634, 1993;* eschar at bite site; DIC *J Clin Inf Dis 21:429, 1995;* massive skin necrosis *South Med J 71:1337–1340, 1978*

*Scopulariopsis*

Scorpion sting

Scrub typhus (*Rickettsia tsutsugamuchi)* (mites) – headache and conjunctivitis; eschar with black crust; generalized macular or morbilliform rash *AD 139:1545–1552, 2003; JAAD 2:359–373, 1980;* eschar and ulceration *JAAD 47:766–769, 2002*

Sea anemone sting

Serratia marcescens – including necrotizing fasciitis *J Clin Inf Dis 23:648–649, 1996*

Siberian tick typhus *AD 139:1545–1552, 2003*

Smallpox vaccination *Clin Inf Dis 37:241–250, 2003;* progressive vaccinia *Clin Inf Dis 37:251–271, 2003*

Snake bites – edema, erythema, pain, and necrosis *NEJM 347:347–356, 2002;* green pit viper *Am J Trop Med 58:22–25, 1998;* spitting cobra (*Naja nigricollis*) *Toxicon 25:665–672, 1987*

Spider bites *Trans R Soc Trop Med Hyg 92:546–548, 1998; South Med J 69:887–891, 1976;* brown recluse spider bite *JAAD 44:561–573, 2001;* eschar and ulceration *JAAD 47:766–769, 2002*

Sporotrichosis *NEJM 352:700–707, 2005; Tyring p.55, 2002; Ghatan p.31, 2002, Second Edition*

*Staphylococcus aureus NEJM 352:700–707, 2005; Staphylococcus aureus* purpura fulminans and toxic shock syndrome *Clin Inf Dis 40:941–947, 2005*

Staphylococcal scalded skin syndrome

Stingray bite *BJD 143:1074–1077, 2000*

*Streptococcus* – acute necrotizing infection following bites or scratches of dogs or cats *NEJM 352:700–707, 2005; Ann DV 123:804–806, 1996*

*Streptococcus pneumoniae Clin Inf Dis 21:697–698, 1995;* penile gangrene *Rook p.3194, 1998, Sixth Edition*

Subacute bacterial endocarditis – *Streptococcus viridans* with cutaneous vasculitis

Synergistic necrotizing gangrene (Meleney's synergistic gangrene) *Rook p.2266, 1998, Sixth Edition; Surgery 86:655–662, 1979; Arch Surg 9:317–364, 1924*

Syphilis – malignant lues *NEJM 352:700–707, 2005; JAAD 22:1061–1067, 1990;* penile gangrene *Rook p.3194, 1998, Sixth Edition*

Tanapox – umbilicated papule progressing to necrosis *JAAD 44:1–14, 2001*

Tick bites – especially soft ticks *JAAD 49:363–392, 2003*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980;* eschar and ulceration *JAAD 47:766–769, 2002*

*Trichosporon beigelii AD 129:1020–1023, 1993*

Tropical ulcer – eschar and ulceration *JAAD 47:766–769, 2002*

*Trypanosoma brucei rhodiense* – necrotic chancre *J Clin Inf Dis 23:847–848, 1996*

Tsutsugamushi fever *Dtsch Med Wochenschr 123:562–566, 1998*

Tularemia – necrotic papule *Cutis 54:279–286, 1994;* eschar and ulceration *NEJM 352:700–707, 2005; JAAD 47:766–769, 2002;* skin slough from hamster bite *MMWR 53:1202–1203, 2005*

Vaccinia – progressive vaccinia *J Clin Inf Dis 25:911–914, 1997*

Varicella – varicella gangrenosa *Tyring p.124, 2002; Arch Dis Child 30:177–179, 1955;* chronic varicella zoster virus in AIDS *AD 124:1011–1012, 1988;* penile gangrene in infancy *Rook p.3194, 1998, Sixth Edition;* atypical recurrent varicella with vesiculopapular lesions with central necrosis *JAAD 48:448–452, 2003*

Venoms

*Vibrio vulnificus* sepsis *JAAD 46:S144–145, 2002; Ann DV 128:653–655, 2001; JAAD 24:397–403, 1991*

*Xanthomonas maltophilia* – ecthyma gangrenosum-like lesions *JAAD 37:836–838, 1997*

Yaws

Zygomycosis *AD 140:877–882, 2004; JAAD 32:346–351, 1995; Rhizopus arrhizus*; bull's eye infarct *JAAD 51:996–1001, 2004; JAMA 2254:737–738, 1973; Apophysomyces elegans*, *Saksenaza vasiformis J Clin Inf Dis 24:580–583, 1997; J Clin Inf Dis 19:67–76, 1994*

## INFILTRATIVE LESIONS

Langerhans cell histiocytosis *NEJM 352:700–707, 2005*

## INFLAMMATORY DISORDERS

Dermatitis gangrenosum infantum – multiple necrotic ulcers complicating varicella, seborrheic dermatitis *BJD 75:206–211, 1963*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* Stevens–Johnson syndrome *Rook p.3365–3366, 1998, Sixth Edition*

Nodular panniculitis, idiopathic – overlying necrosis with drainage of oily brown serous fluid *Rook p.2410–2411, 1998, Sixth Edition; Medicine 64:181–191, 1985*

Pyoderma gangrenosum *NEJM 352:700–707, 2005; Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988*

Pyoderma gangrenosum-like lesions, polyarthritis, and lung cysts with ANCA to azurocidin – umbilicated necrotic lesions *Clin Exp Immunol 103:397–402, 1996*

Sarcoid – resembling papulonecrotic tuberculid *AD Syphilol 13:675–676, 1926*

## METABOLIC DISEASES

Acrodermatitis enteropathica – black necrotic lesions *Rook p.2670, 1998, Sixth Edition*

Calcific uremic arteriolopathy *NEJM 352:700–707, 2005*

Calcinosis cutis – metastatic calcification *AD 106:398–402, 1972*

Calciphylaxis (vascular calcification cutaneous necrosis syndrome) *AD 140:1045–1048, 2004; J Dermatol 28:27–31, 2001; Br J Plast Surg 53:253–255, 2000; J Cutan Med Surg 2:245–248, 1998; JAAD 40:979–987, 1999; JAAD 33:53–58, 1995*; *JAAD 33:954–962, 1995*; *JAAD 33:954–962, 1995; AD 127:225–230, 1991*

Cold agglutinins *BJD 139:1068–1072, 1998; JAAD 19:356–357, 1988;* at site of transfusion *JAAD 19:356–357, 1988;* intravascular coagulation necrosis *JAAD 25:882–888, 1991*

Cryofibrinogenemia *Am J Med 116:332–337, 2004; Clin Exp Dermatol 25:621–623, 2000; Am J Kidney Dis 32:494–498, 1998; AD 133:1500–1501, 1997; JAAD 24:342–345, 1991;* intravascular coagulation necrosis *JAAD 25:882–888, 1991*

Cryoglobulins – intravascular coagulation necrosis *NEJM 352:700–707, 2005; JAAD 25:882–888, 1991;* necrotic ears *BJD 143:1330–1331, 2000;* monoclonal cryoglobulinemia; cutaneous necrosis *JAAD 48:311–340, 2003*

Diabetes – microangiopathy, neuropathy *NEJM 352:700–707, 2005*; dry or wet gangrene; arteriosclerotic peripheral vascular disease *Caputo p.189, 2000; Rook p.2231,2674, 1998, Sixth Edition;* penile gangrene *J Urol 132:560–562, 1984*

Homocystinuria – cystathionine-beta synthase deficiency*;* distal cutaneous necrosis *Ann DV 126:822–825, 1999*

Hyperparathyroidism

Hyperphosphatemia *J Parent Enteral Nutr 21:50–52, 1997*

Hyperviscosity – cryos, paraproteinemia, dehydration

Oxalosis – acral necrosis with livedo; (primary oxalosis (hyperoxaluria) – type 1 – alanine glyoxalate aminotransferase (transaminase) deficiency; chromosome 2q36–37; type 2 (rare) – D-glyceric acid dehydrogenase deficiency *AD 137:957–962, 2001; JAAD 22:952–956, 1990; AD 131:821–823, 1995;* primary hyperoxaluria; necrosis with limb gangrene *JAAD 49:725–728, 2003;* livedo reticularis, ulcers, and peripheral gangrene *AD 136:1272–1274, 2000*

Paroxysmal nocturnal hemoglobinuria – petechiae, ecchymoses, red plaques which become hemorrhagic bullae with necrosis; lesions occur on legs, abdomen, chest, nose, and ears; deficiency of enzymes – decay-accelerating factor (DAF) and membrane inhibitor of reactive lysis (MIRL) *AD 138:831–836, 2002; AD 122:1325–1330, 1986; AD 114:560–563, 1978*

Protein C deficiency *Blood Coagul Fibrinolysis 9:351–354, 1998; AD 133:1500–1501, 1997; Semin Thromb Hemost 16:299–309, 1990; Blood Coagul Fibrinolysis 1:319–330, 1990; AD 123:1701a–1706a, 1987*

Protein S deficiency *JAAD 29:853–857, 1993; Semin Thromb Hemost 16:299–309, 1990*

Prothrombin G20210A – mutation (heterozygous) *Pediatr Hematol Oncol 16:561–564, 1999*

Purpura fulminans, neonatal – purpura or cellulitis-like areas evolving into necrotic bullae or ulcers *Textbook of Neonatal Dermatology, p.151, 2001*

Short bowel syndrome – superficial skin necrosis *Harefuah 136:855–857,915, 1999*

Sickle-cell anemia – stellate necrosis

Thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Leuk Lymphoma 22 Suppl 1:47–56, 1996; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963;* essential thrombocythemia with or without necrotizing vasculitis *JAAD 24:59–63, 1991*

## NEOPLASTIC

Atrial myxoma *Am J Med 62:792–794, 1977*

Basal cell carcinoma *NEJM 352:700–707, 2005*

Eosinophilic histiocytosis *JAAD 13:952–958, 1985*

Fibrosarcoma/spindle cell sarcoma – necrotic red or violaceous nodule *Rook p.2352, 1998, Sixth Edition*

Histiocytic lymphoma (true histiocytic lymphoma) *JAAD 50:S9–10, 2004*

Kaposi's sarcoma

Keloids – suppurative necrosis *Rook p.2056–2057, 1998, Sixth Edition*

Leukemia cutis *NEJM 352:700–707, 2005; BJD 143:773–779, 2000*

Lymphoma – cutaneous T-cell lymphoma *NEJM 352:700–707, 2005; JAAD 47:914–918, 2002*; hydroa vacciniforme-like primary $CD8^+$ angiocentric lymphoma associated with Epstein–Barr virus *BJD 147:587–591, 2002; JAAD 38:574–579, 1998; AD 133:1156–1157, 1997*; subcutaneous panniculitis-like T-cell lymphoma with necrotic nodules of legs A*D 141:1035–1040, 2005; Am J Surg Pathol 15:17–27, 1991;* primary cutaneous $CD30^+$ lymphoproliferative disorder ($CD8^+$/$CD4^+$) – necrotic nodule *JAAD 51:304–308, 2004*

Lymphomatoid papulosis – papules or nodules with central necrosis *NEJM 352:700–707, 2005; JAAD 49:1049–1058, 2003; Am J Dermatopathol 18:221–235, 1996; JAAD 17:632–636, 1987; JAAD 13:736–743, 1985*

Melanoma *NEJM 352:700–707, 2005*

Polycythemia vera *Rook p.2231, 1998, Sixth Edition*

Squamous cell carcinoma *NEJM 352:700–707, 2005*

## PARANEOPLASTIC DISORDERS

Hypersensitivity to mosquito bites – associated with lymphoma/leukemia *BJD 153:210–212, 2005; JAAD 45:569–578, 2001; BJD 138:905–906, 1998*

Paraneoplastic acral vascular syndrome – acral cyanosis and gangrene *JAAD 47:47–52, 2002; AD 138:1296–1298, 2002*

Paraneoplastic pemphigus – necrosis of eyelids and oral mucosa *Great Cases from the South, AAD Meeting, March 2000*

Pyoderma gangrenosum, atypical (bullous) – associated with myeloproliferative disease

Venous thrombosis

## PHOTODERMATITIS

Hydroa vacciniforme *BJD 144:874–877, 2001; AD 118:588–591, 1982*

## PRIMARY CUTANEOUS DISEASE

Acne necrotica varioliformis

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *JAAD 51:606–624, 2004; AD 123:1335–1339, 1987; AD 118:478, 1982;* febrile ulceronecrotic variant of Mucha–Habermann disease *Ped Derm 22:360–365, 2005; BJD 152:794–799, 2005; JAAD 49:1142–1148, 2003; BJD 147:1249–1253, 2002; Ped Derm 8:51–57, 1991; Ann DV 93:481–496, 1966*

Erythema elevatum diutinum *BJD 67:121–145, 1955*

Pityriasis rosea – vesicular variant

Pustular psoriasis

Pyoderma faciale

Subcutaneous fat necrosis of newborn

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis – linear lesions *Ped Derm 21:205–211, 2004; Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979;* penile gangrene *Rook p.3194, 1998, Sixth Edition*

## SYNDROMES

Anterior tibial syndrome

Antiphospholipid antibody syndrome – eschar and ulceration *NEJM 352:700–707, 2005; JAAD 47:766–769, 2002; NEJM 346:752–763, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; Clin Rheumatol 15:394–398, 1996; South Med J 88:786–788, 1995; BJD 120:419–429, 1989;* nasal tip necrosis *BJD 142:1199–1203, 2000;* lupus anticoagulant

Behçet's disease (bullous necrotizing vasculitis) *JAAD 21:327–330, 1989;* pyoderma gangrenosum-like lesions *JAAD 40:1–18, 1999*

Hypereosinophilic syndrome – cutaneous necrotizing eosinophilic vasculitis with Raynaud's phenomenon *BJD 143:641–644, 2000;* hypereosinophilic syndrome associated with T-cell lymphoma *JAAD 46:S133–136, 2002;* fingertip necrosis with vasculitis *AD 132:535–541, 1996;* cutaneous infarction *BJD 148:817–820, 2003*

Infantile myofibromatosis *Ped Derm 5:37–46, 1988*

Neurofibromatosis type I – vasculopathy with acral necrosis *Pediatrics 100:395–397, 1997*

POEMS syndrome – vasculitis with necrosis

Racand syndrome – acral or digital necrosis; Raynaud's phenomenon, anticentromere antibodies and necrosis of digits without sclerodactyly and sclerosis of internal organs *JAAD 43:621, 2001*

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Sjögren's syndrome – nail-fold infarcts, gangrene of fingers *Rook p.2572, 1998, Sixth Edition*

Thoracic outlet obstruction *AD 138:1296–1298, 2002*

Werner's syndrome – acral necrosis *Medicine 45:177–221, 1966*

Wiskott–Aldrich syndrome

## TOXINS

Carbon monoxide – endothelial cell damage

## TRAUMA

Blunt trauma – repetitive blunt trauma *AD 138:1296–1298, 2002*

Chemical burns
- Acids and alkalis
- Cement (calcium hydroxide) *BJD 102:487–489, 1980; Br Med J i:1250, 1978*
- Chromic acid *Rook p.868, 1998, Sixth Edition*
- Hydrofluoric acid
- Lime dust – necrosis with ulcers *Contact Dermatitis 1:59, 1981*
- Phenol
- Phosphorus

Chilblains – fingertips and toetips; with necrosis on fingers, toes, nose, and ears in patients with monocytic leukemia *AD 121:1048, 1052, 1985*

Coma bullae – sweat gland necrosis *Ann DV 122:780–782, 1995*

Compartmental syndrome (crush injury of thorax) – skin necrosis

Condom catheter – gangrene of glans or shaft of penis *JAMA 244:1238, 1980*

Crush injury of fingertip *AD 138:1296–1298, 2002*

Cryosurgery *JAAD 8:513–519, 1983*

Electric shock – fingertip necrosis *AD 138:1296–1298, 2002*

External compression of arterial supply (popliteal entrapment, cervical rib) *Rook p.2231, 1998, Sixth Edition*

Frostbite – vesicles, bullae, ischemic necrosis; calcification *Rook p.3021, 1998, Sixth Edition*

Gentian violet *Acta DV 52:55–60, 1972*

Heel sticks of neonate – gangrene of heel *Eichenfeld p.105, 2001*

Hypothenar hammer syndrome *AD 138:1296–1298, 2002*

Intravenous drug addiction – dorsal vein of penis; necrosis *BJD 150:1–10, 2004; Cutis 29:62–72, 1981*

Laser burns *Rook p.953, 1998, Sixth Edition*

Microwave radiation burns *Rook p.953, 1998, Sixth Edition*

Nerve injury, traumatic – small areas of acral necrosis *Rook p.2776, 1998, Sixth Edition*

Negative pressure device for erectile impotence *J Urol 146:1618–1619, 1991*

Orthopedic braces *Injury 25:323–324, 1994*

Oxygen face mask with continuous positive pressure *Anaesthesia 48:147–148, 1993*

Physical trauma

Post-surgical – penile gangrene *Rook p.3194, 1998, Sixth Edition*

Pressure necrosis *NEJM 352:700–707, 2005*

Pulse oximetry – acral necrosis *Cutis 48:235–237, 1991; Anesth Analg 67:712–713, 1988*

Radial or ulnar artery cannulation *AD 138:1296–1298, 2002; N Y State J Med 90:375–376, 1990*

Radiation – necrosis *NEJM 352:700–707, 2005; J Laryngol Otol 112:1142–1146, 1998;* necrosis after fluoroscopy during coronary angioplasty *AD 139:140–142, 2003*

Skin popping *Clin Nucl Med 22:865–866, 1997*

Surgery – pressure necrosis of scalp, hips

Surgical embolization – occipital scalp necrosis and scarring *Surg Neurol 25:357–366, 1988*

Tourniquet injury (hair) – penile gangrene *Rook p.3194, 1998, Sixth Edition*

Traumatic disruption of arterial wall *Rook p.2231, 1998, Sixth Edition*

Trench foot, immersion foot – superficial gangrene *Rook p.959, 1998, Sixth Edition*

## VASCULAR

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975;* edema of limbs and face *Cutis 68:127–129, 2001; AD 133:1500–1501, 1997*

ANCA-associated vasculitis with acquired protein S deficiency *Throm Haemost 84:929–930, 2000*

Aneurysm – dissecting aneurysm, thrombosed aneurysm *Rook p.2231, 1998, Sixth Edition*

Angiopericytomatosis (angiomatosis with cryoproteins) – painful red papules and ulcerated plaques acrally; necrotic plaques *JAAD 49:887–896, 2003*

Arterial fibromuscular dysplasia – fingertip necrosis *AD 138:1296–1298, 2002*

Arteriovenous fistulae – fingertip necrosis; vascular steal syndrome in hemodialysis patients with arteriovenous fistulae *AD 138:1296–1298, 2002; Rook p.2731, 1998, Sixth Edition*

Atherosclerosis – ischemic necrosis, gangrene; leg ulcers with small areas of necrosis along margin *AD 138:1296–1298, 2002; Rook p.2231,2265, 1998, Sixth Edition*

Atrophie blanche *AD 119:963–969, 1983*

Benign (reactive) angioendotheliomatosis – red–brown or violaceous nodules or plaques with small areas of necrosis *JAAD 38:143–175, 1998*

Churg–Strauss disease *AD 139:715–718, 2003; JAAD 47:209–216, 2002;* necrotic purpura of scalp *Ann DV 122:94–96, 1995;* umbilicated nodules with central necrosis of elbows and knees (papulonecrotic lesions) *JAAD 48:311–340, 2003; BJD 127:199–204, 1992;* skin infarcts *BJD 150:598–600, 2004; Mayo Clinic Proc 52:477–484, 1977*

Embolism, septic *NEJM 352:700–707, 2005*

Degos' disease (malignant atrophic papulosis) *BJD 100:21–36, 1979; Ann DV 79:410–417, 1954*

Disseminated intravascular coagulation (DIC) – intravascular coagulation necrosis *JAAD 25:882–888, 1991;* peripheral symmetric gangrene *AD 137:139–140, 2001*

Emboli – tumor; intravascular coagulation necrosis; cholesterol emboli *BJD 146:511–517, 2002; Medicine 74:350–358, 1995; JAAD 25:882–888, 1991; Angiology 38:769–784, 1987; AD 122:1194–1198, 1986; Angiology 37:471–476, 1986*

Erythromelalgia – associated with thrombocythemia – may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990*

Giant cell arteritis – lip necrosis *J Oral Maxillofac Surg 51:581–583, 1993;* tongue necrosis *Rook p.3120, 1998, Sixth Edition*

Glomeruloid angioendotheliomatosis – red purpuric patches and acral necrosis – associated with cold agglutinins *JAAD 49:887–896, 2003*

Hemangioma (proliferating hemangioma) – focal necrosis

Henoch–Schönlein purpura *Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995; Am J Dis Child 99:833–854, 1960;* in the adult *AD 125:53–56, 1989*

Heterozygous factor V Leiden deficiency *BJD 143:1302–1305, 2000*

Hypertensive ulcer (Martorell's ulcer) – starts as area of cyanosis with progression to ulcer of lower lateral leg with livedo at edges *Phlebology 3:139–142, 1988*

Hypotension

Intravascular thrombosis – DIC (meningococcemia, Rocky Mountain spotted fever, fungal, parasitic (Strongyloides)), atheroemboli, fat emboli, calciphylaxis, coumarin necrosis, protein C or S deficiency, antithrombin III deficiency, purpura fulminans, antiphospholipid antibody syndrome, thrombotic vasculitis (LE), cryoglobulins, cryofibrinogens, oxalosis

Ischemic venous thrombosis (phlegmasia cerulia dolens) (venous gangrene) *JAAD 28:831–835, 1993; AD 123:933–936, 1987*

Juvenile gangrenous vasculitis of the scrotum *Rook p.3199, 1998, Sixth Edition*

Kasabach–Merritt syndrome

Livedoid vasculopathy *NEJM 352:700–707, 2005*

Neonatal gangrene – secondary to umbilical arterial catheterizations, polycythemia, prematurity *BJD 150:357–363, 2004*

Perinatal gangrene of the buttock, scrotum, and prepuce *AD 121:23–24, 1985*

Polyarteritis nodosa – livedoid necrosis *NEJM 352:700–707, 2005;* peripheral embolization of thrombi with necrosis of fingers or toes *Rook p.2212, 1998, Sixth Edition;* cutaneous – peripheral gangrene *Ped Derm 15:103–107, 1998; Ann Rheum Dis 54:134–136, 1995; JAAD 31:54–56, 1994*

Purpura fulminans *Semin Thromb Hemost 16:333–340, 1990;* neonatal *AD 123:1701a–1706a, 1987;* neonatal purpura fulminans – ecchymoses of limbs at sites of pressure in first day of life; enlarge rapidly, hemorrhagic bullae with central necrosis; homozygous protein C or protein S deficiency *Semin Thromb Hemost 16:299–309, 1990*

Pustular vasculitis – annular pustular plaques with central necrosis *Rook p.2167, 1998, Sixth Edition*

Radial artery removal for coronary bypass grafting *AD 138:1296–1298, 2002*

Raynaud's phenomenon

Reactive angioendotheliomatosis – red purple-purpuric patches and plaques with necrotic ulcers; includes acroangiomatosis, diffuse dermal angiomatosis, intravascular histiocytosis, glomeruloid angioendotheliomatosis, angiopericytomatosis (angiomatosis with luminal cryoprotein deposition), reactive angiomatosis-like reactive angioendotheliomatosis; associated with subacute bacterial endocarditis, hepatitis, cholesterol emboli, cryoglobulinemia, arteriovenous shunt, anti-phospholipid antibody syndrome, chronic lymphocytic leukemia, monoclonal gammopathy, chronic renal failure, rheumatoid arthritis, severe peripheral vascular disease, arteriovenous fistulae *JAAD 49:887–896, 2003; BJD 147:137–140, 2002; JAAD 42:903–906, 2000*

Recurrent cutaneous eosinophilic necrotizing vasculitis – papules, purpura, necrosis *Acta DV 80:394–395, 2000*

Sickle-cell infarct – thrombotic vasculitis

Small vessel occlusive arterial disease – diabetes *NEJM 352:700–707, 2005*

Subacute bacterial endocarditis with vasculitis

Symmetric peripheral gangrene *Cutis 46:53–55, 1990*
Primary arterial disease – polyarteritis nodosa, SLE, rheumatoid arthritis, arteriosclerosis obliterans, thromboangiitis obliterans

Congestive heart failure
Overwhelming infection – meningococcemia, pneumococcal, rickettsial, viral, fungal, other
Miscellaneous – carbon monoxide poisoning, fibrin thrombi, cold injury, crutch pressure arteritis
Mitral stenosis with or without left atrial wall thrombus
Embolization – cholesterol, infectious, tumor, thromboembolic
Myocardial infarction
Pulmonary embolus
Vasospastic – ergotism, Raynaud's
Primary venous disease – venous gangrene

Syphilitic aortic aneurysm eroding through the sternum *Dur M Cardiothorac Surg 10:922–924, 1996*

Takayasu's arteritis – cutaneous necrotizing vasculitis *NEJM 352:700–707, 2005; Dermatology 200:139–143, 2000*

Temporal arteritis (giant cell arteritis) *Arthritis Rheum 42:1296, 1999;* with scalp necrosis *BJD 120:843–846, 1989;* gangrene of leg, tongue necrosis *BJD 151:721–722, 2004; BJD 76:299–308, 1964*

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thromboembolic phenomena – fingertip necrosis; cardiac source, arterial source, aneurysm (subclavian or axillary arteries), infection, hypercoagulable state *AD 138:1296–1298, 2002*

Thrombosis – penile gangrene *Rook p.3194, 1998, Sixth Edition*

Thrombosis of large vessels

Thrombotic thrombocytopenic purpura

Urticarial vasculitis *Clin Rev Allergy Immunol 23:201–216, 2002*

Vasculitis – large and/or small vessel – leukocytoclastic vasculitis *NEJM 352:700–707, 2005; AD 134:309–315, 1998; Rook p.2178, 1998, Sixth Edition;* urticarial vasculitis *AD 134:231–236, 1998*

Vasoconstriction

Venous stasis ulceration (chronic venous insufficiency) – medial lower leg and medial malleolus *NEJM 352:700–707, 2005; AD 133:1231–1234, 1997; Semin Dermatol 12:66–71, 1993;* with subcutaneous calcification *J Derm Surg Oncol 16:450–452, 1990*

Venous limb gangrene (phlegmasia cerulea dolens) – during warfarin treatment of cancer-associated deep venous thrombosis; due to severe depletion of protein C and failure to reduce thrombin generation *Ann Intern Med 135:589–593, 2001*

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wegener's granulomatosis – cutaneous necrosis *NEJM 352:700–707, 2005;* papulonecrotic lesions *JAAD 48:311–340, 2003; Cutis 64:183–186, 1999; JAAD 31:615–622, 1994;* necrotic penile ulcers *Clin Rheumatol 17:239–241, 1998; JAAD 31:605–612, 1994; AD 130:1311–1316, 1994;* genital and perineal necrosis *Am J Med 108:680–681, 2000*

### ESCHARS

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

Anthrax

Antiphospholipid antibody syndrome

Aspergillosis

Boutonneuse fever

Brown recluse spider bite

Calciphylaxis

*Capnocytophaga canimorsus* sepsis – dog and cat bites; necrosis with eschar; cellulitis *Cutis 60:95–97, 1997; JAAD 33:1019–1029, 1995*

Coumadin necrosis

Ecthyma

Ecthyma gangrenosum

Fusariosis

Glanders

Heparin necrosis

Herpes simplex virus

Milker's nodule

Mucormycosis

Necrotizing fasciitis

Orf

Phagedenic ulcer

Queensland tick typhus

Rat bite fever

Rickettsial pox

Scrub typhus

Siberian typhus

Tularemia

## NEVI: SYNDROMES ASSOCIATED WITH NEVI

***JAAD 29:374–388, 1993***

### CONGENITAL NEVI

Epidermal nevus syndrome *Ped Derm 6:316–320, 1989*

Limb hypoplasia *J Pediatr 120:906–911, 1992*

Linear nevus sebaceus syndrome

Malformations associated with congenital nevi – spinal cord, vascular, neurocutaneous melanosis

Melanocytic nevi along Blaschko's lines *Acta DV 78:378–380, 1998*

Mills syndrome – giant congenital nevus and chronic progressive ascending hemiparesis *Ital J Neurol Sci 13:259–263, 1992*

Multiple hamartoma syndrome with congenital melanocytic nevus, epidermal nevi, vascular malformations, aplasia cutis congenita of the scalp, cartilage hamartoma, lipodermoid fibroma of the conjunctiva, and intracranial malformation *Ped Derm 3:219–225, 1986*

NAME/LAMB (Carney) syndrome *Curr Prob Derm VII:143–198, 1995*

Neurocutaneous melanosis *JAAD 35:529–538,1996; JAAD 24:747–755. 1991*

Neurofibromatosis Type I *Neurology 35 (suppl 1):194, 1985*

Nevi spili along Blaschko's lines *Acta DV 78:378–380, 1998*

Noonan syndrome *JAAD 46:161–183, 2002; Curr Prob Derm VII:143–198, 1995*

Occult spinal dysraphism/tethered cord *Semin Perinatol 7:253–256, 1983*

Phakomatosis pigmentovascularis – pigmented nevus, vascular nevus, nevus spilus *JAAD 53:536–539, 2005;* nevus flammeus; blaschko-esque non-epidermolytic epidermal nevus, speckled lentiginous nevus with contralateral organoid nevus *Clin Exp Dermatol 25:51–54, 2000; Ped Derm 16:25–30, 1999; Ped Derm 15:321–323, 1998; Ped Derm 13:33–35, 1996*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus and a popular speckled lentiginous nevus *Eur J Dermatol 10:190–194, 2000; Ped Derm 15:321–323, 1998; AD 134:333–337, 1998*

Premature aging syndrome – Mulvihill–Smith progeria-like syndrome – multiple congenital melanocytic nevi, freckles, blue nevi, short stature, unusual birdlike facies, lack of facial subcutaneous tissue, xerosis, telangiectasias, thin skin, fine silky hair, premature aging, low birth weight, hypodontia, high-pitched voice, mental retardation, sensorineural hearing loss, hepatomegaly, microcephaly, immunodeficiency with chronic infections, progeroid, conjunctivitis, delayed puberty *Am J Med Genet 69:56–64, 1997; J Med Genet 31:707–711, 1994; Am J Med Genet 45:597–600, 1993*

Ring chromosome 7 syndrome – multiple congenital melanocytic nevi; CALMs

## ACQUIRED NEVI

Addison's disease – eruptive nevi *JAAD 37:321–325, 1997*

AIDS – eruptive nevi *AD 135:397–401, 1989*

Asthma melanodermica – prior to attack, diffuse darkening of skin and increase in size and number of nevi *AD 78:210–213, 1958*

Atypical mole syndrome (dysplastic nevus syndrome) *JAAD 29:373–388, 1993; Recent Results Cancer Res 128:101–118, 1993; Cancer 46:1787–1794, 1980; J Med Genet 15:352–356, 1978*

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) (NS) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Chediak–Higashi syndrome

Cheetah phenotype *JAAD 48:707–713, 2003*

Costello syndrome *JAAD 32:904–907, 1995*

Craniofacial anomalies, ocular findings, pigmented nevi, camptodactyly, skeletal changes – autosomal recessive *Clin Dysmorphol 9:61–62, 2000*

Drug-induced – immunosuppressive therapy in transplant recipients associated with increased number of nevi *JAAD 28:51–53, 2001; JAAD 44:932–939, 2001*; *Dermatology 194:17–19, 1997; of the palms and soles JAAD 52:S96–100, 2005*

Ectrodactyly, ectodermal dysplasia, and cleft palate syndrome (EEC syndrome) – increased numbers of nevi

Epidermal nevus syndrome – Spitz nevi *Ped Derm 6:316–320, 1989*

Epidermolysis bullosa – nevi associated with EB ('EB nevi') *Ped Derm 22:338–343, 2005; JAAD 44:577–584, 2001;* generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; nevi or acquired macular pigmented lesions with irregular borders *AD 122:704–710, 1986;* GABEB – giant nevi at sites of blistering *AD 132:145–150, 1996*

Eruptive nevi without associations

Erythema multiforme – eruptive nevi following erythema multiforme *JAAD 37:337–339, 1997; JAAD 1:503–505, 1979*

Facial nevi, anomalous cerebral venous return, and hydrocephalus *Ann Neurol 3:316–318, 1978; J Neurosurg 45:20–25, 1976*

Hypoplastic anemia with triphalangeal thumbs syndrome (Aase–Smith syndrome)

Idiopathic scoliosis – related to number of acquired melanocytic nevi *JAAD 45:35–43, 2001*

Langer–Giedion syndrome (trichorhinophalangeal syndrome Type II) *JAAD 29:373–388, 1993*

Multiple deep penetrating nevi *AD 139:1608–1610, 2003*

Multiple schwannomas, multiple nevi, and multiple vaginal leiomyomas – autosomal dominant *Am J Med Genet 78:76–81, 1998*

Mustard gas – eruptive nevi *JAAD 40:646–647, 1999*

Neurologic syndromes – eruptive nevi after loss of consciousness or seizures *BJD 92:207–211, 1975*

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; J Med Genet 24:9–13, 1987*

Phacomatosis pigmentovascularis type IIIb – nevus spilus *AD 125:1284–1285, 1989*

Renal transplantation – eruptive atypical nevi in renal transplantation

Stevens–Johnson syndrome – eruptive nevi *JAAD 37:337–339, 1997*

Sunburn, blistering – eruptive nevi

Telangiectasia macularis eruptiva perstans – mastocytosis – nevus-like appearance

Toxic epidermal necrolysis – eruptive nevi

Tricho-odonto-onychodysplasia syndrome – multiple melanocytic nevi, freckles, generalized hypotrichosis, parietal alopecia, brittle nails, xerosis,supernumerary nipples, palmoplantar hyperkeratosis, enamel hypoplasia, deficient frontoparietal bone *JAAD 29:373–388, 1993*; *Am J Med Genet 15:67–70, 1983*

Turner's syndrome (XO in 80%) – multiple nevi; peripheral edema at birth which resolves by age 2; redundant neck skin in newborn; small stature, broad shield-shaped chest with widely spaced nipples, arms show wide carrying angle, webbed neck, low posterior hairline, low misshapen ears, high arched palate, cutis laxa of neck and buttocks, short fourth and fifth metacarpals and metatarsals, hypoplastic nails, keloid formation, increased numbers of nevi; skeletal, cardiovascular, ocular abnormalities; increased pituitary gonadotropins with low estrogen levels *JAAD 50:767–776, 2004; JAAD 46:161–183, 2002; JAAD 40:877–890, 1999*

Xanthoma disseminatum – nevi-like appearance of xanthoma disseminatum *AD 138:1207–1212, 1992*

### CONGENITAL AND/OR ACQUIRED NEVI

Baraitser syndrome – premature aging with short stature and pigmented nevi

Crouzon syndrome *Ped Derm 13:18–21, 1996*

Ectrodactly–ectodermal dysplasia–cleft lip/palate (EEC) syndrome

Epidermolysis bullosa – generalized atrophic benign EB (GABEB) (mitis) – non-lethal junctional – generalized blistering beginning in infancy; atrophic scarring; alopecia of scalp, eyebrows, eyelashes *Dermatologica 152:72–86, 1976;* nevi or acquired macular pigmented lesions with irregular borders *AD 122:704–710, 1986;* GABEB – giant nevi at sites of blistering *AD 132:145–150, 1996*

Familial atypical mole syndrome *Bull Cancer 85:627–630, 1998*

Familial multiple blue nevi

Goeminne syndrome – X-linked incompletely dominant, multiple melanocytic nevi, multiple spontaneous keloids, basal cell carcinomas, varicose veins, muscular toricollis, renal dysplasia, cryptorchidism, urethral meatal stenosis, facial asymmetry, clinodactyly, scoliosis, dental caries *JAAD 29:373–388, 1993; Curr Prob Derm VII:143–198, 1995*

Jaffe–Campanacci syndrome *Curr Prob Derm VII:143–198, 1995*

Kuskokwin syndrome – autosomal recessive, multiple melanocytic nevi, joint contractures, muscle atrophy, decreased corneal reflexes, skeletal abnormalities *Curr Prob Derm VII:143–198, 1995*

LEOPARD syndrome

Leukemia – eruptive nevi with chronic myelogenous leukemia *JAAD 35:326–329, 1996*

Moynahan syndrome *Proc R Soc Med 55:959–960, 1962*

Mulvihill–Smith syndrome (premature aging, microcephaly, unusual facies, multiple nevi, mental retardation) *Birth Defects 11:368–371, 1975*

Neurofibroma resembling congenital melanocytic nevus *JAAD 20:358–362, 1989*

Nevoid basal cell carcinoma syndrome

Nevus sebaceus syndrome *Syndromes of the Head and Neck, p.362, 1990*

Noonan's syndrome – short stature, webbed neck, shield chest, lymphedema, dystrophic nails, keloids, and increased numbers of nevi *Ped Derm 11:120–124, 1994*

Phakomatosis pigmentokeratotica – speckled lentiginous nevus in checkerboard pattern *AD 134:333–337, 1998*

Phakomatosis pigmentovascularis – nevus spilus in phacomatosis pigmentovasularis type IIIb *AD 125:1284–1285, 1989*

Progeroid short stature with pigmented nevi *J Med Genet 25:53–56, 1988*

Proteus syndrome – partial gigantism of the hands and/or feet, nevi, hemihypertrophy, subcutaneous tumors, macrocephaly, other skull anomalies, accelerated growth *Eur J Pediatr 140:5–12, 1983*

Short stature, premature aging, pigmented nevi *J Med Genet 25:53–56, 1988*

Tay syndrome – lentigines

Tricho-odonto-onychial dysplasia

Tricho-onychodysplasia syndrome

Trisomy 22 – Turner-like changes

Turner's syndrome – webbed neck, hypoplastic nails, keloids and hypertrophic scars, xerosis, seborrheic dermatitis, abnormal dermatoglyphics, increased numbers of nevi, sexual infantilism, short stature, cubitus valgus *Ped Derm 11:120–124, 1994; JAAD 36:1002–1004, 1996; NEJM 335:1749–1754, 1996; Curr Prob Derm VII:143–198, 1995*

## NIPPLE DERMATITIS

***JAAD 43:733–751, 2000***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSREGULATION

Allergic contact dermatitis *Contact Dermatitis 45:44–45, 2001; Contact Dermatitis 33:440–441, 1995; Contact Dermatitis 24:139–140, 1991*

Bullous pemphigoid

Chronic granulomatous disease

DiGeorge's syndrome *Cutis 45:455–459, 1990*

Pemphigus foliaceus

Pemphigus vulgaris

Severe combined immunodeficiency *Ped Derm 9:49–51, 1992*

### DRUG-INDUCED

Heparin *JAAD 20:1130–1132, 1989*

### EXOGENOUS AGENTS

Irritant contact dermatitis

Hair sinus

### INFECTIONS AND INFESTATIONS

Bejel – endemic syphilis

Candidiasis

Herpes simplex virus – eczema herpeticum

Histoplasmosis *JAAD 25:418–422, 1991*

HIV infection in children *JAAD 22:1223–1231, 1990*

Molluscum contagiosum

*Mycobacterium tuberculosis* – tuberculous mastitis, lupus vulgaris *Pathologee 18:67–70, 1997*

Scabies *Rook p.1460–1461, 1998, Sixth Edition*

Staphylococcal infection of the nipple (inflammatory plaques) *JAAD 20:932–934, 1989*

Syphilis – secondary

Subareolar abscess

Tinea corporis

Tinea versicolor

Verruca vulgaris

### INFILTRATIVE

Mucopolysaccharidosis

### INFLAMMATORY

Hidradenitis suppurativa

Neutrophilic eccrine hidradenitis

Periductal mastitis – nipple discharge *Ghatan p.51, 2002, Second Edition*

Pyoderma gangrenosum

Superficial granulomatous pyoderma

### METABOLIC DISEASES

Prolidase deficiency *JAAD 29:819–821, 1993*

### NEOPLASTIC DISEASES

Adenocarcinoma

Basal cell carcinoma – crusted dermatitis *JAAD 22:207–210, 1990*

Blue nevus

Bowen's disease *Derm Surg 27:971–974, 2001*

Breast carcinoma – direct spread from underlying breast carcinoma; primary inflammatory breast carcinoma; nipple discharge

Clear cell acanthoma *BJD 141:950–951, 1999*

Epidermal nevus

Keratoacanthoma

Lentigo maligna *Cutis 40:357–359, 1987*

Lymphoma – cutaneous T-cell lymphoma; cutaneous T-cell lymphoma presenting as hyperkeratosis areolae mammae *JAAD 41:274–276, 1999*

Melanoma

Metastases – carcinoma erysipelatoides

Nevus, melanocytic

Paget's disease of the breast (nipple) *Rook p.1677–1678,2709, 1998, Sixth Edition; Br J Clin Pract 41:694–696, 1987; Dermatologica 170:170–179, 1985; Surg Gynecol Obstet 123:1010–1014, 1966;* in male *J Cut Surg Med 4:208–212, 2000*

Sebaceous hyperplasia *Cutis 58:63–64, 1996*

Seborrheic keratoses

Verrucous acanthoma

Wart

### PRIMARY CUTANEOUS DISEASES

Acanthosis of nipple

Acanthosis nigricans/pseudoacanthosis nigricans

Apocrine chromhidrosis – black dot of nipple *Ped Derm 12:48–50, 1995*

Atopic dermatitis *Ped Derm 22:64–66, 2005; Trans St John's Hosp Dermatol Soc 58:98–99, 1972*

Darier's disease – erosions *JAAD 23:893–897, 1990*

Erosive adenomatosis of the nipple – blood-stained or serous discharge; enlarged nipple; eroded, crusted, dermatitis; papule on nipple *JAAD 40:834–837, 1999; Cutis 59:91–92, 1997; JAAD 12:707–715, 1985;* papillary adenoma of the nipple *Plast Reconstr Surg 90:1077–1078, 1992*

Erythema craquele

Florid papillomatosis of the nipple *Ghatan p.51, 2002, Second Edition*

Fox–Fordyce disease

Hailey–Hailey disease

Hyperkeratosis of the nipple (hyperkeratosis areolae mammae) *JAAD 41:274–276, 1999*; *Australas J Dermatol 40:220–222, 1999; JAAD 13:596–598, 1985*

Idiopathic dermatitis of the nipple *Trans St John's Hosp Dermatol Soc 58:98–99, 1972*

Lichen sclerosus et atrophicus *BJD 129:748–749, 1993*

Lichen simplex chronicus

Mamillary fissure

Mammary duct ectasia *JAAD 40:834–837, 1999*

Milium

Nummular dermatitis

Psoriasiform dermatitis

Psoriasis

Seborrheic dermatitis

Subareolar duct papillomatosis

### PSYCHOCUTANEOUS

Factitial dermatitis

### SYNDROMES

Netherton's syndrome

Neurofibromatosis

### TRAUMA

Breast feeding (lactation mastitis) – edema, erythema and tenderness *JAMA 289:1609–1612, 2003*

Guitar nipple *JAAD 22:657–663, 1990*

Jogger's nipple *Am J Ind Med 8:403–413, 1985; NEJM 297:1127, 1977*

Nipple ring

Radiation dermatitis

Surf rider's dermatitis *Contact Dermatitis 32:247, 1995*

### VASCULAR

Wegener's granulomatosis

## NIPPLE LESIONS, INCLUDING NIPPLE WITH MULTIPLE PAPULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Pemphigus foliaceus

### CONGENITAL ANOMALIES

Absent or rudimentary nipples with lumpy scalp and unusual pinnae (Finlay syndrome) – autosomal dominant *Genet Couns 2:233–236, 1991; BJD 99:423–430, 1978*

Adnexal polyp of neonatal skin *BJD 92:659–662, 1975*

Carbohydrate-deficient glycoprotein syndrome – inverted nipples; emaciated appearance; lipoatrophy over buttocks;

lipoatrophic streaks extend down legs; high nasal bridge, prominent jaw, large ears, fat over suprapubic area and labia majora, fat pads over buttocks; hypotonia *Textbook of Neonatal Dermatology, p.432, 2001*

Circumareolar telangiectasia *AD 126:1656, 1990*

Galactorrhea of newborn – witches' milk

Mamillary fistula

Pearls (milia) in newborn of areolae, scrotum, and labia majora of newborn *Rook p.452, 1998, Sixth Edition*

Rudimentary nipples *Humangenetik 15:268–269, 1972*

Supernumery nipples (accessory nipple or nipple nevus) *Textbook of Neonatal Dermatology, p.118, 2001; Cutis 62:235–237, 1998*

## DRUG-INDUCED

Diethylstilbestrol – florid papillomatosis after diethylstilbestrol therapy in males

Nipple priapism *JAMA 258:3122, 1987*

## EXOGENOUS AGENTS

Nipple rings *Rook p.3158, 1998, Sixth Edition*

## INFECTIONS AND INFESTATIONS

*Candida albicans* – lactation *Aust NZ J Obstet Gynaecol 31:378–380, 1991*

Herpes simplex *Tyring p.83, 2002*

Lyme disease *(Borrelia burgdorferi)* – lymphocytoma cutis; bluish–red plaque of nipple or areola *JAAD 49:363–392, 2003; JAAD 47:530–534, 2002; Cutis 66:243–246, 2000; JAAD 38:877–905, 1998*

Molluscum contagiosum

*Mycobacterium abscessus* – subareolar abscess due to nipple piercing *Clin Inf Dis 33:131–134, 2001*

*Mycobacterium tuberculosis* – lupus vulgaris *Cutis 53:246–248, 1994*

Scabies *Rook p.1460–1461, 1998, Sixth Edition*

Syphilis – primary chancre; secondary *Rook p.1244, 1998, Sixth Edition*

## INFILTRATIVE LESIONS

Mucinosis of the areolae – manifestation of CTCL *Clin Exp Dermatol 21:374–376, 1996*

## INFLAMMATORY LESIONS

Lactation mastitis *JAMA 289:1609–1612, 2003*

## METABOLIC DISEASES

Addison's disease – hyperpigmentation of nipples *Rook p.1779, 1998, Sixth Edition*

Androgen excess – hyperpigmentation of areolae, axillae, external genitalia, perineum *Ghatan p.165, 2002, Second Edition*

Nipple retraction of menopause *Br Med J 309:797–800, 1994*

Pregnancy – hyperpigmentation of nipples *Rook p.1780,3149, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Basal cell carcinoma – red plaque *Derm Surg 27:971–974, 2001; Cutis 54:85–92, 1994;* including pigmented basal cell carcinoma (black nipple) *AD 125:536–539, 1989*

Blue nevus

Breast cancer – female or male; puckered nipple

Carcinoma of the breast (primary), metastatic to nipple – cellulitis-like appearance of primary inflammatory breast carcinoma *JAAD 43:733–751, 2000;* female or male breast carcinoma – puckered nipple

Dermatofibroma – atypical polypoid dermatofibroma *JAAD 24:561–565, 1991*

Epidermal nevus *Paris Med 28:63–66, 1938*

Epidermoid cyst

Fox–Fordyce disease *Rook p.3162, 1998, Sixth Edition*

Granular cell myoblastoma – nipple-like lesion *AD 121:927–932, 1985*

Hidradenoma papilliferum *Hautarzt 19:101–109, 1968*

Hidradenoma

Leiomyomas *AD 127:571–576, 1991*

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Lymphoma – cutaneous T-cell lymphoma mimicking hyperkeratosis of the nipple (hyperkeratosis areolae mammae) *JAAD 41:274–276, 1999*

Lymphocytoma cutis

Melanoma – primary, metastatic, amelanotic

Milium

Neurofibromas *Rook p.3162, 1998, Sixth Edition*

Nevi, melanocytic

Nevoid hyperkeratosis of the nipple *JAAD 46:414–418, 2002; BJD 142:382–384, 2000; JAAD 41:325–326, 1999*

Paget's disease of the breast (nipple) *Rook p.1677–1678,2709, 1998, Sixth Edition; Dermatologica 170:170–179, 1985; Surg Gynecol Obstet 123:1010–1014, 1966*

Prostatic carcinoma metastases *JAAD 18:391–393, 1988*

Sebaceous hyperplasia of areola *JAAD 13:867–868, 1985*

Seborrheic keratoses *Rook p.3161, 1998, Sixth Edition*

Steatocystoma multiplex

Syringocystadenoma papilliferum

Syringomas

Syringomatous adenomas of the nipple

## NORMAL

Montgomery's tubercles *JAAD 10:929–940, 1984; BJD 86:126–133, 1972*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *JAAD 52:529–530, 2005; JAAD 31:1–19, 1994*

Epidermolytic hyperkeratosis – verrucous plaques of nipples *Rook p.1506, 1998, Sixth Edition*

Erosive adenomatosis (papillary adenomatosis) of the nipple – blood-stained or serous discharge; enlarged nipple; eroded nipple; erythema, ulcer, crusted dermatitis, granular appearance, papule on nipple *JAAD 47:578–580, 2002; JAAD 43:733–751, 2000;* superficial papillary adenomatosis of the nipple *JAAD 33:871–875, 1995; JAAD 12:707–715, 1985*

Florid papillomatosis of the nipple *Ghatan p.51, 2002, Second Edition*

Fox–Fordyce disease *Rook p.2002, 1998, Sixth Edition*

Hyperkeratosis of the nipple and areola (hyperkeratosis areolae mammae) *AD 137:1327–1328, 2001; JAAD 41:274–276, 1999; Eur J Dermatol 8:131–132, 1998; AD 126:687, 1990; JAAD 13:596–598, 1985;* estrogen-induced *Cutis 26:95–96, 1980;* associated with CTCL *JAAD 32:124–125, 1995; Int J Derm 29:519–520, 1990;* ichthyosis, ichthyosiform erythroderma, acanthosis nigricans, Darier's disease *Rook p.3157, 1998, Sixth Edition*

Inverted nipple *Ann Plast Surg 25:457–460, 1990*

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Mamillary fistula *Ghatan p.51, 2002, Second Edition*

Morphea *Rook p.3162, 1998, Sixth Edition*

Psoriasis *Rook p.3162, 1998, Sixth Edition*

Sebaceous glands – ectopic sebaceous glands (Fordyce spots) – areola of nipple *J Dermatol 21:524–526, 1994*

Vitiligo *JAAD 38:647–666, 1998*

### PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis

### SYNDROMES

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

ACC with nipple and breast hypoplasia, nail dysplasia, delayed dentition *Am J Med Genet 14:381–384, 1983*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – accessory nipple, dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005*

Hereditary acrolabial telangiectasia – blue lips, blue nails, blue nipples, telangiectasia of the chest, elbows, knees, dorsa of hands, varicosities of the legs, migraine headaches *AD 115:474–478, 1979*

Birt–Hogg–Dube – trichodiscomas *JAAD 16:452–457, 1987*

Carney complex – cutaneous myxomas of the nipples (papules) *JAAD 43:377–379, 2000; Cutis 62:275–280, 1998;* Gardner's syndrome – epidermoid cysts

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp, cleft lip/palate, cardiac malformations, polydactyly, narrow convex nails *Bolognia p.924, 2003*

Hutchinson–Gilford syndrome (progeria) – hypoplastic nipples *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Incontinentia pigmenti – hyperpigmented nipples; supernumerary nipples; nipple hypoplasia *AD 139:1163–1170, 2003; JAAD 47:169–187, 2002*

Johanson–Blizzard syndrome – autosomal recessive; growth retardation, microcephaly, ACC of scalp, sparse hair, hypoplastic ala nasi, CALMs, hypoplastic nipples and areolae, hypothyroidism, sensorineural deafness *Clin Genet 14:247–250, 1978*

Keratosis–ichthysosis–deafness (KID) syndrome – acanthosis nigricans-like change of the nipple *AD 123:777–782, 1987;* hypoplasia of nipples *Ped Derm 19:513–516, 2002*

Lumpy scalp, odd ears, and rudimentary nipples *BJD 99:423–430, 1978*

Neurofibromatosis *Rook p.3162, 1998, Sixth Edition*

NAME/LAMB syndrome *AD 122:790–798, 1986*

Oculo-osteocutaneous syndrome – sparse, fair hair, limb and digit abnormalities, hypoplastic nipples, abnormal genitalia *Ped Derm 19:226, 2002*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Rubinstein–Taybi syndrome – supernumerary nipples *JAAD 46:159, 2002*

Scalp–ear–nipple syndrome – autosomal dominant; aplasia cutis congenita of the scalp, irregularly shaped pinna, hypoplastic nipple, widely spaced teeth, partial syndactyly *Am J Med Genet 50:247–250, 1994*

Simpson–Golabi–Behmel syndrome – X-linked; increased growth, accessory nipples, coarse facies, polydactyly, midline defects, mental retardation *Am J Med Genet 46:606–607, 1993*

Turner's syndrome – shield chest with widely spaced nipples *JAAD 50:767–776, 2004*

### TRAUMA

Guitar nipple – cystic swelling at base of nipple *Br Med J 2:226, 1974*

### VASCULAR DISEASES

Acrocyanosis – blue nipples *JAAD S207–208, 2001*

Peripheral symmetric gangrene

Raynaud's phenomenon *Br Med J 314:644–645, 1997*

Thrombosed angioma

## NODULES, CONGENITAL

***Ped Derm 9:301, 1991***

Adipose plantar nodules *BJD 142:1262–1264, 2000*

Arteriovenous malformation *JAAD 46:934–941, 2002*

Benign and/or disseminated neonatal hemangiomatosis *JAAD 24:816–818, 1991; Ped Derm 8:140–146, 1991*

Blueberry muffin lesions of congenital infections or ABO/Rh incompatibility *Ann DV 125:199–201, 1998*

Branchial sinus and/or cyst

Cartilaginous rest of the neck – nodule over medial clavicle *Cutis 58:293–294, 1996; AD 127:1309–1310, 1991*

Cephalocoele – includes encephalocoele, meningocoele (rudimentary meningocoele), meningoencephalocoele, meningomyelocoele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Cephalohematoma (cephalohematoma deformans) – blood between outer table of skull and periosteum; fixed *Ped Clin North Am 6:1151–1160, 1993*

Cervical thyroid

Congenital self-healing Langerhans cell histiocytosis (Hashimoto–Pritzker disease) – multiple congenital red–brown nodules *Ped Derm 17:322–324, 2000*

Dermoid cyst *AD 135:463–468, 1999*

Eccrine angiomatous hamartoma *JAAD 47:429–435, 2002; Ped Derm 14:401–402, 1997; Ped Derm 13:139–142, 1996;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Embryonal rhabdomyosarcoma – orbit, nasopharynx, nose *Rook p.2369, 1998, Sixth Edition*

Encephalocoele

Ewing's sarcoma

Fibromatosis – congenital generalized fibromatosis *Ped Derm 8:306–309, 1991; AD 122:89–94, 1986; JAAD 10:365–371, 1984*

Fibrosarcoma, neonatal *JAAD 50:S23–25, 2004*

Fibrous hamartoma of infancy – benign, single, soft to firm ill-defined subcutaneous mass present at birth or before 2 years of age; more common in boys, freely movable, most commonly located on the shoulder, arm or axillary region *Ped Derm 13:171–172, 1996*

Glomangioma *Ped Derm 12:242–244, 1995*

Glomangiomyoma – congenital multiple plaque-like glomangiomyoma *Am J Dermatopathol 21:454–457, 1999*

Gonorrhea – newborn with gonococcal scalp abscess *South Med J 73:396–397, 1980; Am J Obstet Gynecol 127:437–438, 1977*

Hamartoma with ectopic meningothelial elements – simulates angiosarcoma *Am J Surg Pathol 14:1–11, 1990*

Hemangiomas *JAAD 46:934–941, 2002*

Hemangiopericytoma *J Bone Joint Surg Br 83:269–272, 2001*

Heterotopic brain tissue (heterotopic meningeal nodules) – blue–red cystic mass with overlying alopecia *JAAD 46:934–941, 2002;* bald cyst of scalp with surrounding hypertrichosis *AD 131:731, 1995; JAAD 28:1015, 1993; BJD 129:183–185, 1993; AD 125:1253–1256, 1989;* cyst with collar of hair (heterotopic meningeal nodules) *JAAD 28:1015–1017, 1993; AD 123:1253–1256, 1989*

Histiocytosis

Congenital immune deficiencies with cutaneous granulomas *Ann DV 122:501–506, 1995*

Infantile myofibromatosis *Pediatrics 104:113–115, 1999;* solitary nodule *S Afr Med J 64:590–591, 1983*

Juvenile xanthogranuloma – giant congenital form *Ann DV 122:678–681, 1995*

Kaposiform hemangioendothelioma *Am J Surg Pathol 17:321–328, 1993*

Leiomyoma *Ped Derm 3:158–160, 1986*

Leukemia – neonatal monoblastic leukemia *Ann DV 126:157–159, 1999;* lymphoblastic leukemia *JAAD 34:375–378, 1996; AD 129:1301–1306, 1993;* neonatal myelomonocytic leukemia

Lipoblastomatosis – congenital lipoblastomatosis *Ped Derm 15:210–213, 1998*

Lipoma – vulvar *AD 118:447, 1982*

Lymphoma

Malignant hemangiopericytoma *West Afr J Med 19:317–318, 2000*

Malignant rhabdoid tumor *Arch Pathol Lab Med 122:1099–1102, 1998*

Mastocytosis

Melanocytic nevi with nodules *J Dermatol 23:828–831, 1996*

Meningioma – scalp nodule *Eur J Pediatr Surg 10:387–389, 2000*

Meningocoele

Midline raphe cyst of the scrotum

Nasal glioma – red or bluish nodules; resemble hemangiomas, nasal encephalocoele, meningoencephalocoele, extracranial meningioma, dermoid cyst, larrimal duct cyst, neuroblastoma, rhabdomyosarcoma *Ear Nose Throat J 80:410–411, 2001; Rook p.603, 1998, Sixth Edition; Arch Otolaryngol 107:550–554, 1981*

Nerve sheath myxoma (neurothekoma) of the tongue *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:74–77, 2000*

Neuroblastoma *J Formos Med Assoc 90:422–425, 1991*

Neurocristic cutaneous hamartoma *Mod Pathol 11:573–578, 1998;* malignant melanotic neurocristic tumors arising in neurocristic hamartomas *Am J Surg Pathol 20:665–677, 1996*

Neurofibroma

Peripheral primitive neuroectodermal tumor *Med Pediatr Oncol 30:357–363, 1998*

Pyogenic granuloma – presenting as congenital epulis *Arch Pediatr Adolesc Med 154:603–605, 2000*

Pyramidal lobe of thyroid gland

Rapidly involuting congenital hemangioma (RICH) – violaceous large mass with central telangiectasia *JAAD 50:875–882, 2004*

Rhabdomyosarcoma

Sinus pericranii – alopecic red nodule of scalp *JAAD 46:934–941, 2002*

Subepicranial hygromas *JAAD 46:934–941, 2002*

Venous cavernoma (venous malformation) *JAAD 46:934–941, 2002; Zentralbl Neurochir 59:274–277, 1998*

Wattle; cutaneous cervical tag *AD 121:22–23, 1985*

Wilms' tumor

# NODULES, FOOT

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Behçet's disease *J Rheumatol 25:2469–2472, 1998*

Chronic granulomatous disease – chilblains *JAAD 36:899–907, 1997;* X-linked chronic granulomatous disease – photosensitivity, chilblain lupus of fingertips and toes *Ped Derm 3:376–379, 1986*

Common variable immunodeficiency (Gottron-like papules) – granulomas presenting as acral red papules and plaques with central scaling, scarring, atrophy, ulceration *Cutis 52:221–222, 1993*

Rheumatoid nodule *J Dermatol 24:798, 1997*; plantar nodule *JAAD 53:191–209, 2005*

## CONGENITAL ANOMALIES

Congenital infantile digital fibromatosis *Ped Derm 19:370–371, 2002*

Congenital pedal papules *Textbook of Neonatal Dermatology, p.429, 2001*

## DEGENERATIVE DISEASES

Dupuytren's contracture – in children *Br J Plast Surg 41:313–315, 1988*

## DRUG REACTIONS

Hydantoin – thickening of the heel pad due to long term hydantoin therapy *Am J Roentgenol Radium Ther Nucl Med 124:52–56, 1975*

Neutrophilic eccrine hidradenitis, chemotherapy-induced

## EXOGENOUS AGENTS

Foreign body granuloma

Sea urchin spine – plantar nodule

## INFECTIONS AND INFESTATIONS

Alternariosis – red nodule of foot *Clin Inf Dis 30:13,174–175, 2000*

Anthrax

Arthropod bites

Bacillary angiomatosis *Tyring p.228, 2002*

Brucellosis

Cat scratch fever

Chromomycosis *JAAD 32:390–392, 1995*

Coccidioidomycosis – granuloma of foot *Ghatan p.62, 2002, Second Edition*

Cryptococcosis

Diphtheria

Ecthyma

Herpes simplex, chronic

Herpes zoster, chronic

Insect bites – plantar nodule *Ped Derm 15:97–102, 1998*

Leishmaniasis – post-kala-azar dermal leishmaniasis

Leprosy *Int J Lepr Other Mycobact Dis 68:272–276, 2001*

Mycetoma *JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982; Sabouraudia 18:91–95, 1980; AD 99:215–225, 1969*

*Mycobacterium avium-intracellulare AD 124:1545–1549, 1988*

*Mycobacterium chelonei JAAD 28:809–810, 812–813, 1993*

*Mycobacterium kansasii JAAD 24:208–215, 1991*

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

*Mycobacterium tuberculosis* – lupus vulgaris *Int J Derm 40:336–339, 2001*

Nocardiosis

*Pseudomonas* hot tub folliculitis – palmoplantar red nodules; *Pseudomonas* hot-foot syndrome – 1–2-cm plantar nodules; spontaneous resolution in 14 days *NEJM 345:335–338, 2001*

Rocky Mountain spotted fever – palmoplantar red nodules

Scabies, nodular *J Cutan Pathol 19:124–127, 1992;* crusted (Norwegian) scabies presenting with hyperkeratotic nodules of the soles *AD 134:1019–1024, 1998*

Septic emboli

*Trichophyton rubrum* – invasive in immunocompromised host *JAAD 39:379–380, 1998;* mimicking Kaposi's sarcoma *Int J Dermatol 18:751–752, 1979*

Tungiasis (*Tunga penetrans*) (toe-tip or subungual nodule) – crusted or ulcerated *Caputo p.164, 2000; Acta Dermatovenerol (Stockh) 76:495, 1996; JAAD 20:941–944, 1989; AD 124:429–434, 1988*

Warts, including human papillomavirus type 60-associated plantar wart; myrmecia (deep periungual or plantar warts) *BMJ 1:912–915, 1951*

## INFILTRATIVE DISEASES

Amyloidosis *Cutis 59:142, 1997;* nodular amyloidoisis of the toe *AD 139:1157–1159, 2003*

Juvenile xanthogranuloma of sole *Ped Derm 15:203–206, 1998*

## INFLAMMATORY DISEASES

Erythema multiforme – plantar nodules *Ped Derm 15:97–102, 1998*

Erythema nodosum – plantar nodules *Dermatology 199:190, 1999; JAAD 40:654–655, 1994*

Neutrophilic eccrine hidradenitis of the palms and soles – idiopathic in children *Eur J Pediatr 160:189–191, 2001; AD 134:76–79, 1998; J Cutan Pathol 21:289–296, 1994;* idiopathic recurrent palmoplantar eccrine hidradenitis – often post-traumatic *Ped Derm 21:466–468, 2004; BJD 142:1048–1050, 2000*

Panniculitis – due to blind loop syndrome *JAAD 37:824–827, 1997;* plantar nodule *Ped Derm 15:97–102, 1998*

Relapsing eosinophilic perimyositis – fever, fatigue, and episodic muscle swelling; erythema over swollen muscles *BJD 133:109–114, 1995*

Sarcoid – painful palmoplantar nodules *Med Cutan Ibero Lat Am 15:384–386, 1987*

## METABOLIC DISEASES

Calcinosis cutis – tumoral calcinosis; calcified cutaneous nodules – heels of children due to heel sticks as a neonate *Ped Derm 18:138–140, 2001*

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Thyroid acropachy

Xanthomas – tendinous, tuberous xanthomas

## NEOPLASTIC DISORDERS

Adipose plantar nodules (congenital) *BJD 142:1262–1264, 2000*

Angioleiomyoma *J Foot Surg 31:372–377, 1992*

Angiolipoma *J Foot Surg 31:17–24, 1992*

Atypical fibroxanthoma

Childhood fibrous hamartoma – plantar nodule *Ped Derm 17:429–431, 2000*

Chondroid syringoma *J Am Podiatr Med Assoc 79:563–565, 1989;* malignant chondroid syringoma of the foot *Am J Clin Oncol 23:227–232, 2000*

Clear cell hidradenoma (nodular hidradenoma, eccrine sweat gland adenoma of the clear cell type, solid cystic hidradenoma, eccrine acrospiroma) *Dermatol Surg 26:685–686, 2000*

Combined type blue nevus *Ped Derm 14:358–360, 1994*

Connective tissue nevus, including eruptive collagenoma

Dermatofibroma – dorsum of foot; plantar nodule *Ped Derm 21:506–507, 2004*

Digital fibrous tumor of childhood – toe nodule *AD 131:1195–1198, 1995*

Eccrine acrospiroma

Eccrine angiomatous hamartoma – toes, fingers, palms and soles – skin-colored to blue *Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 18:117–119, 2001; Ped Derm 14:401–402, 1997;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine poroma – plantar red nodule *Rook p.1706–1707, 1998, Sixth Edition; AD 74:511–521, 1956*

Eccrine syringofibroadenoma (acrosyringeal hamartoma) *JAAD 41:650–651, 1999*

Elastoma – isolated, Buschke-Ollendorf

Embryonal rhabdomyosarcoma – plantar nodule *Ped Derm 21:506–507, 2004*

Enchondromas

Epidermoid cysts, plantar – HPV-60-related *BJD 152:961–967, 2005*

Fibrosarcoma, congenital – plantar nodule *Ped Derm 21:506–507, 2004*

Fibrous hamartoma of infancy – congenital plantar nodule *Ped Derm 21:506–507, 2004*

Fibrous histiocytoma, benign *Cutis 46:223–226, 1990*

Ganglion cyst

Giant cell tumor of the tendon sheath *J Bone Joint Surg Am 66:76–94, 1984*

Infantile histiocytic nodules *J R Soc Med 77 Suppl:19–21, 1984*

Juvenile xanthogranuloma – brown nodule of sole with rim of hyperkeratosis *Ped Derm 17:460–462, 2000*

Kaposi's sarcoma – classic type *Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Dermatol 36:735–740, 1997; Dermatology 190:324–326, 1995*

Keloids

Leiomyoma

Lipoma – plantar nodule *Ped Derm 21:506–507, 2004*

Lymphocytoma cutis

Lymphoma, including cutaneous T-cell lymphoma

Malignant fibrous histiocytoma, myxoid variant – papule or nodule of ankle *JAAD 48:S39–40, 2003; JAAD 43:892, 2000; Caputo p.103, 2000*

Malignant giant cell tumor of soft parts *Am J Dermatopathol 11:197–201, 1989*

Malignant melanoma of the soft parts (clear-cell sarcoma) – nodule of tendons of foot *Cancer 65:367–374, 1990*

Melanoma *Derm Surg 27:591–593, 2001*

Mesenchymal hamartoma *J Dermatol 25:406–408, 1998*

Myofibroma – plantar nodule *Ped Derm 21:506–507, 2004*

Nevus lipomatosis

Neurilemmoma (schwannoma) – pink or vascular nodule of the foot *Cutis 67:127–129, 2001*

Neuromas *Am J Podiatr Med Assoc 90:252–255, 2000*

Nodular fasciitis *Ped Derm 21:506–507, 2004*

Plantar aponeurotic fibroma *Ped Derm 17:429–431, 2000;* anteromedial plantar fibromatosis of childhood *Ped Derm 17:472–474, 2000*

Plantar fibromatosis (Ledderhose's disease) – red plantar nodule; painful; may ulcerate *Cutis 68:219–222, 2001; Curr Prob Derm 8:137–188, 1996*

Plexiform schwannoma of the foot *Eur Radiol 9:1653–1655, 1999*

Precalcaneal congenital fibrolipomatous hamartoma – benign anteromedial plantar nodule of childhood- a distinct form of plantar fibromatosis *Ped Derm 17:429–431, 2000*

Schwannoma (neurilemmoma) – vascular nodule of the foot *Cutis 67:127–129, 2001*

Spindle cell hemangioendothelioma hyperkeratotic nodules of soles *BJD 142:1238–1239, 2000; J Dermatol 18:104–111, 1991*

Squamous cell carcinoma

Verrucous carcinoma (epithelioma cuniculatum)

## PRIMARY CUTANEOUS DISEASES

Granuloma annulare – deep granuloma annulare *Arch Pediatr 2:858–860, 1995 (Fr);* perforating granuloma annulare – palmoplantar red nodule *JAAD 32:126–127, 1995;* congenital granuloma annulare *Ped Derm 22:234–236, 2005*

Lichen sclerosus et atrophicus – ankle nodule *JAAD 31:817–818, 1994*

Macrodactyly, primary – giant nodule of plantar surface

Migratory angioedema – plantar nodule *Ped Derm 15:97–102, 1998*

Prurigo nodularis

## SYNDROMES

Blue rubber bleb nevus syndrome – plantar blue nodules

Ehlers–Danlos syndrome

Familial cutaneous collagenoma

Fibroblastic rheumatism *J Rheumatol 25:2261–2266, 1998*

Focal dermal hypoplasia

Hemihyperplasia–multiple lipomatosis syndrome – extensive congenital vascular stain, compressible blue nodule, multiple subcutaneous nodules, hemihypertrophy, syndactyly, thickened but not cerebriform soles, dermatomyofibroma *Soc Ped Derm Annual Meeting, July 2005; Am J Med Genet 130A:111–122, 2004; Am J Med Genet 79:311–318, 1998*

Infantile digital fibromatosis *J Dermatol 25:523–526, 1998*

Multicentric reticulohistiocytosis *Am J Roentgenol Radium Ther Nucl Med 124:610–624, 1975*

Multiple exostoses syndrome *JAAD 25:333–335, 1991*

Multiple symmetric lipomatosis of the soles *JAAD 26:860–862, 1992*

Neurofibromatosis *Ped Derm 21:506–507, 2004*

Ollier syndrome – multiple enchondromas *Rook p.2847, 1998, Sixth Edition*

Olmsted syndrome – plantar squamous cell carcinoma *BJD 145:685–686, 2001*

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Sweet's syndrome – plantar red nodules *AD 134:76–79, 1998*

Tuberous sclerosis – shagreen patch

## TRAUMA

Athlete's nodules – sports-related collagenomas *Cutis 50:131–135, 1992; JAAD 24:317–318, 1991*

Bunion

Chilblains – plantar or dorsal red papules or nodules *AD 134:76–79, 1998*

Delayed pressure urticaria – nodules of soles *Rook p.2130, 1998, Sixth Edition; JAAD 29:954–958, 1993*

Hypertrophic scar – plantar giant nodule *BJD 145:1005–1007, 2001*

Piezogenic nodules or papules – plantar *Ped Derm 17:429–431, 2000; Hautarzt 24:114–118, 1973*

Prayer nodules *Clin Exp Dermatol 9:97–98, 1984*

Surfer's nodules of anterior tibial prominence, dorsum of feet, knuckles *Cutis 50:131–135, 1992*

Traumatic plantar urticaria – red nodules *JAAD 18:144–146, 1988*

Vibratory angioedema – palmoplantar red nodules

## VASCULAR DISORDERS

Angiosarcoma – in chronic lymphedema *BJD 138:692–694, 1998*

Emboli – plantar nodule *Ped Derm 15:97–102, 1998*

Epithelioid hemangioma – plantar nodule *JAAD 49:113–116, 2003*

Glomus tumor *Foot Ankle Int 18:672–674, 1997*

Lymphostasis verrucosa cutis

Plantar thrombotic nodules of diabetes *J Dermatol 24:405–409, 1997*

Polyarteritis nodosa – palmar and plantar nodules *AD 130:884–889, 1994; Ped Derm 15:103–107, 1998;* nodules along the course of superficial arteries around knee, anterior lower leg and dorsum of foot *Ann Intern Med 89:666–676, 1978*; cutaneous infarcts presenting as tender nodules *Rook p.2212, 1998, Sixth Edition*

Pseudo-Kaposi's sarcoma

Pyogenic granuloma

Spindle cell hemangioma *Bolognia p.1823, 2003*

Thrombosis of deep plantar vein – plantar nodule *Ped Derm 15:97–102, 1998; Clin Podiatr Med Surg 13:85–89, 1996*

Vascular hamartomas

Vasculitis – plantar nodule *JAAD 47:S263–265, 2002; Ped Derm 15:97–102, 1998*

Venous malformation

# NODULES, JUXTA-ARTICULAR

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – Gottron's papules *Rook p.2558–2560, 1998, Sixth Edition; Curr Opin Rheum 11:475–482, 1999*

Epidermolysis bullosa acquisita

Jacoud's arthritis – non-erosive arthritis following repeated bouts of rheumatic fever or systemic lupus erythematosus *Ghatan p.264, 2002, Second Edition*

Lupus erythematosus – systemic lupus – mimic rheumatoid nodules *AD 72:49–58, 1970;* rheumatoid nodules *Ghatan p.264, 2002, Second Edition*

Rheumatoid arthritis – rheumatoid nodules *Rook p.2566–2567, 1998, Sixth Edition; Eur J Radiol 27 Suppl 1:S18–24, 1998; J Rheumatol 6:286–292, 1979;* palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis) – nodules over joints *JAAD 47:251–257, 2002; AD 133:757–760, 1997; AD 125:1105–1108, 1989*

Scleroderma – soft cystic nodules (focal mucinosis) over interphalangeal joints *BJD 136:598–600, 1997;* nodules of necrotic fibrinous material *BJD 101:93–96, 1979;* CREST syndrome; rheumatoid nodules *Ghatan p.264, 2002, Second Edition*

## DEGENERATIVE DISEASES

Bouchard's nodes – osteoarthritis; proximal interphalangeal joints *Ann Rheum Dis 48:523–527, 1953*

Heberden's nodes – distal interphalangeal joints *Br Med J i:181–187, 1952*

## DRUG REACTIONS

Acral dysesthesia syndrome

Bleomycin-induced dermatomyositis-like rash *JAAD 48:439–441, 2003*

Tegafur – knuckle pad-like keratoderma *Int J Dermatol 37:315–317, 1998*

## EXOGENOUS AGENTS

Foreign body granuloma

Plant thorns – common blackthorn; persistent nodules of wrists and fingers *Lancet i:309–310, 1960*

## INFECTIONS AND INFESTATIONS

Bejel

Cryptococcosis – cryptococcal panniculitis

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985*

Leishmaniasis – AIDS-related visceral leishmaniasis *BJD 143:1316–1318, 2000*

Leprosy – digital papule *JAAD 11:713–723, 1984*

Lyme borreliosis – juxta-articular fibroid nodules *Hautarzt 51:345–348, 2000; AD 131:1341–1342, 1995; Clin Exp Dermatol 19:394–398, 1994; BJD 128:674–678, 1993*

Meningococcemia – chronic *Rev Inf Dis 8:1–11, 1986*

Molluscum contagiosum

Mycetoma *JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982; Sabouraudia 18:91–95, 1980; AD 99:215–225, 1969*

*Mycobacterium haemophilum BJD 149:200–202, 2003*

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

*Mycobacterium tuberculosis* – scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *BJD 134:350–352, 1996*

*Nocardia* – red nodule overlying wrist in patient with chronic granulomatous disease *Clin Inf Dis 33:235–239, 2001*

Parvovirus B19 – dermatomyositis-like Gottron's papules *Hum Pathol 31:488–497, 2000*

Pinta

Rheumatic fever – papules on extensor extremities near joints *Rook p.2732, 1998, Sixth Edition;* subcutaneous nodules around elbows or knees *Rheumatol Rehab 21:195–200, 1982*

Sporotrichosis

Syphilis – juxta-articular nodes *Ghatan p.57, Second Edition*

Verruca vulgaris – knuckle papules *Derm Surg 27:591–593, 2001*

Yaws – tertiary – juxta-articular nodes *Rook p.1270, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Acral persistent papular mucinosis – mimicking knuckle pads *AD 140:121–126, 2004; JAAD 27:1026–1029, 1992*

Amyloidosis

Lichen myxedematosis – resembling acral persistent papular mucinosis *BJD 144:594–596, 2001; Dermatology 185:81, 1992*

Mastocytoma *Caputo p.100, 2000;* knuckle pads

Self-healing (papular) juvenile cutaneous mucinosis – juxta-articular nodules; also nodules of face, neck, scalp, abdomen, and thighs; arthralgias *JAAD 50:S97–100, 2004; Ped Derm 20:35–39, 2003; JAAD 44:273–281, 2001; Ped Derm 14:460–462, 1997; AD 131:459–461, 1995; JAAD 11:327–332, 1984; Ann DV 107:51–57, 1980;* of adult *JAAD 50:121–123, 2004, BJD 143:650–651, 2000; Dermatology 192:268–270, 1996; Lyon Med 230:474–475, 1973*

## INFLAMMATORY DISEASES

Bunion

Extravascular necrotizing palisaded granulomas – found in systemic lupus erythematosus, Churg–Strauss disease, Wegener's granulomatosis, lymphoproliferative disease, hepatitis, inflammatory bowel disease, Takayasu's arteritis *BJD 147:371–374, 2002*

Sarcoidosis (Darier–Roussy sarcoid) *JAAD 44:725–743, 2001; AD 133:882–888, 1997; Am J Med 85:731–736, 1988;* nodules of DIP joints *BJD 142:1052–1053, 2000*

Seronegative ankylosing spondylitis – rheumatoid nodules *Ghatan p.264, 2002, Second Edition*

## METABOLIC DISEASES

Calcinosis cutis – metastatic or dystrophic calcinosis *Cutis 63:149–153, 1999; JAAD 39:527–544, 1998;* tumoral calcinosis – around hip, elbow, ankle, and scapula *Semin Dermatol 3:53–61, 1984;* in ESRD *JAAD 40:975–986, 2000*

Calciphylaxis (vascular calcification cutaneous necrosis syndrome) – papules or nodules around large joints or flexures *J Dermatol 28:27–31, 2001; Br J Plast Surg 53:253–255, 2000;JAAD 40:979–987, 1999; J Cutan Med Surg 2:245–248, 1998; JAAD 33:53–58, 1995*; *JAAD 33:954–962, 1995*; *JAAD 33:954–962, 1995; AD 127:225–230, 1991;* tumoral calcinosis – progressively growing lobulated masses *Textbook of Neonatal Dermatology, p.406, 2001*

Diabetic finger pebbling (Huntley's papules) *Cutis 69:298–300, 2002*

Erythropoietic protoporphyria

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Pancreatic panniculitis – periarticular subcutaneous nodules *Rook p.2414, 1998, Sixth Edition; JAAD 34:362–364, 1996; Arthritis Rheum 22:547–553, 1979*

Pseudogout – pseudotophi *Rook p.2653, 1998, Sixth Edition*

Sitosterolemia – tuberous and tendon xanthomas *Ped Derm 17:447–449, 2000*

Xanthomas, especially tendinous and tuberous xanthomas – cerebrotendinous xanthomatosis – mutation in sterol 27-hydroxylase; increased serum cholesterol and urinary bile alcohols; normal serum cholesterol; tendon xanthomas also seen in heterozygous familial hypercholesterolemia, familial defective lipoprotein B100, familial dysbetalipoproteinemia, beta sitosterolemia *JAAD 45:292–295, 2001;* tuberous xanthomas *Rook p.2605, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Eccrine angiomatous hamartoma *Ped Derm 18:117–119, 2001; Ped Derm 13:139–142, 1996; Ped Derm 14:401–402, 1997;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine poroma and eccrine porocarcinoma – red nodule of ankle *BJD 150:1232–1233, 2004*

Fibromas

Giant cell tumor of the tendon sheath – single or multiple *JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996; J Bone Joint Surg Am 66:76–94, 1984*

Keloids

Lymphoma – cutaneous T-cell lymphoma

Malignant melanoma of the soft parts (clear-cell sarcoma) – nodule of tendons of foot or knee *Cancer 65:367–374, 1990*

Myxoid cyst

Neurofibroma

Synovial cyst or ganglion

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997*; nodules of knees *JAAD 52:729–731, 2005*

Paraneoplastic scleroderma

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Acrodermatitis chronica atrophicans – juxta-articular fibroid nodule *AD 131:1341–1342, 1995*

Acrokeratoelastoidosis of Costa – knuckle pads *Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*

Acrokeratosis verruciformis of Hopf

Cutis laxa, acquired – fibrotic nodules over bony prominences *Rook p.2020, 1998, Sixth Edition*

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas and ecchymoses; lipomas feel like 'bag of worms' *JAAD 44:132–136, 2001*

Epidermolysis bullosa

Epidermolytic hyperkeratosis

Erythema elevatum diutinum – knuckle pads (juxta-articular nodules) *JAAD 49:764–767, 2003; JAAD 28:394–398, 1994*; *AD 129:1043–1044, 1046–1047, 1993*

Granuloma annulare – subcutaneous granuloma annulare mimicking knuckle pads *JAAD 3:217–230, 1980*

Hidrotic ectodermal dysplasia

Id reactions

Juvenile fibromatosis

Knuckle pads – idiopathic (fibromatosis), keratotic knuckle pads unassociated with palmoplantar keratoderma *Rook p.1555–1556, 1998, Sixth Edition; AJDC 140:915–917, 1986;* trauma-induced, associated with Dupuytren's contracture, Ledderhose's disease, Peyronie's disease, Bart–Pumphrey syndrome – sensorineural deafness, leukonychia, and knuckle pads; autosomal dominant *Ped Derm 17:450–452, 2000; NEJM 276:202–207, 1967*

Lichen nitidus – knuckle pads *AD 134:1302–1303, 1998*

Lichen simplex chronicus

Pachydermodactyly – benign fibromatosis of fingers of young men *AD 111:524, 1975*

Palmoplantar keratoderma, epidermolytic (Vorner) – papules on knuckles *BJD 125:496, 1991*

Prurigo nodularis

Psoriasis

Vorner's palmoplantar keratoderma

## PSYCHOCUTANEOUS DISEASES

Bulimia nervosa – Russell's sign (crusted knuckle nodules) *Clin Orthop 343:107–109, 1997; JAAD 12:725–726, 1985;* perniosis *Clin Sci 61:559–567, 1981;* pseudo knuckle pads (calluses on 2nd and 5th MCP joints) *Psychol Med 9;429–48, 1979*

## SYNDROMES

Albright's hereditary osteodystrophy – ectopic bone formation

Bart–Pumphrey syndrome – knuckle pads, leukonychia, sensorineural deafness, and diffuse palmoplantar hyperkeratosis; autosomal dominant *JAAD 51:292, 2004; Curr Prob Derm 14:71–116, 2002; NEJM 276:202–207, 1967*

Cerebrotendinous xanthomatosis – autosomal recessive; tendon (Achilles tendon) and tuberous xanthomas *Ped Derm 17:447–449, 2000*

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas *JAAD 44:132–136, 2001*

Distal pachydermodactyly (acquired digital fibrosis) – skin-colored nodule of the elbow *JAAD 38:359–362, 1998*

Ehlers–Danlos syndrome (molluscum pseudotumor) – knuckle pads

Familial histiocytic dermatoarthritis – knuckle pads

Familial Mediterranean fever

Farber's disease (disseminated lipogranulomatosis) – autosomal recessive; red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Ped Derm 21:154–159, 2004; Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 139:657–662, 2003; AD 131:710–712, 1995; Clin Exp Dermatol 19:268–270, 1994; Rev Rheum Ed Fr 47:345–351, 1980*

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose, and ears *Ann DV 104:475–478, 1977; AD 124:424–428, 1988*

Hunter syndrome – MPS II *Ped Derm 12:370–372, 1995*

Infantile digital fibromatosis

Infantile systemic hyalinosis – autosomal recessive; juxta-articular nodules (knuckle pads), synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, knuckle pads; multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001; Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*

Knuckle pads, leukonychia, and deafness syndrome *Ghatan p.159, 2002, Second Edition*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Ledderhose's nodules (plantar fibromatosis) *JAAD 41:106–108, 1999;* Dupuytren's contracture (palmar fibromatosis) and/or Peyronie's disease – knuckle pads

Lipoid proteinosis – xanthoma-like nodules of elbows; nodules of finger joints, knees *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Mal de Meleda (recessive transgressive palmoplantar keratoderma) – knuckle pads *Curr Prob Derm 14:71–116, 2002; Ped Derm 14:186–191, 1997*

Multicentric reticulohistiocytosis *AD 140:919–921, 2004; Rook p.2325–2326, 1998, Sixth Edition; BJD 133:71–76, 1995; AD 126:251–252, 1990; Clin Exp Dermatol 15:1–6, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968;* mimicking dermatomyositis *JAAD 48:S11–14, 2003*

Neurofibromatosis

Pachydermoperiostosis – knuckle pads *J Dermatol 27:106–109, 2000*

Palmoplantar keratoderma, Vorner – knuckle pads

Polyfibromatosis syndrome – Dupuytren's contracture, knuckle pads, Peyronie's disease, keloids, or plantar fibromatosis *Rook p.2044, 1998, Sixth Edition;* stimulation by phenytoin *BJD 100:335–341, 1979*

Pseudohypoparathyroidism – periarticular calcified nodules *JAAD 15:353–356, 1986*

Reflex sympathetic dystrophy with chilblain-like lesions – digital papule

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – perniotic lesions *JAAD 21:374–377, 1989*

Stiff skin syndrome – knuckle pads *Ped Derm 3:48–53, 1985*

Vohwinkel's syndrome – knuckle papules, palmoplantar keratoderma, ichthyosis, pseudoainhum *JAAD 44:376–378, 2001*

### TRAUMA

Callosities, occupational (carpenters, live chicken hangers *Contact Derm 17:13–16, 1987*), frictional, bulemic

Chilblains – tender, pruritic red or purple digital papules *JAAD 45:924–929, 2001; Rook p.960–961, 1998, Sixth Edition*

Garrod's pads – violinist's knuckles (2nd and 3rd knuckles) – thickened skin over the interphalangeal joints from intense flexion of tendons of fingers *Cutis 62:261–262, 1998*

Piezogenic wrist papules

Scars – mimic knuckle pads

Skier's thumb *Acta Orthop Belg 65:440–446, 1999*

Surfer's nodules of anterior tibial prominence, dorsum of feet, knuckles *Cutis 50:131–135, 1992*

### VASCULAR DISEASES

Churg–Strauss syndrome – elbow papules and nodules *JAAD 37:199–203, 1997;* umbilicated nodules of elbows *BJD 150:598–600, 2004*

Vasculitis

## NODULES, KNEE

Acral dysesthesia syndrome

Bursitis

Callosities

Connective tissue nevi

Ehlers–Danlos syndrome (molluscoid tumors)

Elastoma

Elastosis perforans serpiginosa

Enchondromas

Epidermolysis bullosa acquisita

Epidermolysis bullosa dystrophica

Erythema elevatum diutinum *AD 129:1043–1044, 1046–1047, 1993*

Fibroblastic rheumatism – papulonodules on elbows and knees

Foreign body granuloma

Ganglion cyst

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Granuloma annulare

IgM storage papule – pink or skin-colored

Hypertrophic scar

Juvenile hyaline fibromatosis *AD 112:86–88, 1976*

Keloids

Keratoacanthoma

Leprosy

Lobomycosis

Malignant melanoma of the soft parts (clear-cell sarcoma) – nodule of knee *Cancer 65:367–374, 1990*

Multicentric reticulohistiocytosis *Rook p.2325–2326, 1998, Sixth Edition; BJD 133:71–76, 1995; AD 126:251–252, 1990; Clin Exp Dermatol 15:1–6, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

Nevus lipomatosis superficialis

Papular urticaria

Prayer nodules – on knees and ankles of Shi'ite Muslims *Cutis 38:281–286, 1986*

Prurigo nodularis

Rheumatoid nodule

Sarcoid

Surfer's nodules *JAMA 201:134–136, 1967*

Vascular hamartomas

Xanthomas – tuberous xanthomas *Rook p.2605, 1998, Sixth Edition*

# NODULES, MULTILOBULATED

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis with cutaneous mucinosis *AD 126:1639–1644, 1990*

Lupus erythematosus – nodular episcleritis

Morphea – keloidal (Addisonian keloid) *Int J Dermatol 31:422–423, 1992;* generalized morphea – keloidal nodules *Rook p.2511, 1998, Sixth Edition*

Rheumatoid arthritis – rheumatoid nodules *J Rheumatol 6:286–292, 1979; Rook p.2566–2567, 1998, Sixth Edition; Eur J Radiol 27 Suppl 1:S18–24, 1998*

## CONGENITAL

Accessory tragus

Congenital cutaneous plate-like osteoma cutis – mountain range-like topography *Ped Derm 10:371–376, 1993*

Congenital lipoblastomatosis *Ped Derm 15:210–213, 1998*

Congenital papillated aprocrine cystadenoma *JAAD 11:374–376, 1984*

Torus mandibularis *Cutis 71:363–364, 2003*

## DRUG-INDUCED LESIONS

Iododerma *JAAD 36:1014–1016, 1997*

## EXOGENOUS AGENTS

Cutaneous geode – nodular crateriform scar *JAAD 14:1085–1086, 1986*

## INFECTIONS AND INFESTATIONS

Actinomycosis

Adiaspiromycosis – cutaneous adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white–yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

African histoplasmosis

Alternariosis

Bacillary angiomatosis *SKINmed 4:215, 2005*

*Candida albicans* – in immunosuppressed host

Carbuncle

Chromomycosis *BJD 146:704, 2002; AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis

Condyloma acuminata *Tyring p.263, 2002; Rook p.3171, 1998, Sixth Edition*

Furuncle

Keloidal blastomycosis (lobomycosis) – *Loboa loboi*; legs, arms, face *Rook p.1359–1360, 1998, Sixth Edition; JAAD 29:134–136, 139–140, 1993; Cutis 46:227–234, 1990*

Leishmaniasis – leishmaniasis recidivans (lupoid leishmaniasis) – brown–red or brown–yellow papules close to scar of previously healed lesion; resemble lupus vulgaris; may ulcerate or form concentric rings; keloidal form, verrucous form of legs, extensive psoriasiform dermatitis*;* diffuse cutaneous (*Leishmania aethiopica*, *L. mexicana*) *Rook p.1414, 1998, Sixth Edition; JAAD 23:368–371, 1990*

Leprosy

Lyme disease – lymphocytoma cutis, *Borrelia*-associated *JAAD 23:401–410, 1990*

Milker's nodule

Molluscum contagiosum *Tyring p.64, 2002; Cutis 60:29–34, 1997*

Mycetoma

*Mycobacterium tuberculosis* – multilobulated tumor of the earlobe *BJD 150:370–371, 2004*

Rhinosporidiosis – vascular nodules *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

Subcutaneous phaeohyphomycosis

Syphilis – granulomatous, tertiary *AD 125:551–556, 1989*

Yaws *Int J Derm 21:220–3, 1982*

## INFILTRATIVE DISEASES

Amyloidosis – nodular (tumefactive) amyloidosis; of great toe *JAAD 49:307–310, 2003*

Langerhans cell histiocytosis *Textbook of Neonatal Dermatology, p.438, 2001*

Mastocytosis *Diagnostic Challenges Vol V25–27, 1994; AD 127:405–410, 1991*

Pretibial mucin *AD 129:1152–1156, 1993*

Pretibial myxedema

Verruciform xanthoma of toes in patient with Milroy's disease due to persistent leg edema *Ped Derm 20:44–47, 2003; JAAD 20:313–317, 1989*

Xanthoma disseminatum – mountain range-like topography *AD 121:1313–1317, 1985*

## INFLAMMATORY DISEASES

Crohn's disease, metastatic *Ped Derm 13:25–28, 1996*

Dissecting cellulitis of the scalp

Hidradenitis suppurativa

Malacoplakia *JAAD 23:947–948, 1990*

Rosai–Dorfman disease (sinus histiocytosis with lymphadenopathy) *AD 114:191–197, 1978*

Sarcoid – keloid-like lesions *Rook p.2694, 1998, Sixth Edition*

## METABOLIC DISEASES

Calcinosis cutis, dystrophic *Cutis 60:259–262, 1997;* calcinosis universalis in dermatomyositis *NEJM 349:1246, 1974, 2003;* idiopathic calcinosis of the scrotum; tumoral calcinosis – progressively growing lobulated masses *Textbook of Neonatal Dermatology, p.406, 2001*

Cushing's syndrome – buffalo hump

Endometriosis – cutaneous deciduosis *JAAD 43:102–107, 2000*

Goiter

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Xanthomas – tuberous xanthomas *JAAD 19:95–111, 1988; Cutis 59:315–317, 1997*

## NEOPLASTIC DISEASES

Acrochordon, giant

Apocrine cystadenoma – congenital papillated apocrine cystadenoma *JAAD 11:374–376, 1984*

Apocrine gland carcinoma – axillary mass *Am J Med 115:677–679, 2003*

Atypical fibroxanthoma *AD 135:1113–1118, 1999; JAAD 35:262–264, 1996*

Basal cell carcinoma *JAAD 52:149–151, 2005; Cutis 58:289–292, 1996; Neuroradiology 38:575–577, 1996; BJD 127:164–167, 1992; J Derm Surg Oncol 12:459–464, 1986*

Cervical cysts

Chordoma *AD 133:179–1584, 1997*

Clear cell acanthoma *JAAD 44:314–316, 2001*

Clear cell eccrine porocarcinoma *BJD 149:1059–1063, 2003*

Clear cell hidradenoma (eccrine acrospiroma) – head, neck, upper extremities *Ped Derm 18:356–358, 2001;* giant eccrine acrospiroma *JAAD 23:663–668, 1990*

Clear cell hidradenocarcinoma *JAAD 12:15–20, 1985*

Cylindrocarcinoma *BJD 145:653–656, 2001*

Cylindroma *JAAD 33:199–206, 1995*; *BJD 145:653–656, 2001; JAAD 19:397–400, 1988*

Dermatofibroma – multinodular hemosiderotic dermatofibroma *Dermatologica 181:320–323, 1990*

Dermatofibrosarcoma protuberans *Sem Cut Med Surg 21:159–165, 2002; JAAD 35:355–374, 1996*

Eccrine gland carcinoma *JAAD 20:693–696, 1989*

Eccrine porocarcinoma – multilobulated or cauliflower-like nodule *BJD 152:1051–1055, 2005; JAAD 49:S252–254, 2003; J Derm Surg 25:733–735, 1999; JAAD 35:860–864, 1996*

Eccrine poroma *JAAD 53:539–541, 2005*

Epidermal nevus

Epidermoid cyst – ruptured with scarring; multiloculated epidermoid cyst *BJD 151:943–945, 2004*

Giant cell tumor of the tendon sheath – multilobulated single or multiple *JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996; J Bone Joint Surg Am 66:76–94, 1984*

Giant folliculosebaceous cystic hamartoma – multinodular plaque of scalp *AD 141:1035–1040, 2005*

Infantile digital fibromatosis

Intradermal nevus, lobulated *JAAD 24:74–77, 1991*

Kaposi's sarcoma (KS) *AD 141:1311–1316, 2005; BJD 145:847–849, 2001; Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995;* keloidal Kaposi's sarcoma *Dermatology (Basel) 189:271–274, 1994;* lymphangioma-like variant of KS *AD 139:381–386, 2003*

Keloids *Rook p.2056–2057, 1998, Sixth Edition;* keloids in Ehlers–Danlos syndrome, progeria, Rubinstein–Taybi syndrome *Ped Derm 12:387–389, 1995;* plantar keloid *JAAD 48:131–134, 2003*

Keratoacanthoma *JAAD 19:826–830, 1988*

Leiomyosarcoma *J D Surg Oncol 9:283–287, 1983*

Leukemia cutis, including congenital leukemia cutis *JAAD 34:375–378, 1996*

Lipoblastomatosis *Textbook of Neonatal Dermatology, p.429, 2001*

Lipomas, multiple

Lymphocytoma cutis

Lymphoma – cutaneous T-cell lymphoma *Rook p.2377, 1998, Sixth Edition; JAAD 25:345–349, 1991;* HTLV-1 (keloid-like) *JAAD 34:69–76, 1996;* pilotropic (follicular) CTCL *AD 138:191–198, 2002;* gamma/delta T-cell lymphoma *AD 136:1024–1032, 2000;* $CD30^+$ lymphoma of AIDS *Tyring p.375, 2002;* B-cell lymphoma *JAAD 29:359–362, 1993*; *JAAD 16:518–526, 1987;* large B-cell lymphoma *BJD 149:542–553, 2003;* primary cutaneous large B-cell lymphoma of the legs *AD 132:1304–1308, 1996;* reticulohistiocytoma of the dorsum (B-cell lymphoma) *JAAD 18:259–272, 1988*

Malignant blue nevus *Rook p.1752, 1998, Sixth Edition; JAAD 19:712–722, 1988*

Malignant fibrous histiocytoma

Malignant histiocytosis X *Cancer 54:347–352, 1984*

Malignant proliferating trichilemmal tumor *BJD 150:156–157, 2004*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* giant congenital melanocytic nevi with proliferative nodules *AD 140:83–88, 2004*

Melanoma *Curr Prob Derm 14:41–70, 2002; Cutis 69:353–356, 2002; Semin Oncol 2:5–118, 1975;* polypoid melanoma *JAAD 23:880–884, 1990*

Melanoma of the soft parts (clear cell sarcoma) *JAAD 38:815–819, 1998*

Merkel cell carcinoma

Metastases – carcinoma telangiectoides; lung cancer with emboli in pulmonary venous circulation; nodules of scalp resembling cylindromas *Rook p.2371, 1998, Sixth Edition; Cancer 19:162–168, 1966;* cutaneous metastases (adenocarcinoma) – lymphangioma-like lesions *JAAD 30:1031–1032, 1994;* metastatic prostate carcinoma mimicking cylindromas *JAAD 33:161–182, 1995;* rhinophyma-like metastatic carcinoma *Cutis 57:33–36, 1996;* breast carcinoma

Mucinous carcinoma of skin *JAAD 36:323–326, 1997*

Mucinous nevus (connective tissue hamartoma) *AD 141:897–902, 2005*

Neural fibrolipoma *AD 135:707–712, 1999*

Neuroectodermal tumors – multiple primitive neuroectodermal tumors *JAAD 31:356–361, 1994*

Neurofibroma – diffuse neurofibroma *JAAD 48:938–940, 2003*

Neurogenic sarcoma

Nevus lipomatosis superficialis – mountain range-like lesions *Cutis 72:237–238, 2003; AD 128:1395–1400, 1992*

Nevus sebaceus

Pilomatrixoma

Plexiform schwannoma of the foot *Eur Radiol 9:1653–1655, 1999*

Polymorphous sweat gland carcinoma *JAAD 46:914–916, 2002*

Proliferating pilar cyst *Cutis 48:49–52, 1991*

Regressing atypical histiocytosis *AD 126:1609–1616, 1990*

Rhabdomyosarcoma *Textbook of Neonatal Dermatology, p.441, 2001*

Salivary pleomorphic adenoma *Cutis 63:167–168, 1999*

Sebaceous carcinoma *JAAD 47:950–953, 2002*

Seborrheic keratosis

Spindle cell tumor

Squamous cell carcinoma – cauliflower-like tumor *Caputo p.77, 2000*; complicating venous stasis ulcers *South Med J 58:779–781, 1965*

Syringocystadenoma papilliferum *Rook p.1704, 1998, Sixth Edition*

Syringomatous carcinoma – multilobulated digital nodule *BJD 144:438–439, 2001*

Torus palatinus

## PARANEOPLASTIC DISORDERS

Necrobiotic xanthogranuloma with paraproteinemia *JAAD 52:729–731, 2005*

## PRIMARY CUTANEOUS DISEASES

Acne rosacea – rhinophyma *Rook p.2104–2110, 1998, Sixth Edition*

Cutis verticis gyrata – acromegaly, Apert's syndrome, amyloidosis, leukemia, myxedema, syphilis, pachydermoperiostosis, tuberous sclerosis *Ghatan p.128, 2002, Second Edition*

Cystic acne – exophytic abscesses of chin in follicular occlusion triad *JAAD 48:S47–50, 2003*

Erythema elevatum diutinum *Tyring p.358, 2002; BJD 143:415–420, 2000;* keloid-like lesions of erythema elevatum diutinum in AIDS *JAAD 28:919–922, 1993*

Follicular mucinosis *JAAD 20:441–446, 1989*

Granuloma annulare, including subcutaneous granuloma annulare

Myospherulosis (subcutaneous spherulocystic disease) – multilobulated abdominal nodule *AD 138:1309–1314, 2002*

Periumbilical pseudoxanthoma elasticum *JAAD 39:338–344, 1998*

Pseudofolliculitis barbae with keloids

Rhinophyma *Rook p.3581, 1998, Sixth Edition*

## SYNDROMES

Benign symmetrical lipomatosis *AD 126:235–240, 1990; JAAD 18:359–362, 1988*

Blue rubber bleb nevus syndrome

Carney complex – cutaneous myxoma *AD 141:916–918, 2005*

Congenital diffuse lipomatosis

Delleman–Oorthuys syndrome *Clin Genet 25:470–472, 1984*

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas and ecchymoses; lipomas feel like 'bag of worms' *JAAD 44:132–136, 2001*

Goeminne syndrome – X-linked; torticollis, keloids, cryptorchidism, renal dysplasia *AD 137:1429–1434, 2001; Acta Genet Med (Roma) 17:439–467, 1968*

Goltz's syndrome – raspberry-like papillomas of lips, perineum, ears, fingers, toes, buccal mucosa, and esophagus

Multiple lipomas due to intracranial lesions (Frohlich syndrome)

Lipomatosis of Touraine and Renault

Familial multiple lipomatosis *JAAD 15:275–279, 1986*

Infantile myofibromatosis

Maffucci's syndrome *Rook p.2295, 1998, Sixth Edition; Syndromes of the Head and Neck, 3rd Edition, pp.384, 1990*

Michelin tire baby syndrome – smooth muscle hamartomas *JAAD 28:364–370, 1993;* nevus lipomatosus superficialis *AD 115:978–979, 1979; AD 100:320–323, 1969*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *JAAD 44:373–375, 2001; Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple symmetrical lipomatosis

Muscular dystrophy – pseudo-athletic appearance

Neurofibromatosis type I

Neurolipomatosis Alsberg

Nodular lipomatosis of Krabbe and Bartels

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; J Med Genet 24:9–13, 1987*

Proteus syndrome – multiple lipomas, connective tissue nevi *Ped Derm 11:222–226, 1994*

Pseudolipomatosis of Verneuil and Patain

Rubinstein–Taybi syndrome – keloids; CREB-binding protein (transcriptional coactivator) *AD 137:1429–1434, 2001*

Steatocystoma multiplex

Tuberous sclerosis – adenoma sebaceum *JAAD 20:918–920, 1989;* non-symmetrical subcutaneous lipomatosis; Koenen's tumors *Caputo p.49, 2000*

Turner's syndrome – keloids *JAAD 46:161–183, 2002; West J Med 137:32–44, 1982*

## TRAUMA

Verrucous hyperplasia of the stump

## VASCULAR

Angiolymphoid hyperplasia with eosinophilia *AD 136:837–839, 2000; JAAD 37:887–920, 1997; Cutis 60:281–282, 1997*

Elephantiasis nostras of penis *AD 137:1095–1100, 2001*

Glomus tumors – multiple or plaque type; hemi-facial *JAAD 45:239–245, 2001; Ped Derm 18:223–226, 2001; AD 127:1717–1722, 1991*

Hemangioma

Hemolymphangioma

Klippel–Trenaunay–Weber syndrome – aneurysmal venous dilatation *JAAD 18:1169–1172, 1988*

Lipomyxangioma

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *BJD 132:1014–1016, 1996*

Lymphangioma circumscriptum – frog spawn-like appearance *BJD 83:519–527, 1970*

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Cancer 1:64–81, 1948*

Lymphedema of vulva – chronic infection, recurrent streptococcal cellulitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.222–223, 1998*

Lymphostasis verrucosa cutis

Port wine stain with epithelial and mesenchymal hamartomas *JAAD 50:608–612, 2004*

Pyogenic granuloma

Venous malformations *AD 139:1409–1416, 2003*

# NODULES, MULTIPLE, SUBCUTANEOUS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – calcinosis cutis *AD 140:365–366, 2004;* juvenile dermatomyositis with calcinosis cutis *BJD 144:894–897, 2001*

Lupus erythematosus – nodular mucinosis of SLE *Cutis 72:366–371, 2003; BJD 137:450–453, 1997; J Rheumatol 21:940–941, 1994; JAAD 27:312–315, 1992; Int J Derm 31:649–652, 1992*

Rheumatoid arthritis – rheumatoid nodules *JAAD 46:161–183, 2002; Rook p.2566, 1998, Sixth Edition;* rheumatoid nodulosis *Arthritis Rheum 29:1278–1283, 1986; J Rheumatol 6:286–292, 1979;* rheumatoid vasculitis *BJD 147:905–913, 2002*

Still's disease (juvenile rheumatoid nodule) *Ann Rheum Dis 17:278–283, 1958*

## CONGENITAL LESIONS

Congenital cartilaginous rests of the neck *Cutis 58:293–294, 1996*

## DRUG-INDUCED

Indinivir – multiple angiolipomas due to protease inhibitors *JAAD 42:129–131, 2000; BJD 143:1113–1114, 2000*

Methotrexate-induced accelerated rheumatoid nodulosis *Medicine 80:271–278, 2001; J Dermatol 26:46–464, 1999; JAAD 39:359–362, 1998*

Minocycline-induced *p*-ANCA$^+$ cutaneous polyarteritis nodosa – multiple subcutaneous nodules of the legs *Eur J Dermatol 13:366–368, 2003; JAAD 44:198–206, 2001*

Zidovudine – multiple subcutaneous nodules due to insect bites *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Aluminum-containing allergen extracts *Eur J Dermatol 11:138–140, 2001*

Oleomas – multiple subcutaneous oleomas due to injection with sesame seed oil *BJD 149:1289–1290, 2003; JAAD 42:292–294, 2000*

Polyvinyl pyrrolidone injections

## INFECTIONS

Acanthamoeba *J Clin Inf Dis 20:1207–1216, 1995*

Actinomycosis *(Actinomyces israelii)* – primary cutaneous – subcutaneous nodules with draining sinuses *Hum Pathol 4:319–330, 1973*

African histoplasmosis

Alveolar echinococcosis *JAAD 34:873–877, 1996*

Bacillary angiomatosis *BJD 126:535–541, 1992*

Cat scratch disease *AIDS 3:751–753, 1989*

Chromomycosis *Mycoses 31:343–352, 1988*

Cysticercosis *JAAD 50:S14–17, 2004; Int J Dermatol 34:574–579, 1995*

*Fusarium solanae*, disseminated *JAAD 47:659–666, 2002; J Med Vet Mycol 24:105–111, 1986*

Leishmania *JAAD 36:847–849, 1997; Int J Dermatol 26:300–304, 1987*; diffuse cutaneous leishmaniasis

Leprosy – reactional state in tuberculoid leprosy *Indian J Lepr 65:239–242, 1993*

Loiasis *Clin Infect Dis 29:680–682, 1999*

Lymphogranuloma venereum – sign of the groove

Mycetoma

*Mycobacterium avium-intracellulare BJD 142:789–793, 2000; J Dermatol 25:384–390, 1998; BJD 130:785–790, 1994*

*Mycobacterium chelonae AD 123:1603–1604, 1987; M. kansasii, M. haemophilum BJD 131:379, 1994; Rook p.1213, 1998, Sixth Edition; M. scrofulaceum, M. marinum, M. fortuitum, M. abscessus, M. avium-intracellulare Clin Inf Dis 19:263–273, 1994*

*Nocardia* – abscesses *J Dermatol 26:829–833, 1999;* lymphocutaneous nocardiosis *Acta DV 74:447–448, 1994*

Onchocerciasis – onchocercomas *AD 140:1161–1166, 2004; Rook p.1383, 1998, Sixth Edition; BJD 121:187–198, 1989*

*Pseudomonas aeruginosa Cutis 63:161–163, 1999*

Rheumatic fever *JAAD 8:724–728, 1983*

Rhinosporidiosis *Indian J Pathol Microbiol 40:95–98, 1997*

Streptocerciasis – *Mansonella streptocerca* – similar rash to onchocerciasis; acute or lichenified papules with widespread lichenification and hypopigmented macules *Rook p.1384, 1998, Sixth Edition*

Syphilis – subcutaneous secondary syphilis

Toxocariasis – (*Toxocara canis, T. cati, T. leonensis*) visceral larva migrans – migrating panniculitis *Dermatologica 144:129–143, 1972*

Yaws – tertiary – gumma; multiple subcutaneous nodules; overlying skin ulcerates with purulent discharge; atrophic pigmented scars *Rook p.1271, 1998, Sixth Edition*

Zygomycosis – subcutaneous zygomycosis *JAAD 30:904–908, 1994*

## INFILTRATIVE LESIONS

Amyloidosis – subcutaneous nodular amyloidosis *Hum Pathol 32:346–348, 2001;* $\beta_2$-microglobulin amyloidosis – shoulder pain, carpal tunnel syndrome, flexor tendon deposits of hands, lichenoid papules, hyperpigmentation, subcutaneous nodules (amyloidomas) *Int J Exp Clin Inves 4:187–211, 1997; South Med J 88:876–878, 1995; Arch Pathol Lab Med 118:651–653, 1994; J Clin Pathol 46:771–772, 1993; Nephron 55:312–315,*

*1990; Nephron 53:73–75, 1989;* dialysis-related $\beta_2$-microglobulin amyloidosis of buttocks *BJD 149:400–404, 2003;* bilateral popliteal tumors *Am J Kidney dis 12:323–325, 1988*

Langerhans cell histiocytosis *Clin Exp Dermatol 27:135–137, 2002*

Self-healing juvenile cutaneous mucinosis *JAAD 50:S97–100, 2004; Lyon Med 230:474–475, 1973*

## INFLAMMATORY DISEASES

Acute rheumatic fever *Indian Heart J 45:463–467, 1993*

Fat necrosis – nodular cystic fat necrosis *JAAD 21:493–498, 1989;* membranous fat necrosis *AD 129:1331, 1334, 1993*

Hidradenitis suppurativa *Derm Surg 26:638–643, 2000; BJD 141:231–239, 1999; Rook p.1176–1179, 1998, Sixth Edition*

Lymphadenopathy, reactive

Proliferative myositis *Clin Exp Dermatol 22:101–103, 1997*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) *Int J Derm 37:271–274, 1998*

Sarcoidosis *Clin Exp Dermatol 19:356–358, 1994*

Subcutaneous fat necrosis of the newborn – red to bluish-red firm nodules and/or plaques; buttocks, thighs, shoulders, back, cheeks, and arms *Clin Pediatr 20:748–750, 1981*

## METABOLIC DISEASES

Cerebrotendinous xanthomatosis – mutation of sterol 27-hydroxylase (mitochondrial enzyme); increased cholestanol *BJD 142:378–380, 2000*

Dermal hematopoiesis, neonatal *Ped Derm 14:383–386, 1997*

Gout *AD 134:499–504, 1998; Arthritis Care Res 9:74–77, 1996*

Nephrogenic fibrosing dermopathy *JAAD 48:42–47, 2003*

Oxalate granulomas *BJD 128:690–692, 1993*

Pancreatic fat necrosis *Am J Med Sci 319:68–72, 2000*

Pretibial myxedema

Tendinous xanthomas
- Cerebrotendinous xanthomatosis – periarticular tendon xanthomas; mutation in sterol 27–hydroxylase; increased serum cholestanol and urinary bile alcohols; normal serum cholesterol *JAAD 45:292–295, 2001*
- Phytosterolemia (beta sitosterolemia)
- Familial hypercholesterolemia
- Familial combined hyperlipidemia
- Familial type III hyperlipoproteinemia

Weber–Christian disease or recurrent nodular panniculitis *Rev Clin Esp 196:405–406, 410, 1996 (Sp)*

## NEOPLASTIC DISEASES

Angiolipoma – arms, legs, abdomen *AD 126:666–667, 669, 1990; AD 82:924–931, 1960*

Carcinoid tumors *Tumori 76:44–47, 1990*

Dermatofibroma – metastasizing cellular dermatofibroma *Am J Surg Pathol 20:1361–1367, 1996*

Elastofibromas *JAAD 50:126–129, 2004*

Folliculosebaceous cystic hamartomas *AD 139:803–808, 2003*

Granular cell tumors *AD 140:353–358, 2004; AD 140:353–358, 2004; JAAD 47:S180–182, 2002; BJD 143:906–907, 2000; JAAD 36:327–330, 1997; AD 126:1051–1056, 1990*

Infantile myofibromatosis – single or multiple (hundreds); head, neck, trunk *Ped Derm 18:305–307, 2001; JAAD 41:508, 1999; AD 134:625–630, 1998; Cancer 48:1807–1818, 1981*

Keratoacanthomas of Ferguson–Smith

Leiomyomas

Leiomyosarcomas *J Exp Clin Cancer Res 17:405–407, 1998; Am J Pediatr Hematol Oncol 14:265–268, 1992*

Leukemia – leukemia cutis (AML,AMML) *AD 134:1477–1482, 1998;* chronic lymphocytic leukemia – multiple lymph nodes

Lipoblastomas, including congenital lipoblastomatosis *Ped Derm 15:210–213, 1998*

Lipomatosis *Rook p.2431, 1998, Sixth Edition; Br J Clin Pract 28:101–102, 1974;* of shoulder girdle *Ann Intern Med 117:749–752, 1992;* spindle cell lipomas *JAAD 48:82–85, 2003*

Lymphoma – intravascular B-cell lymphoma mimicking erythema nodosum *J Cutan Pathol 27:413–418, 2000;* subcutaneous panniculitis-like T-cell lymphoma *JAAD 50:465–459, 2004;* cytophagic histiocytic panniculitis and subcutaneous panniculitis-like T-cell lymphoma *JAAD 50:S18–22, 2004; AD 136:889–896, 2000;* gamma/delta T-cell lymphoma *AD 136:1024–1032, 2000;* lymphadenopathy

Metastases – multiple primary sites; squamous cell carcinoma of the cervix *Int J Gynecol Cancer 11:78–80, 2001;* metastatic carcinoid *AD 141:93–98, 2005;* lymphadenopathy

Neurilemmomatosis *BJD 125:466–468, 1991*

Plantar fibromatosis *Cutis 68:219–222, 2001*

Post-transplantation lymphoproliferative disorder *AD 140:1140–1164, 2004*

Progressive nodular fibrosis of the skin *Ann DV 104:141–146, 1977*

Schwannomatosis *BJD 148:804–809, 2003*

## PRIMARY CUTANEOUS DISEASES

Granuloma annulare, subcutaneous ('pseudorheumatoid nodule') *Pediatr 100:965–967, 1997*

Painful piezogenic pedal papules *Caputo p.177, 2000; JAAD 36:780–781, 1997*

## SYNDROMES

Autoimmune lymphoproliferative syndrome *NEJM 351:1409–1418, 2004*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005*

Benign symmetrical lipomatosis (horse-collar neck) (Madelung's deformity) (multiple symmetric lipomatosis) – autosomal dominant; male alcoholics; lipomas of head, neck, shoulder girdle, proximal extremities; neuropathy *BJD 143:684–686, 2000; Rook p.2433–2434, 1998, Sixth Edition; Skeletel Radiol 24:72–73, 1995;* of the lower abdomen, thighs *Int J Dermatol 32:594–597, 1993*; of the soles *JAAD 26:860–862, 1992*

Birt–Hogg–Dube syndrome – giant disfiguring lipomas *JAAD 50:810–812, 2004*

Congenital generalized myofibromatosis – autosomal recessive or dominant *Ped Derm 21:154–159, 2004; Pediatr Pathol Lab Med 15:571–587, 1995*

Congenital self-healing reticulohistiocytosis (Hashimoto–Pritzker disease) – multiple congenital purple nodules

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas *JAAD 44:132–136, 2001*

Ekbom's syndrome (myoclonic epilepsy and ragged muscle fibers) (mitochondrial syndrome) – cervical lipomas *JAAD 39:819–823, 1998*

Encephalocraniocutaneous lipomatosis – unilateral or bilateral skin-colored or yellow domed papules or nodules of scalp (hairless plaque), head, and neck; ipsilateral cranial and facial asymmetry, cranial and ocular abnormalities, spasticity, mental retardation *Ped Derm 10:164–168, 1993; Arch Neurol 22:144–155, 1970*

Familial histiocytic dermatoarthritis syndrome – uveitis, destructive arthritis; papulonodular eruption *Am J Med 54:793–800, 1973*

Familial multiple lipomatosis; familial angiolipomatosis *Arch Pathol Lab Med 123:946–948, 1999*

Farber's disease (lipogranulomatosis) – deformed or stiff joints and periarticular subcutaneous nodules *Eur J Ped 157:515–516, 1998; AD 130:1350–1354, 1994*

Fibrodysplasia ossificans progressiva

Gardner's syndrome – multiple epidermoid cysts, osteomas (especially of facial bones), lipomas, fibromas *Am J Surg 143:405–408, 1982; Clin Exp Dermatol 1:75–82, 1976*

Hemihyperplasia–multiple lipomatosis (HML) syndrome – extensive congenital vascular stain, compressible blue nodule, multiple subcutaneous nodules, hemihypertrophy, syndactyly, thickened but not cerebriform soles, dermatomyofibroma *Soc Ped Derm Annual Meeting, July 2005; Am J Med Genet 130A:111–122, 2004; Am J Med Genet 79:311–318, 1998*

Infantile myofibromatosis *J Dermatol 28:379–382, 2001; AD 136:597–600, 2000; JAAD 41:508, 1999*

Juvenile hyaline fibromatosis – large subcutaneous nodules of scalp, trunk and extremities *Ped Derm 18:400–402, 2001; Pathol Int 48:230–236, 1998*

Leri–Weill dyschondrosteosis – mesomelic short stature syndrome with Madelung's deformity; SHOX haploinsufficiency like Turner's syndrome *JAAD 50:767–776, 2004*

Maffucci's syndrome – enchondromas, angiomas, cartilaginous nodules *Cutis 69:21–22, 2002; Rook p.2847, 1998, Sixth Edition; Dermatologic Clinics 13:73–78, 1995; JAAD 29:894–899, 1993*

Neurofibromatosis type I *Dermatol Clinics 13:105–111, 1995; Curr Prob Cancer 7:1–34, 1982; NEJM 305:1617–1627, 1981*

Penchaszadeh syndrome (nasopalpebral lipoma-coloboma syndrome) – eyelid lipoma *Am J Med Genet 11:397–410, 1982*

Polyneuropathy with nerve angiomatosis and multiple soft tissue tumors *Am J Surg Pathol 19:1325–1332, 1995*

Proteus syndrome – multiple lipomas *JAAD 52:834–838, 2005; BJD 151:953–960, 2004; AD 140:947–953, 2004; JAMA 285:2240–2243, 2001;* lipomatosis with hemihypertrophy *Textbook of Neonatal Dermatology, p.466, 2001*

Pseudohypoparathyroidism – dry, scaly, hyperkeratotic puffy skin; multiple subcutaneous osteomas, collagenoma *BJD 143:1122–1124, 2000*

Pseudoxanthoma elasticum – multiple calcified cutaneous nodules *Am J Med 31:488–489, 1961*

Steatocystoma multiplex *JAAD 43:396–399, 2000; AD Syphilol 36:31–36, 1937*

### TRAUMA

Intravenous drug abuse – foreign body granulomas or non-specific non-granulomatous inflammation; panniculitis *BJD 150:1–10, 2004*

### VASCULAR DISEASES

Churg–Strauss syndrome *JAAD 47:209–216, 2002; Mayo Clinic Proc 52:477–484, 1977*

Diffuse neonatal hemangiomatosis *Ped Derm 14:383–386, 1997*

Generalized lymphangiomatosis *Ped Derm 15:296–298, 1998*

Glomus tumors – multiple or plaque type; hemi-facial *JAAD 45:239–245, 2001; Ped Derm 18:223–226, 2001; AD 127:1717–1722, 1991*

Henoch–Schönlein purpura *Leung, Robson, 2000*

Kaposiform hemangioendothelioma *JAAD 38:799–802, 1998*

Kimura's disease *JAAD 43:905–907, 2000*

Klippel–Trenaunay–Weber syndrome

Polyarteritis nodosa, systemic; cutaneous (livedo with nodules) – painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *Ped Derm 15:103–107, 1998; AD 130:884–889, 1994; JAAD 31:561–566, 1994; JAAD 31:493–495, 1994*

Takayasu's arteritis *NEJM 349:160–169, 2003*

## NODULES, RED, ON THE EXTREMITIES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bowel arthritis dermatitis syndrome – erythema nodosum-like lesions *AD 135:1409–1414, 1999; Cutis 63:17–20, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Chronic granulomatous disease *JAAD 36:899–907, 1997;* suppurative cutaneous granulomas in chronic granulomatous disease (*Microascus cinereus*) *Clin Inf Dis 20:110–114, 1995*; also *Aspergillus, Candida, Paecilomyces, Exophiala dermatiditis, Acremonium strictum, Sarcinosporon inkin*

Complement deficiency – low serum complement with SLE-like illness *Clin Res 22:416 (Abstract), 1974*

Dermatitis herpetiformis – prurigo nodularis-like lesions *J Eur Acad Dermatol Venereol 16:88–89, 2002*

Dermatomyositis – panniculitis which may ulcerate and form sinuses *BJD 128:451–453, 1993; AD 119:336–344, 1983;* nodules and plaques on arms, thighs, buttocks, abdomen with lipoatrophy *AD 127:1846–1847, 1991; JAAD 23:127–128, 1990;* erythema nodosum *Rook p.2560, 1998, Sixth Edition*

Fogo selvagem (endemic pemphigus) – prurigo nodularis-like lesions *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Lupus erythematosus – lupus panniculitis (lupus profundus) – thighs, buttocks, arms, breasts, face *Rook p.2451, 1998, Sixth Edition; AD 122:576, 1986; AD 103:231–242, 1971;* LE hypertrophicus et profundus – mimicking thrombophlebitis *J Rheumatol 16:1400, 1989;* chilblain lupus – chilblain-like lesions of legs *Rook p.2455, 1998, Sixth Edition*

Pemphigoid nodularis *JAAD 53:S101–104, 2005; JAAD 29:293–299, 1993; JAAD 21:1099–1104, 1989*

Rheumatoid arthritis – neutrophilic lobular panniculitis *JAAD 45:325–361, 2001; J R Soc Med 84:307–308, 1991;* palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis)

*JAAD 47:251–257, 2002; JAAD 45:596–600, 2001; AD 133:757–760, 1997; AD 125:1105–1108, 1989*

Sjögren's syndrome – plasma cell panniculitis *J Cutan Pathol 23:170–174, 1996;* red nodules of legs *JAAD 48:311–340, 2003*

## CONGENITAL LESIONS

Leukemia cutis Dermatol Therapy 18:104–116, 2005

## DRUG-INDUCED

Corticosteroids – post-steroid panniculitis *Ped Derm 5:92–93, 1988; AD 90:387–391, 1964;* topical corticosteroid-induced infantile gluteal granuloma *Clin Exp Dermatol 6:23–29, 1981*

Enfuvirtide – injection site reaction *JAAD 49:826–831, 2003*

Erythema nodosum – drug-induced erythema nodosum – sulfonamides, other antibiotics, analgesics, antipyretics, birth control pill, granulocyte colony-stimulating factor, all-trans retinoic acid *Rook p.3393, 1998, Sixth Edition*

Furosemide – Sweet's like *JAAD 21:339–343, 1989*

G-CSF – Sweet's syndrome, pyoderma gangrenosum *Ped Derm 17:205–207, 2000;* neutrophilic dermatosis of legs and buttocks *Ped Derm 18:417–421, 2001*

Imatinib (Gleevec) *BJD 149:678–678, 2003;* imatinib-associated Sweet's syndrome *AD 141:368–370, 2005*

Immunization granuloma

Interleukin-2 injections – lobular panniculitis *Br J Cancer 66:698–699, 1992*

Iododerma *Australas J Dermatol 28:119–122, 1987*

Leukocyte colony stimulating factors *AD 130:77–81, 1994*

Meperidine *AD 110:747–750, 1974*

Pentazocine *AD 110:747–750, 1974*

Sulindac-induced pancreatitis *JAAD 45:325–361, 2001*

Vasculitis secondary to various drugs; propylthiouracil nodular vasculitis *Cutis 49:253–255, 1992*

## EXOGENOUS AGENTS

Aluminum hypersensitivity – vaccination sites *Ghatan p.252, 2002, Second Edition*

Aspartame (Nutra-Sweet) – lobular panniculitis *JAAD 24:298–300, 1991*

Contact dermatitis, irritant

Mercury ingestion *JAAD 37:131–133, 1997*

Paraffinoma *Plast Reconstr Surg 65:517–524, 1980*

Povidone panniculitis *AD 116:704–706, 1980*

Silicone granuloma *AD 117:366–367, 1981*

Zyderm test site

## INFECTIONS AND INFESTATIONS

Abscess

Acanthamebiasis in AIDS *JAAD 42:351–354, 2000; Arch Int Med 157:569–572, 1997; AD 131:1291–1296, 1995; Cutis 56:285–287, 1995; NEJM 331:85–87, 1994; Ped Inf Dis 11:404–407, 1992*

Actinomycetoma – *Nocardiopsis dassonvillei AD 121:1332–1334, 1985*

Actinomycosis – panniculitis *J Cutan Pathol 16:183–193, 1989*

AIDS – neutrophilic eccrine hidradenitis in HIV infection *J Dermatol 25:199–200, 1998; Int J Dermatol 35:651–652, 1996*

*Alternaria chartarum BJD 142:1261–1262, 2000*

Aspergillosis – primary cutaneous aspergillosis *JAAD 38:797–798, 1998*

Bacterial sepsis

Bartonellosis – verruga peruana; bacillary angiomatosis *Tyring p.228–229, 2002*

*Bacillus* species in subacute combined immunodeficiency *JAAD 39:285–287, 1998*

Bartonella bacilliformis – Oroya fever with verruga peruana – red papules in crops become nodular, hemangiomatous or pedunculated; face, neck, extremities, mucosal lesions *Ann Rev Microbiol 35:325–338, 1981*

*Borrelia burgdorferi* – nodular panniculitis *J Infect Dis 160:596–597, 1992*; Lyme borreliosis – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees *BJD 121:263–269, 1989: Int J Derm 18:595–601, 1979*

Brucellosis – red papulonodules of legs (erythema nodosum-like lesions) *JAAD 48:474–476, 2003; Cutis 63:25–27, 1999; AD 117:40–42, 1981*

*Candida* sepsis – papules and nodules with pale centers *Am J Dermatopathol 8:501–504, 1986; JAMA 229:1466–1468, 1974;* septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Cat scratch disease – erythema nodosum *Pediatrics 81:559–561, 1988*

Chagas' disease – reactivation chagoma *AD 139:104–105, 2003*

Chromomycosis *JAAD 8:1–16, 1983*

Coccidioidomycosis – red nodule of arm *JAAD 49:944–949, 2003*

*Corynebacterium jeikeium*

Cryptococcosis – erythema nodosum-like (cryptococcal panniculitis) *AD 112:1734–1740, 1976; Arch Int Med 136:670–677, 1976; BJD 74:43–49, 1962*

Cysticercosis

Dematiaceous fungal infections in organ transplant recipients – all lesions on extremities
- *Alternaria*
- *Bipolaris hawaiiensis*
- *Exophiala jeanselmei, E. spinifera, E. pesciphera, E. castellani*
- *Exserohilum rostratum*
- *Fonsacaea pedrosoi*
- *Phialophora parasitica*

Fascioliasis – *Fasciola hepatica* (fluke parasite) – eosinophilic panniculitis *JAAD 42:900–902, 2000*

*Fusarium* – red nodule with central pallor *Sabouradis 17:219–223, 1979*; dark nodules of leg *Clin Inf Dis 32:1237–1240, 2001*

*Fusobacterium* – septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Gnathostomiasis – red migratory swellings *BJD 145:487–489, 2001; JAAD 33:825–8, 1995;* eosinophilic migratory panniculitis (larva migrans profundus – *Gnathostoma doloresi* or *G. spinigerum*) *JAAD 11:738–740, 1984*

Gonococcemia *Am J Med Sci 260:150–159, 1970*

Hepatitis B – erythema nodosum *JAAD 9:602–603, 1983;* hepatitis A – nodular panniculitis *Cutis 32:543–547, 1983;* polyarteritis nodosa

Herpes simplex – chronic HSV infection in AIDS – red nodule resembling basal cell carcinoma *JAAD 36:831–833, 1997*

Histoplasmosis *Diagnostic Challenges V 77–79, 1994; AD 121:914–916, 1985*

Insect bite reactions

*Klebsiella* species – septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Leishmaniasis *Clinics in Dermatology 14:425–431, 1996;* post-kala-azar dermal leishmaniasis

Leprosy – lepromatous leprosy including erythema nodosum leprosum (vasculitis) *AD 138:1607–1612, 2002; AD 111:1575–1580, 1975;* subcutaneous lepromas *Rook p.1224–1227, 1998, Sixth Edition*

Lobomycosis – *Loboa loboi* – legs, arms, face *Rook p.1359–1360, 1998, Sixth Edition*

Loiasis

Meningococcemia, chronic *BJD 153:669–671, 2005; Rev Infect Dis 8:1–11, 1986;* acute *Am J Med Sci 260:150–159, 1970*

*Microascus cinereus* in chronic granulomatous disease *J Clin Inf Dis 20:110–114, 1995*

Milker's nodules *Tyring p.58, 2002*

Mucormycosis – *Mucor racemosa*

Mycetoma *JAAD 49:S170–173, 2003; JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982; Sabouraudia 18:91–95, 1980; AD 99:215–225, 1969*

- Eumycetoma
  - *Pseudoallescheria boydii*
  - *Madurella mycetomatis*
  - *Madurella grisea*
  - *Exophiala jeanselmei*
  - *Pyrenochaeta romeroi*
  - *Leptosphaera senegaliensis*
  - *Curvularia lunata*
  - *Neotestudina rosatii*
  - *Aspergillus nidulans*
  - *Aspergillus flavus*
  - *Fusarium* spp.
  - *Cylindrocarpon* spp.
- Bacterial mycetoma
  - Aerobic actinomycetes
  - *Actinomadura madurae*
  - *Actinomadura pelletieri*
  - *Streptomyces somaliensis*
  - *Nocardia brasiliensis*
  - *Nocardia caviae*
  - *Nocardia asteroides*
  - *Nocardia otodiscaviarum*

*Mycobacterium chelonae JAAD 36:495–496, 1997; Ped Derm 14:370, 1994;* panniculitis *AD 126:1064–1067, 1990;* from pedicure whirlpool footbath *AD 139:629–634, 2003*

*Mycobacterium fortuitum AD 139:629–634, 2003*

*Mycobacterium gordonae*

*Mycobacterium haemophilum AD 138:229–230, 2002; Clin Inf Dis 33–330–337, 2001*

*Mycobacterium kansasii Cutis 67:241–242, 2001; JAAD 36:497–499, 1997*

*Mycobacterium malmoense*

*Mycobacterium marinum* – nodule or papule of hands, elbows, knees becomes crusted ulcer or abscess; or verrucous papule; sporotrichoid; rarely widespread lesions *Clin Inf Dis 31:439–443, 2000; Br Med J 300:1069–1070, 1990; AD 122:698–703, 1986; J Hyg 94:135–149, 1985*

*Mycobacterium scrofulaceum Clin Inf Dis 20:549–556, 1995*

*Mycobacterium tuberculosis* – erythema induratum of Bazin (nodular vasculitis) – tuberculid; nodules on backs of erythrocyanotic lower legs; ulcerate *JAAD 45:325–361, 2001; Rook p.2202,2204, 1998, Sixth Edition AD 133:457–462, 1997; JAAD 14:738–342, 1986;* panniculitis *J Cutan Pathol 20:177–179, 1993; Ped Derm 13:386–388, 1996*; miliary TB; nodular tuberculid – red to blue–red nodules *JAAD 53:S154–156, 2005; Ped Derm 17:183–188, 2000*

*Mycobacterium vaccae J Clin Inf Dis 23:173–175, 1996*

Myiasis – furuncular myiasis; true flies, two-winged flies, botflies (*Dermatobia hominis* (human botfly) (*Cuterebra polita)*, *C. latifrons* (rodent or rabbit botfly)), warble flies (*Hypoderma bovis*, *H. lineatum*), flesh flies (*Wohlfartia vigil*, *W. opaca*), tumbu fly (*Cordyloba anthropophaga*, *C. rodhaini*) *JAAD 50:S26–30, 2004*

*Nocardia J Cutan Pathol 16:183–193, 1989;* wrist nodule in chronic granulomatous disease *Clin Inf Dis 33:235–239, 2001; Nocardia* eccrine hidradenitis *JAAD 50:315–318, 2004;* septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

North American blastomycosis

Onchocerciasis

Osteomyelitis – palpable painful mass of thigh

*Paecilomyces lilacinus* – nodules on legs *Clin Inf Dis 34:1415–1417, 2002; JAAD 39:401–409, 1998; JAAD 37:270–271, 1997;* red nodules with necrotic centers *Ann Intern Med 125:799–806, 1996*

Panniculitis – infectious; *Streptococcus pyogenes*, *Staphylococcus aureus*, *Pseudomonas* spp., *Klebsiella* spp., *Nocardia*, atypical mycobacteria, tuberculosis, *Candida*, *Fusarium*, *Histoplasma capsulatum*, *Cryptococcus neoformans*, Actinomycosis, *Sporothrix schenkii*, *Aspergillus fumigatus*, chromoblastomycosis *JAAD 45:325–361, 2001*

*Penicillium marneffei*

Phaeohyphomycosis – *Exophiala J Clin Inf Dis 19:339–341, 1994*

Post-streptococcal suppurative panniculitis

Protothecosis *BJD 146:688–693, 2002*; *AD 125:1249–1252, 1989*

*Pseudomonas* – nodular ecthyma gangrenosum; in HIV *JAAD 32:279–80, 1995;* panniculitis *J Eur Acad Dermatol Venereol 4:166–169, 1995;* septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Psittacosis – erythema nodosum *J Hyg 92:9–19, 1984*

Pyomyositis – palpable painful mass of thigh

Scabies – pseudo-CTCL *BJD 124:277–278, 1991*

*Serratia marcescens* neutrophilic eccrine hidradenitis *BJD 142:784–788, 2000; AD 121:1106–1107, 1985*

Sparganosis – application sparganosis; painful red nodules *Rook p.1403, 1998, Sixth Edition*

Sporotrichosis *Cutis 54:279–286, 1994; Dermatologica 172:203–213, 1986;* fixed cutaneous *Rook p.1352, 1998, Sixth Edition*

*Staphylococcus aureus* – abscess, sepsis *Hautarzt 16:453–455, 1965;* panniculitis *J Cutan Pathol 16:183–193, 1989;* septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

*Staphylococcus epidermidis* – septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Streptococcal species – septic panniculitis in infancy *Textbook of Neonatal Dermatology, p.425, 2001*

Syphilis *Sex Transm Dis 14:52–53, 1987;* Jarisch–Herxheimer reaction; syphilis in AIDS *Clin Inf Dis 23:462–467, 1996;* tertiary – nodular (tubercular) form – firm, coppery, red nodules; often on arms; may be cyanotic on legs *Rook p.1250, 1998, Sixth Edition;* late congenital syphilis – nodular syphilids, gummata *Rook p.1254, 1998, Sixth Edition*

Tinea corporis – Trichophyton-rubrum – Majocchi's granuloma (nodular folliculitis) *Rook p.1302, 1998, Sixth Edition; AD 81:779–785, 1960; AD 64:258–277, 1954;* invasive tinea corporis (T. violaceum) *BJD 101:177–183, 1979;* T. rubrum – violaceous nodules of thighs and lower legs – personal observation

Toxocariasis *JAAD 33:825–828, 1995*

*Toxoplasma gondii AD 136:791–796, 2000*

Trypanosomiasis – African trypanosomiasis *AD 13:1178–1182, 1995;* trypanasomal chancre – red tender 2–5 cm nodule with blister on surface of forearm or leg *Bolognia p.1304, 2003; Rook p.1407, 1998, Sixth Edition*

*Trichophyton rubrum* – invasive *JAAD 21:167–179, 1989;* Majocchi's granuloma

Tularemia – *Franciscella tularensis*; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; toxemic stage heralds generalized morbilliform eruption, erythema multiforme-like rash, crops of red nodules on extremities *Cutis 54:279–286, 1994; Medicine 54:252–269, 1985*

*Tunga penetrans*

Yaws – secondary; tertiary – nodules, tuberous lesions *Rook p.1270, 1998, Sixth Edition*

Zygomycosis

## INFILTRATIVE DISEASES

Generalized eruptive histiocytoma

Histiocytosis

Jessner's lymphocytic infiltrate

Progressive mucinous histiocytosis *BJD 142:133–137, 2000*

Progressive nodular histiocytomas – dermal dendrocytes; red nodules of face, trunk, and extremities *BJD 143:628–631, 2000; JAAD 29:278–280, 1993; AD 114:1505–1508, 1978*

Xanthoma disseminatum – red nodules in flexures *NEJM 338:1138–1143, 1998*

## INFLAMMATORY DISEASES

Eosinophilic fasciitis

Eosinophilic panniculitis *Ped Derm 12:35–38, 1995; J Dermatol 20:185–187, 1993*

Equestrian cold panniculitis *Rook p.2207, 1998, Sixth Edition*

Erythema induratum (Whitfield) – nodules with edematous ankles *Rook p.2207, 1998, Sixth Edition*

Erythema nodosum *Rook p.2200, 1998, Sixth Edition; On Cutaneous Diseases. London:Johnson 1798*

## ERYTHEMA NODOSUM-ASSOCIATED CAUSES

*Sem Arth Rheum 4:1, 1974*

Acne fulminans *Clin Exp Dermatol 2:351–354, 1977*

African trypanosomiasis

Behçet's syndrome *Bolognia p.1553, 2003*

Brucellosis *Ghatan p.134, 2002, Second Edition*

*Campylobacter Q J Med 28:109–124, 1959;* asymptomatic *Campylobacter coli* infection *JAAD 24:285, 1991*

Carcinoid – primary cutaneous carcinoid *Histopathology 36:566–567, 2000*

Cat scratch disease *AD 100:148–154, 1969*

*Chlamydia psittaci Proc R Soc Med 75:262–267, 1982*

Crohn's disease *Bolognia p.1553, 2003*

Coccidioidomycosis *Bolognia p.1553, 2003*

Drugs
- Bromides
- Carbamazepine
- Indomethacin
- Iodides
- Gold *AD 107:602–604, 1973*
- Oral contraceptives *AD 98:634–635, 1968*
- Penicillin *Ghatan p.134, 2002, Second Edition*
- Sulfonamides *Bolognia p.1553, 2003*
- Sulfones *Ghatan p.134, 2002, Second Edition*
- Sulfonylureas *Rook p.2198, 1998, Sixth Edition*
- Vaccines *Ghatan p.134, 2002, Second Edition*

*Escherichia coli Bolognia p.1553, 2003*

Factitial dermatitis

Gonococcal disease *Bolognia p.1553, 2003*

Hepatitis B *JAAD 9:602, 1983*

Hepatitis C *AD 131:1185–1193, 1995*

Herpes simplex *Ghatan p.134, 2002, Second Edition*

Histoplasmosis *Am Rev Resp Dis 117:929–956, 1978*

HIV infection *Bolognia p.1553, 2003*

Hyalohyphomycosis – *Paecilomyces lilacinus BJD 143:873–875, 2000*

Idiopathic *Bolognia p.1553, 2003*

Infectious mononucleosis *Tyring p.149, 2002; Br Med J ii:1263, 1979*

Intestinal bypass for obesity

Intestinal parasitosis

Leishmaniasis *Ghatan p.134, 2002, Second Edition*

Leprosy *Bolognia p.1553, 2003*

Leptospirosis *Br Med J 285:937–940, 1982*

Leukemia *AD 110:415–418, 1974*

Lymphogranuloma venereum *Acta DV (Stockh) 60:319–322, 1980*

Lymphoma – Hodgkin's disease *BJD 106:593–595, 1982*

Meningococcal disease *Bolognia p.1553, 2003*

Milkers' nodules *Acta DV (Stockh) 56:69–72, 1976*

Myiasis, furuncular *Med Cutan Ibero Lat Am 13:411–418, 1985*

North American blastomycosis *Am J Med 27:750–766, 1959*

Pertussis *Bolognia p.1553, 2003*

Pregnancy *Ghatan p.134, 2002, Second Edition*

*Pseudomonas* sepsis *Am J Med 80:528–529, 1986*

Psittacosis (Bateman's syndrome) *Br Med J ii:1469–1470, 1965*

Radiation *BJD 142:188, 2000; BJD 140:372–373, 1999*

*Salmonella Br Med J 102:339–340, 1980*

Sarcoidosis – Lofgren's syndrome – erythema nodosum with sarcoidosis and arthralgias *Ped Derm 22:366–368, 2005; Rook p.2687,2689, 1998, Sixth Edition*

Schistosomiasis

*Shigella*

South American blastomycosis

*Staphylococcus aureus* – abscess (furuncle) *Rook p.1119, Sixth Edition*

Streptococcal infection – pharyngitis and tonsillitis, erysipelas, rheumatic fever *Bolognia p.1553, 2003*

Sweet's syndrome *Bolognia p.1553, 2003*

Syphilis *Bolognia p.1553, 2003*

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Toxoplasmosis *Ghatan p.134, 2002, Second Edition*

*Trichophyton* infections *Pediatrics 59:912–915, 1977*

Tropical eosinophilia

Tuberculosis *Bolognia p.1553, 2003*

Tularemia *JAAD 49:363–392, 2003*

Ulcerative colitis *Bolognia p.1553, 2003; Gut 5:1–22, 1964*

*Yersinia enterocolitica BJD 93:719–720, 1975;* asymptomatic dog vector

Granulomatous nodules – after mastectomy for breast carcinoma *BJD 146:891–894, 2002*

Histiocytic phagocytic panniculitis – red nodules of the forearms *JAAD 44:120–123, 2001*

Kaposi's sarcoma – HIV

Lipoatrophic panniculitis

Lipophagic panniculitis of childhood

Malacoplakia *JAAD 34:325–332, 1996*

Membranous fat necrosis *AD 129:1331, 1334, 1993*

Membranous lipodystrophy

Myositis – systemic or focal myositis – palpable painful mass of thigh

Neutrophilic eccrine hidradenitis *Ped Derm 6:33–38, 1989; AD 118:263–266, 1982*

Palmoplantar hidradenitis in children *AD 131:817–820, 1995*

Panniculitis

(1) Enzyme panniculitis
  $\alpha_1$-antitrypsin deficiency *JAAD 18:684–692, 1988*
  Pancreatic panniculitis
(2) Immunologic panniculitis
  Complement deficiency
  Cytophagic histiocytic panniculitis
  Erythema nodosum, including familial erythema nodosum *Arthr Rheum 34:1177–1179, 1991*
  Lipoatrophic panniculitis
  Lipophagic panniculitis of childhood *JAAD 21:971–978, 1989*
  Lupus panniculitis
(3) Neoplastic
  Lymphoma, leukemia
  Histiocytosis
(4) Cold panniculitis, including cold panniculitis of neonate – red nodules of cheeks; equestrian cold panniculitis
(5) Factitial panniculitis
(6) Post-steroid panniculitis
(7) Crystal panniculitis
(8) Eosinophilic panniculitis
(9) Idiopathic nodular panniculitis (Weber–Christian disease) *Rook p.2204,2410–2411, 1998, Sixth Edition; Medicine 64:181–191, 1985;* relapsing idiopathic nodular panniculitis *BJD 152:582–583, 2005*
(10) Associations with Sweet's syndrome, sarcoid, Behçet's disease, familial Mediterranean fever, Whipple's disease, relapsing polychondritis
(11) Lipomembranous panniculitis with nodular fat necrosis
(12) Subcutaneous fat necrosis after hypothermic cardiac surgery *JAAD 15:331–336, 1986*
(13) Subcutaneous fat necrosis of newborn

Lymphocytoma cutis (pseudolymphoma) *JAAD 38:877–905, 1998; Acta DV 62:119–124, 1982*
  Allergen injections
  Carbamezine
  Cowpox vaccination
  Gold hypersensitivity
  Idiopathic
  Insect bites
  Lyme borreliosis
  Phenytoin
  Tattoos
  Trauma

Pyoderma gangrenosum *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – violaceous, red papules and nodules; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *JAAD 41:335–337, 1999; Int J Derm 37:271–274, 1998; Am J Dermatopathol 17:384–388, 1995; Cancer 30:1174–1188, 1972*

Sarcoid *Rook p.2687, 2689, 1998, Sixth Edition.*

Subacute nodular migratory panniculitis of Villanova and Pinol–Aguade (erythema nodosum migrans) *Acta DV (Stockh) 53:313–317, 1973; AD 89:170–179, 1964*

Subcutaneous fat necrosis of the newborn *J Cutan Pathol 5:193–199, 1978; AD 134:425–426, 1998*

Ulcerative colitis with nodular panniculitis *J Gastroenterol 29:84–87, 1994*

Weber–Christian disease

## METABOLIC DISEASES

Acquired depletion of C1-esterase inhibitor – lobular panniculitis *Am J Med 8:959–962, 1987*

$\alpha_1$-antitrypsin deficiency-associated panniculitis *JAAD 51:645–655, 2004; Cutis 71:205–209, 2003; AD 123:1655–1661, 1987*

Calcinosis cutis (dystrophic calcification) *Cutis 60:259–262, 1997*

Calciphylaxis *Cutis 51:245–247, 1993; JAAD 22:743–747, 1990*

Crohn's disease – metastatic Crohn's disease – red nodules of lower legs *JAAD 10:33–38, 1984;* granulomatous ulcer *JAAD 41:476–479, 1999*

Crystal panniculitis

Diabetic muscle infarction – palpable painful mass of thigh *Am J Med 101:245–250, 1996*

Gout – gouty panniculitis with urate crystal deposition *Cutis 76:54–56, 2005; Am J Dermatopathol 9:334–338, 1987; AD 113:655–656, 1977*

Pancreatic panniculitis – periarticular subcutaneous nodules of lower legs; post-traumatic pancreatitis, acute and chronic pancreatitis, pancreatic carcinoma, pancreatic pseudocyst, anatomical ductal anomaly of pancreas, pancreas divisum, vasculopancreatic fistulae *JAAD 45:325–361, 2001; Rook p.2414, 1998, Sixth Edition; JAAD 34:362–364, 1996; Arthritis Rheum 22:547–553, 1979*; *Am J Med 58:417–423, 1975;* HIV infection and hemophagocytic syndrome *BJD 134:804–807, 1996*

Pretibial myxedema *Rook p.2707, 1998, Sixth Edition*

Vascular calcification – cutaneous necrosis syndrome *JAAD 33:53–8, 1995*

Whipple's disease – subcutaneous Whipple's disease; leg nodules or erythema nodosum *Rook p.2654, 1998, Sixth Edition*

Xanthoma

## NEOPLASTIC DISEASES

Acrospiroma *Cutis 58:349–351, 1996*

Angioimmunoblastic lymphadenopathy *Ghatan p.254, 2002, Second Edition*

Chondroid syringoma

Crystal-storing histiocytosis associated with lymphoplasmacytic lymphoma – panniculitis *Hum Pathol 27:84–87, 1996*

Cytophagic histiocytic panniculitis – manifestation of hemophagocytic syndrome; red tender nodules; T-cell lymphoma, B-cell lymphoma, histiocytic lymphoma, sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *Rook p.2419, 1998, Sixth Edition; JAAD 4:181–194, 1981; Arch Int Med 140:1460–1463, 1980*

Dermal duct tumor – red nodule of head, neck, arms, legs, or back *AD 140:609–614, 2004*

Dermatofibrosarcoma protuberans – early, red papule/nodule *JAAD 35:355–374, 1996*

Dermatomyofibroma – red nodule or plaque *Ped Derm 16:154–156, 1999*

Eccrine angiomatous hamartoma *Ped Derm 14:401–402, 1997*

Eccrine porocarcinoma *JAAD 49:S252–254, 2003*

Eccrine poroma and eccrine porocarcinoma – red nodule of ankle *BJD 150:1232–1233, 2004*

Eccrine syringofibroadenoma *BJD 142:1050–1051, 2000*

Eruptive infundibulomas *Ann DV 114:551–6, 1987*

Fibrosarcoma/spindle cell sarcoma – red or violaceous nodule *Rook p.2352, 1998, Sixth Edition*

Fibrous tumors of infants
- Calcifying aponeurotic fibroma
- Digital fibromatosis
- Fibromatosis colli
- Fibrous hamartoma of infancy
- Hyaline fibromatosis
- Infantile myofibromatosis *AD 134:625–630, 1998*
- Intravascular fasciitis

Fibrous histiocytoma

Granular cell schwannoma – including prurigo nodularis-like lesions *Int J Derm 20:126–129, 1981*

Histiocytic lymphoma (true histiocytic lymphoma) *JAAD 50:S9–10, 2004*

Infantile myofibromatosis – purple nodules of legs *Ped Derm 19:520–522, 2002; Curr Prob Derm 14:41–70, 2002*

Kaposi's sarcoma *AD 141:1311–1316, 2005*

Keratoacanthoma

Leiomyoma – pink, red, dusky brown papules or nodules *Cancer 54:126–130, 1984*

Leiomyosarcoma *JAAD 48:S51–53, 2003; JAAD 38:137–142, 1998; J Exp Clin Cancer Res 17:405–407, 1998; JAAD 21:1156–1160, 1989*

Leukemia – acute lymphoblastic – purple nodules *JAAD 38:620–621, 1998;* leukemia cutis *AD 110:415–418, 1974;* monocytic leukemia – red, brown, violaceous nodule *AD 123:225–231, 1971;* eosinophilic leukemia *AD 140:584–588, 2004*

Lipoblastoma

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphoma/leukemia – subcutaneous panniculitic T-cell lymphoma *JAAD 50:S18–22, 2004; BJD 148:516–525, 2003*; *AD 138:740–742, 2002; JAAD 36:285–289, 1997; AD 132:1345–1350, 1996; AD 129:1171–1176, 1993;* subcutaneous T-cell lymphoma with hemophagocytic syndrome *JAAD 34:904–910, 1996;* lymphomatoid granulomatosis – angiocentric T-cell lymphoma *AD 127:1693–1698, 1991*; *AD 132:1464–1470, 1996;* $CD30^-$ CTCL *AD 1331:1009–1015, 1995;* B-cell lymphoma overlying acrodermatitis chronica atrophicans associated with Borrelia burgdorferi infection *JAAD 24:584–590, 1991;* nasal NK/T-cell lymphoma *JAAD 46:451–456, 2002;* $CD30^+$ CTCL (Ki+ anaplastic large cell lymphoma) – isolated red nodule *Ann Oncol 5 (Suppl 1) 25–30, 1994;* primary B-cell lymphoma *AD 130:1551–1556, 1994;* and primary cutaneous large B-cell lymphoma of the legs *AD 132:1304–1308, 1996;* large cell B-cell lymphoma of the leg *JAAD 49:223–228, 2003;* primary cutaneous marginal zone B-cell lymphoma – red nodules with surrounding erythema *AD 141:1139–1145, 2005; BJD 147:1147–1158, 2002;* intravascular B-cell (malignant angioendotheliomatosis) lymphoma mimicking erythema nodosum *J Cutan Pathol 27:413–418, 2000; JAAD 39:318–321, 1998;* angiotropic B-cell lymphoma (malignant angioendotheliomatosis); lymphoplasmacytic lymphoma *JAAD 38:820–824, 1998;* follicular-center B-cell lymphoma – nodules of face, scalp, trunk, extremities *AD 132:1376–1377, 1996;* immunocytoma (low grade B-cell lymphoma) – reddish–brown papules, red nodules, plaques and/or tumors on the extremities *JAAD 44:324–329, 2001;* $CD56^+$ lymphoma *AD 140:427–436, 2004;* HTLV-1 lymphoma *BJD 128:483–492, 1993; Am J Med 84:919–928, 1988;* lymphoblastoid natural killer-cell lymphoma *BJD 146:148–153, 2002;* histiocytic lymphoma (reticulum cell sarcoma) – blue–red nodules *Am J Dermatopathol 14:511–517, 1992; Cancer 62:1970–1980, 1988*

Lymphomatoid granulomatosis (angiocentric lymphoma) – violaceous nodules *Ped Derm 17:369–372, 2000*

Lymphomatoid papulosis *JAAD 49:1049–1058, 2003*

Malignant fibrous histiocytoma *Cutis 69:211–214, 2002*

Malignant histiocytosis – single nodules or diffuse papulonodular eruption *Hum Pathol 15:368–377, 1984*

Malignant nodular hidradenoma – nodule of head, trunk, distal extremities *Cutis 68:273–278, 2001*

Malignant schwannoma

Melanoma, including amelanotic melanoma *Rook p.1743–1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975*

Metaplastic synovial cysts – red nodules of buttocks *JAAD 41:330–332, 1999*

Metastases

Multiple myeloma *AD 139:475–486, 2003*

Muscle tumors – primary or metastatic tumors of muscle; palpable painful mass of thigh

Myelodysplastic syndromes – prurigo nodularis-like lesions *JAAD 33:187–191, 1995;* neutrophilic panniculitis *BJD 136:142–144, 1997*

Myofibromatosis

Neurofibroma

Neurothekoma *AD 139:531–536, 2003*

Nevus comedonicus, inflammatory *JAAD 38:834–836, 1998*

Nodular hidradenoma (clear cell hidradenoma, eccrine acrospiroma, clear cell myoepithelioma) *AD 136:1409–1414, 2000; JAAD 42:693–695, 2000*

Nodular subepidermal fibroma *Cutis 69:173–174, 2002*

Peripheral neuroepithelioma *Curr Prob Derm 14:41–70, 2002*

Pilar cyst

Pilomatrixoma *Cutis 69:173–174, 2002*

Plasmacytoma – extramedullary plasmacytoma – violaceous brown nodule *JAAD 49:S255–258, 2003;* primary plasmacytoma *JAAD 38:820–834, 1998*

Plasmacytosis, systemic *JAAD 38:629–631, 1998*

Porocarcinoma *AD 136:1409–1414, 2000*

Post-transplantation lymphoproliferative disorder *JAAD 52:S123–124, 2005; AD 140:1140–1164, 2004; JAAD 51:778–780, 2004*

Progressive eruptive histiocytomas (brown) *JAAD 35:323–325, 1996*

Rhabdomyosarcoma

Soft tissue sarcoma

Squamous cell carcinoma – complicating venous stasis ulcers *South Med J 58:779–781, 1965*

Subcutaneous myeloid sarcoma *AD 141:104–106, 2005*

## PARANEOPLASTIC DISEASES

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Erythema nodosum associated with acute myelogenous leukemia, chronic myelogenous leukemia, chronic myelomonocytic leukemia *Bolognia p.1947, 2003*

Exaggerated arthropod bite reactions – chronic lymphocytic leukemia *Bolognia p.1947, 2003*

Necrobiotic xanthogranuloma with paraproteinemia *Medicine (Baltimore) 65:376–388, 1986*

Neutrophilic panniculitis associated with myelodysplastic syndrome *JAAD 50:280–285, 2004*

Pancreatic panniculitis – pancreatic carcinoma

Paraneoplastic septal panniculitis associated with acute myelogenous leukemia *BJD 144:905–906, 2001*

Paraneoplastic vasculitis – nodules, panniculitis *J Rheumatol 18:721–727, 1991*

Polyarteritis nodosa – associated with hairy cell leukemia, and chronic myelomonocytic leukemia *Bolognia p.1947, 2003*

Thrombophlebitis migrans (Trousseau's sign) – association with internal malignancy *Circulation 22:780, 1960*

## PRIMARY CUTANEOUS DISEASE

Anetoderma of Jadassohn *AD 102:697–698, 1970*

Epidermolysis bullosa pruriginosa – domnant dystrophic or recessive dystrophic; mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults, reticulate scarring, dermatitis with lichenified plaques, violaceous linear scars, albopapuloid lesions of the trunk, prurigo nodularis-like lesions, milia *BJD 152:1332–1334, 2005; BJD 146:267–274, 2002; BJD 130:617–625, 1994*

Erythema elevatum diutinum *Cutis 68:41–42, 55, 2001; Cutis 34:41–43, 1984*

Granuloma annulare

Keratosis lichenoides chronica – extremities and buttocks *JAAD 38:306–309, 1998; JAAD 37:263–264, 1997; AD 131:609–614, 1995; AD 105:739–743, 1972*

Nodular erythrocyanosis – calves, knees, thighs, buttocks of women with paralysis *Rook p.2204,2206–2207, 1998, Sixth Edition*

Prurigo nodularis – idiopathic or associated with lymphoma, peripheral T-cell lymphoma (Lennert's lymphoma) *Cutis 51:355–358, 1993;* Hodgkin's disease *Dermatologica 182:243–246, 1991; Ped Derm 7:136–139, 1990;* gluten sensitive enteropathy *BJD 95:89–92, 1976;* AIDS *JAAD 33:837–838, 1995;* uremia *South Med J 68:138–141, 1975;* depression, liver disease, $\alpha$-1 antitrypsin deficiency *Australas J Dermatol 32:151–157, 1991;* malabsorption *Dermatologica 169:211–214, 1984*

## PSYCHOCUTANEOUS DISEASES

Factitial panniculitis *Rook p.2204,2801, 1998, Sixth Edition*

## SYNDROMES

Behçet's disease – erythema nodosum-like lesions *BJD 147:331–336, 2002; JAAD 40:1–18, 1999; JAAD 36:689–696, 1997; Ped Derm 11:95–101, 1995;* subcutaneous red nodules (vasculitis) *JAAD 31:493–495, 1994;* Behçet's disease *JAAD 41:540–545, 1999; NEJM 341:1284–1290, 1999;* neutrophilic eccrine hidradenitis *Cutis 68:107–111, 2001*

Congenital self-healing reticulohistiocytosis – Hashimoto–Pritzker type *AD 134:625–630, 1998*

Disseminated lipogranulomatosis (Farber's disease)

Familial Mediterranean fever – panniculitis *AD 134:929–931, 1998;* erythema nodosum-like lesions *AD 112:364–366, 1976*

Fibrodysplasia ossificans progressiva

Hemophagocytic syndrome *AD 128:193–200, 1992*

Hypereosinophilic syndrome *AD 132:535–541, 1996; Medicine 54:1–27, 1975*

Hyper-IgD syndrome – red macules or papules, urticaria, red nodules, combinations of fever, arthritis, and rash, annular erythema, and pustules – autosomal recessive; mevalonate kinase deficiency *AD 136:1487–1494, 2000; AD 130:59–65, 1994*

Hyper-IgM syndrome – X-linked; sarcoid-like granulomas; multiple papulonodules of face, buttocks, arms *Ped Derm 21:39–43, 2004*

Nakajo syndrome – nodular erythema with digital changes

Neurofibromatosis type 1

Relapsing polychondritis – panniculitis *Dermatology 193:266–268, 1996*

Sweet's syndrome *JAAD 31:535–536, 1994;* septal erythema nodosum-like panniculitis *AD 121:785–788, 1985;* subcutaneous Sweet's syndrome *AD 138:1551–1554, 2002*

## TRAUMA

Cold panniculitis, including equestrian cold panniculitis in women *AD 116:1025–1027, 1980*

Hematoma – palpable painful mass of thigh

Intravenous drug abuse (IVDA) – tracks

## VASCULAR DISEASES

Angiokeratoma circumscriptum *Ghatan p.73, 2002, Second Edition*

Angiosarcoma – purple nodules *BJD 138:692–694, 1998; AD 124:263–264, 266–267, 1988*

Arteriovenous fistulae – congenital or acquired; red pulsating nodules with overlying telangiectasia – extremities, head, neck, trunk *Rook p.2237, 1998, Sixth Edition*

Benign (reactive) angioendotheliomatosis – red–brown or violaceous nodules on arms or legs *JAAD 38:143–175, 1998*

Cholesterol emboli *BJD 146:511–517, 2002; Medicine 74:350–358, 1995; Angiology 38:769–784, 1987; AD 122:1194–1198, 1986*

Churg–Strauss syndrome – elbow nodules *JAAD 37:199–203, 1997;* subcutaneous red nodules (vasculitis) *JAAD 31:493–495, 1994*

Degos' disease – red papules with yellow centers *JAAD 38:852–856, 1998; Ann DV 79:410–417, 1954*

Epithelioid angiosarcoma – red nodule of leg *JAAD 38:143–175, 1998*

Erythema induratum of Whitfield (nodular vasculitis) – nodules with edematous ankles *Rook p.2202,2204,2208, 1998, Sixth Edition*

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema, and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Fat emboli

Glomus tumor, solitary – painful pink, purple nodule *Ann Plast Surg 43:436–438, 1999; Rook p.2357, 1998, Sixth Edition*

Intravascular papillary endothelial hyperplasia – pseudo–Kaposi's sarcoma – red or purple papules and nodules of the legs *JAAD 10:110–113, 1984*

Lipodermatosclerosis, acute *JAAD 35:566–568, 1996*

Leukocytoclastic vasculitis – subcutaneous red nodules *JAAD 31:493–495, 1994*

Malignant angioendotheliomatosis (intravascular lymphomatosis) – red to purple nodules and plaques on trunk and extremities with prominent telangiectasias over lesions *JAAD 38:143–175, 1998*

Necrotizing vasculitis

Nodular vasculitis (leukocytoclastic vasculitis) *JAAD 45:163–183, 2001*

Polyarteritis nodosa, systemic *Ann Intern Med 89:66–676, 1978*; cutaneous infarcts presenting as tender nodules *Rook p.2212, 1998, Sixth Edition*; cutaneous (livedo with nodules) – painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *JAAD 53:724–728, 2005; BJD 146:694–699, 2002; Ped Derm 15:103–107, 1998*; *Ann Rheum Dis 54:134–136, 1995; AD 130:884–889, 1994; JAAD 31:561–566, 1994; JAAD 31:493–495, 1994; Acta Med Scand 76:183–225, 1931;* cutaneous associated with Crohn's disease *Dis Colon Rectum 23:258–262, 1980*

Post-thrombotic periphlebitis *Rook p.2204, 1998, Sixth Edition*

Pustular vasculitis of hands *JAAD 32:192–198, 1995; JAAD 31:493–495, 1994*

Pyogenic granuloma

Retiform hemangioendothelioma – exophytic masses of arms or legs *JAAD 38:143–175, 1998*

Spindle cell hemangioendothelioma – purple nodule *Cutis 53:134–136, 1994*

Superficial migratory thrombophlebitis – oval tender red nodules of the legs, abdomen, arms *JAAD 45:163–183, 2001; JAAD 23:975–985, 1990*

Superficial thrombophlebitis

Takayasu's arteritis – subcutaneous red nodules *JAAD 31:493–495, 1994*

Temporal arteritis – granulomatous lipophagic panniculitis *Ann Rheum Dis 51:812–814, 1992*

Thromboangiitis obliterans (Buerger's disease) – palpable painful mass of thigh; superficial thrombophlebitis (leg nodule); acute thrombophlebitis; red nodules of sides of feet and lateral legs; associated with peripheral arterial disease *Rook p.2204, 2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thrombophlebitis, idiopathic – livid painful nodules *NEJM 344:1222–1231, 2001; Rook p.2208, 1998, Sixth Edition*

Tufted angioma – red nodule *Ped Derm 19:394–401, 2002; JAAD 20:214–225, 1989*

Vasculitis – large and/or small vessel – leukocytoclastic vasculitis *Rook p.2178, 1998, Sixth Edition;* urticarial vasculitis *AD 134:231–236, 1998*

Venous thrombosis – swelling and pain of calf *NEJM 344:1222–1231, 2001; BMJ 320:1453–1456, 2000*

Wegener's granulomatosis – subcutaneous red nodules *JAAD 31:493–495, 1994*

# NODULES, RED, FACE

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – granulomas, furuncles, suppurative nodules *NEJM 317:687–694, 1987*

Lupus erythematosus – discoid lupus erythematosus; lupus profundus (lupus panniculitis) *Rook p.2451, 1998, Sixth Edition; AD 122:576, 1986; AD 103:231–242, 1971*

## CONGENITAL LESIONS

Nasal glioma – midline nasal nodule Dermatol Therapy 18:104–116, 2005

## DRUG-INDUCED

Drug-induced pseudolymphoma syndrome *JAAD 38:877–905, 1998*

## EXOGENOUS AGENTS

BCG granuloma

Foreign body granuloma *AD 139:17–20, 2003*

Halogenoderma

## INFECTIONS

Abscess, carbuncle, furuncle

Actinomycosis, cervicofacial – nodule of cheek or submaxillary area; board-like induration; multiple sinuses with puckered scarring; sulfur granules discharged *Arch Int Med 135:1562–1568, 1975*

African blastomycosis

Anthrax

Bacillary angiomatosis

Bejel

Botryomycosis

*Candida* sepsis – papules and nodules with pale centers *Am J Dermatopathol 8:501–504, 1986; JAMA 229:1466–1468, 1974*

Chromomycosis – *Aureobasidium pullulans AD 133:663–664, 1997*

Coccidioidomycosis *JAAD 46:743–747, 2002*

Cryptococcosis *Clin Inf Dis 33:700–705, 2001*

Dracunculosis

Ecthyma

Erysipelas

*Fusarium* – sepsis; red nodule with central pallor *Rhinology 34 (4):237–241, 1996*

Herpes simplex – pseudolymphoma appearance – violaceous nodule *Am J Dermatopathol 13:234–240, 1991*

Insect bite

Kerion

Lacrimal gland abscess – adjacent to medial canthus

Leishmaniasis – acute cutaneous leishmaniasis *Clin Inf Dis 33:815,897–898, 2001; J Clin Inf Dis 22:1–13, 1996; AD 128:83–87, 1992*; L. tropica – ulcerated nodule of face *JAAD 53:810–815, 2005*

Leprosy – lepromatous leprosy; subcutaneous lepromas *Rook p.1224–1227, 1998, Sixth Edition;* erythema nodosum leprosum (vasculitis) *JAAD 51:416–426, 2004; AD 138:1607–1612, 2002*

Milker's nodule

Molluscum contagiosum, giant

*Mycobacterium avium-intracellulare* – cervicofacial lymphadenitis in children *Ped Derm 21:24–29, 2004*

*Mycobacterium malmoense* – cervicofacial lymphadenitis in children *Ped Derm 21:24–29, 2004*

*Mycobacterium marinum*

*Mycobacterium tuberculosis* – scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *BJD 134:350–352, 1996;* BCG granuloma; lupus vulgaris

Myiasis – cuterebrid myiasis *Ped Derm 21:515–516, 2004*

North American blastomycosis

Orf *Tyring p.54, 2002; JAAD 40:815–817, 1999*

*Paecilomyces lilacinus* – red nodules with necrotic centers *Ann Intern Med 125:799–806, 1996*

Papular urticaria

Paracoccidioidomycosis

Preauricular cyst *Curr Prob Dermatol 13:249–300, 2002*

*Pseudomonas* sepsis *JAAD 32:279–280, 1995; Am J Med 80:528–529, 1986*

Scabies – in elderly and infants *Rook p.1460, 1998, Sixth Edition*

Sporotrichosis, fixed cutaneous *Cutis 54:279–286, 1994; Dermatologica 172:203–213, 1986*

*Staphylococcus aureus* – abscess (furuncle) *Rook p.1119, Sixth Edition*

Syphilis – nodular secondary *AD 133:1027–1032, 1997;* in AIDS *J Clin Inf Dis 23:462–467, 1996*; tertiary (gumma)

Tropical ulcer

Tularemia

Warts

Yaws

## INFILTRATIVE DISORDERS

Hashimoto–Pritzker disease (congenital self-healing reticulohistiocytosis) – red facial nodule *JAAD 53:838–844, 2005*

Jessner's lymphocytic infiltrate

Progressive nodular histiocytosis – dermal dendrocytes; red nodules of face, trunk, and extremities *BJD 143:628–631, 2000*

## INFLAMMATORY DISORDERS

Erythema nodosum in children *Ped Derm 13:447–450, 1996*

Lymphocytoma cutis *Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982*

Nodular fasciitis *AD 137:719–721, 2001*

Pseudolymphomatous folliculitis *Am J Pathol 24:367–387, 1948*

Sarcoid – lupus pernio *JAAD 48:290–293, 2003; Rook p.2689, 1998, Sixth Edition; JAAD 16:534–540, 1987; BJD 112:315–322, 1985; Clin Exp Dermatol 9:614–617, 1984*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – violaceous, red papules and nodules; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *JAAD 41:335–337, 1999; Int J Derm 37:271–274, 1998; Am J Dermatopathol 17:384–388, 1995; Cancer 30:1174–1188, 1972*

Subcutaneous fat necrosis of the newborn *AD 134:425–426, 1998*

## NEOPLASTIC DISEASES

Adenoid cystic carcinoma

Angiolipoma

Apocrine hidrocystoma *AD 137:657–662, 2001*

Atypical fibroxanthoma *AD 137:719–721, 2001; Cutis 51:47–48, 1993; BJD 97:167, 1977; Cancer 31:1541–1552, 1973*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Benign nodular hidradenoma *AD 140:609–614, 2004*

Chondroid syringoma *AD 84:835–847, 1961;* purple nodule *AD 140:751–756, 2004*

Clear cell hidradenoma (eccrine acrospiroma)

Congenital self-healing reticulohistiocytosis (Hashimoto–Pritzker disease) *Int J Dermatol 38:693–696, 1999*

Cylindroma *Am J Dermatopathol 17:260–265, 1995*

Dermal duct tumor – red nodule of head, neck, arms, legs, or back *AD 140:609–614, 2004*

Eccrine poroma

Eccrine sweat gland carcinoma – face, scalp, palm *J Cutan Pathol 14:65–86, 1987*

Embryonal rhabdomyosarcoma *Ped Derm 15:403–405, 1998*

Epidermoid cyst, ruptured or infected

Hidrocystoma

Infantile myofibromatosis *AD 134:625–630, 1998*

Kaposi's sarcoma

Keloids

Keratoacanthoma

Leukemia, including congenital monocytic leukemia; monocytic leukemia – red, brown, violaceous nodule *AD 123:225–231, 1971*

Lymphadenoma – preauricular red nodule *AD 141:633–638, 2005*

Lymphoepithelioma-like carcinoma of the skin *AD 134:1627–1632, 1998*

Lymphoma – B-cell, T-cell, angiotropic B-cell lymphoma (malignant angioendotheliomatosis), Hodgkin's disease, immunocytoma (low grade B-cell lymphoma) – reddish–brown

papules *JAAD 44:324–329, 2001; primary cutaneous marginal zone B-cell lymphoma (immunocytoma) AD 141:1139–1145, 2005;* HTLV-1 lymphoma *BJD 128:483–492, 1993; Am J Med 84:919–928, 1988;* red–orange papulonodules – HTLV-1 granulomatous T-cell lymphoma *JAAD 44:525–529, 2001;* Hodgkin's disease *AD 116:1038–1040, 1980;* follicular CTCL *JAAD 48:448–452, 2003;* primary cutaneous anaplastic large cell lymphoma *BJD 150:1202–1207, 2004*

Lymphomatoid papulosis *JAAD 33:741–748, 1995*

Malignant cylindrocarcinoma *BJD 145:653–656, 2001*

Melanocytic nevus

Melanoma, including amelanotic melanoma *Rook p.1743–1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975*

Merkel cell carcinoma – red or purple nodule *JAAD 49:832–841, 2003; JAAD 43:755–767, 2000; JAAD 36:727–732, 1997; J Maxillofac Surg 13:39–43, 1985;* multiple nodules *BJD 146:895–898, 2002*

Metastases

Mixed tumor (chondroid syringoma) *AD 125:1127, 1989*

Multiple myeloma *AD 139:475–486, 2003*

Neurilemmoma (schwannoma) – pink–gray or yellowish nodules of head and neck *Rook p.2363, 1998, Sixth Edition*

Neuroectodermal tumors – congenital primitive neuroectodermal tumors

Neurothekoma – red nodule of face, nose *AD 139:531–536, 2003*

Pilomatrixoma

Porocarcinoma *AD 136:1409–1414, 2000*

Rhabdomyomatous mesenchymal hamartoma *Am J Dermatopathol 11:58–63, 1989*

Rhabdomyosarcoma *AD 124:1687, 1988*

Sebaceous gland carcinoma

Squamous cell carcinoma

Trichoepithelioma

Warty dyskeratoma – face, neck, scalp, axillae *Ghatan p.341, 2002, Second Edition*

### PARANEOPLASTIC DISORDERS

Necrobiotic xanthogranuloma with paraproteinemia *J Cutan Pathol 27:374–378, 2000; Medicine (Baltimore) 65:376–388, 1986*

Neutrophilic panniculitis associated with myelodysplastic syndrome *JAAD 50:280–285, 2004*

### PRIMARY CUTANEOUS DISEASES

Acne rosacea

Acne vulgaris – inflammatory nodulocystic lesion

Granuloma faciale *Int J Dermatol 36:548–551, 1997; AD 129:634–635,637, 1993*

Infantile acne cyst *Ped Derm 22:166–169, 2005*

Pyoderma faciale (form of acne rosacea) – sudden onset of nodules, abscesses, sinuses *AD 128:1611–1617, 1992*

### SYNDROMES

Familial histiocytic dermatoarthritis *Am J Med 54:793–800, 1973*

Hereditary progressive mucinous histiocytosis

Hyper-IgM syndrome – X-linked; sarcoid-like granulomas; multiple papulonodules of face, buttocks, arms *Ped Derm 21:39–43, 2004*

Muir–Torre syndrome

### TRAUMA

Cold panniculitis (Haxthausen's disease) *Burns Incl Therm Inj 14:51–52, 1988; AD 94:720–721, 1966; BJD 53:83–89, 1941;* popsicle panniculitis *Pediatr Emerg Care 8:91–93, 1992*

### VASCULAR DISORDERS

Angiofibroma

Benign (reactive) angioendotheliomatosis – red–brown to violaceous nodules or plaques *JAAD 38:143–175, 1998*

Kimura's disease – periauricular red nodule *JAAD 38:143–175, 1998*

Polyarteritis nodosa – in children; fever, peripheral gangrene, black necrosis, livedo reticularis, ulcers, nodules, vesiculobullous lesions, arthralgia, nodules of face and extremities, conjunctivitis *JAAD 53:724–728, 2005; Ann Rheum Dis 54:134–136, 1995*

Pyogenic granuloma

Tufted angioma

Wegener's granulomatosis

## NODULES, RED, HAND

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Pemphigoid nodularis *BJD 142:143–147, 2000*

Rheumatoid arthritis – neutrophilic dermatosis *J Dermatol 27:782–787, 2000*

Systemic lupus erythematosus

### DRUG-INDUCED

Imatinib-associated Sweet's syndrome *AD 141:368–370, 2005*

Neutrophilic eccrine hidradenitis – chemotherapy-induced *JAAD 40:367–398, 1999*

### EXOGENOUS AGENTS

Barber's sinus

Foreign body granuloma

Halogenoderma

Mercury granuloma *JAAD 43:81–90, 2000*

Milker's sinus – tender nodules with discharging sinuses *Rook p.924, 1998, Sixth Edition*

Paraffinoma – grease gun injury; nodule, plaque, sinus of hand *BJD 115:379–381, 1986*

### INFECTIONS AND INFESTATIONS

Abscesses

Anthrax

Bacillary angiomatosis

Bacterial sepsis – septic emboli – palmoplantar red nodule

Chancriform pyoderma

*Dirofilaria* – hand nodule *Cutis 72:269–272, 2003*

*Fusarium* – red nodule with central pallor

Leprosy – lepromatous leprosy including erythema nodosum leprosum (vasculitis), subcutaneous lepromas *Rook p.1224, 1998, Sixth Edition*

Lyme borreliosis *(Borrelia burgdorferi)* – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees *BJD 121:263–269, 1989: Int J Derm 18:595–601, 1979*

Milker's nodule – starts as flat red papule on fingers or face, progresses to red–blue tender nodule, which crusts; zone of erythema; may resemble pyogenic granulomas *Rook p.1004, 1998, Sixth Edition; AD 111:1307–1311, 1975*

*Mycobacterium chelonei J Clin Inf Dis 23:1189–1191, 1996*

*Mycobacterium gordonae Int J Dermatol 26:181–184, 1987*

*Mycobacterium marinum Clin Inf Dis 31:439–443, 2000*

*Mycobacterium tuberculosis*

*Nocardia asteroides* – after a cat scratch *BJD 145:684–685, 2001*

Orf *Tyring p.54, 2002; JAAD 1172–1174, 1984*

Osteomyelitis

Phaeohyphomycotic cyst *(Exophiala jeanselmei) JAAD 12:207–212, 1985; Phialophora*, *Cladosporium*, and *Alternaria JAAD 8:1–16, 1983*

*Pseudomonas* hot tub folliculitis – palmoplantar red nodules

Rocky Mountain spotted fever – palmoplantar red nodules

Sealpox (parapoxvirus) – gray concentric nodule with superimposed bulla on dorsum of hand *BJD 152:791–793, 2005*

Sporotrichosis – primary chancre *Cutis 54:279–286, 1994; Dermatologica 172:203–213, 1986*

*Staphylococcus aureus* – abscess (furuncle) *Rook p.1119, Sixth Edition*

Subacute bacterial endocarditis – Janeway lesion *Med News 75:257–262, 1899;* Osler's node

Syphilis – primary (chancre), nodular secondary *BJD 115:495–496, 1986*, tertiary (gumma) – palmoplantar red nodules

Tanapox – red nodule with headache and backache *Bull WHO 63:1027–1035, 1985*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis resembling cherry angiomas *Ped Derm 3:304–310, 1986*

Mastocytoma – palmar nodule *Ped Derm 15:386–387, 1998*

Myxoid cyst

## INFLAMMATORY DISEASES

Erythema elevatum diutinum *Cutis 34:41–43, 1984;* palmoplantar nodules *BJD 142:116–119, 2000*

Erythema multiforme – palmoplantar red nodules

Erythema nodosum – palmoplantar red nodules

Idiopathic palmoplantar hidradenitis of children *AD 131:817–820, 1995; J Cut Path 21:289–296, 1994*

Panniculitis – palmoplantar red nodule

Pseudosarcomatous nodular fasciitis

Pyoderma gangrenosum

Relapsing eosinophilic perimyositis – fever, fatigue, and episodic muscle swelling; erythema over swollen muscles *BJD 133:109–114, 1995*

Sarcoid *Rook p.2689, 1998, Sixth Edition*

## METABOLIC DISEASES

Calcinosis cutis – tumoral calcinosis

Cryoproteinemia – reactive angiomatosis with cryoproteinemia *JAAD 27:969–973, 1992*

Low IL-2 level *JAAD 29:473–477, 1993*

## NEOPLASTIC DISORDERS

Angiomatoid malignant fibrous histiocytoma *AD 121:275–276, 1985*

Angiosarcoma

Apocrine nevus

Juvenile aponeurotic palmoplantar fibroma

Basal cell carcinoma

Bony exostosis

Chloroma

Chondroid syringoma

Chondroma – solitary chondroma of skin

Clear cell acanthoma *JAAD 14:918–927, 1986*

Dermatofibrosarcoma protuberans

Eccrine porocarcinoma *JAAD 35:860–864, 1996*

Eccrine poroma *AD 74:511–512, 1956*

Eccrine spiradenoma

Eccrine syringofibroadenoma

Fibrosarcoma

Fibrous hamartoma of infancy – nodules of hands and feet *J Hand Surg 22A:740–742, 1997*

Giant cell tumor of the tendon sheath

Granular cell myoblastoma

Kaposi's sarcoma – classic type *Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Int J Dermatol 36:735–740, 1997; Dermatology 190:324–326, 1995*

Keratoacanthoma

Leiomyosarcoma

Lymphoma – B-cell, T-cell, angiotropic B-cell lymphoma (malignant angioendotheliomatosis), Hodgkin's disease, immunocytoma (low grade B-cell lymphoma) – reddish-brown papules *JAAD 44:324–329, 2001;* HTLV-1 lymphoma *BJD 128:483–492, 1993; Am J Med 84:919–928, 1988;* red–orange papulonodules – HTLV-1 granulomatous T-cell lymphoma *JAAD 44:525–529, 2001;* pityriasis lichenoides-like CTCL *BJD 142:347–352, 2000*

Lymphomatoid papulosis

Malignant eccrine poroma

Malignant fibrous histiocytoma

Melanoma, including amelanotic melanoma *Rook p.1743–1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975*

Merkel cell tumor *AD 123:1368–1370, 1987*

Metastatic carcinoma – thyroid, renal cell or GI tract, prostate *AD 128:1533–1538, 1992*

Myelofibrosis – extramedullary hematopoiesis in myelofibrosis *AD 112:1302–1303, 1976*

Osteochondroma

Sebaceous adenoma in AIDS *AD 124:489–490, 1988*

Spitz nevi mimicking pyogenic granulomas in black children *JAAD 23:842–845, 1990*

Squamous cell carcinoma

Sweat gland tumor

Verrucous carcinoma

### PRIMARY CUTANEOUS DISEASES

Granuloma annulare – perforating granuloma annulare – palmoplantar red nodule *JAAD 32:126–127, 1995*

Granuloma faciale – extrafacial granuloma faciale

### SYNDROMES

Acral dysesthesia syndrome

Behçet's syndrome *J Rheumatol 25:2469–2472, 1998*

Bowel bypass syndrome

Blue rubber bleb nevus syndrome – phlebectasias *Ped Derm 3:75–78, 1985*

POEMS syndrome (glomeruloid hemangioma) *JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985*

Pseudo-Kaposi's sarcoma in reflex sympathetic dystrophy *JAAD 22:513–520, 1990*

Relapsing eosinophilic perimyositis – fever, fatigue and episodic muscle swelling; erythema over swollen muscles *BJD 133:109–114, 1995*

Sweet's syndrome *JAAD 31:535–536, 1994* including drug-induced Sweet's syndrome
- All-*trans*-retinoic acid
- Furosemide *JAAD 21:339–343, 1989*
- G-CSF
- GM-CSF
- Hydralazine
- Minocycline
- Trimethoprim-sulfamethoxazole
- Triphasil

### TRAUMA

Delayed pressure urticaria – palmoplantar red nodules

Perniosis

Vibratory angioedema – palmoplantar red nodules

### VASCULAR DISORDERS

Acral pseudolymphomatous angiokeratoma of children (APACHE) *BJD 124:387–388, 1991; AD 126:1524–1525, 1990*

Acroangiodermatitis (pseudo-Kaposi's sarcoma) after A-V shunt *JAAD 21:499–505, 1989*; *Arch Derm Res 281:35–39, 1989*

Angiokeratoma

Cholesterol emboli – palmoplantar red nodules

Disseminated neonatal hemangiomatosis *JAAD 24:816–818, 1991; Ped Derm 8:140–146, 1991*

Eruptive pseudoangiomatosis *JAAD 29:857–859, 1993*

Glomus tumor *Ann Plast Surg 43:436–438, 1999*

Hemangioma

Hemangiopericytoma

Intravascular papillary endothelial hyperplasia *Cutis 59:148, 1997; JAAD 10:110–113, 1984*

Kaposi's sarcoma including Kaposi's sarcoma in Castleman's disease *JAAD 26:105–109, 1992*

Polyarteritis nodosa

Pustular vasculitis of the hands *JAAD 32:192–198, 1995*

Pyogenic granuloma

Self-healing pseudoangiosarcoma *AD 124:695–698, 1988*

Targetoid hemosiderotic hemangioma *JAAD 19:550–558, 1988*

Tufted angioma, acquired

Vasculitis

## NODULES, SKIN-COLORED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease (at immunization site)

Connective tissue panniculitis – nodules, atrophic linear plaques of face, upper trunk, or extremities *AD 116:291–294, 1980*

Dermatitis herpetiformis *Clin Exp Dermatol 24:283–285, 1999*

Dermatomyositis – plate-like calcinosis cutis; panniculitis *JAAD 46:S148–150, 2002*

Lupus erythematosus – papulonodular mucinosis – hypopigmented or skin-colored papules and nodules *AD 140:121–126, 2004; Int J Derm 35:72–73, 1996; JAAD 32:199–205, 1995; AD 114:432–435, 1978;* lymphadenopathy

Morphea – nodular, keloidal (Addisonian keloid) *Int J Dermatol 31:422–423, 1992;* generalized morphea – keloidal nodules *Rook p.2511, 1998, Sixth Edition*

Rheumatoid arthritis – rheumatoid nodules *Rook p.2566–2567, 1998, Sixth Edition; Eur J Radiol 27 Suppl 1:S18–24, 1998; J Rheumatol 6:286–292, 1979;* mucinous nodules J Dermatol 26:229–235, 1999; pustular panniculitis *J R Soc Med 84:307–308, 1991;* rheumatoid vasculitis *JAAD 48:311–340, 2003*

Scleroderma – nodular scleroderma *JAAD 32:343–345, 1995;* scleroderma with subcutaneous nodules *BJD 101:93–96, 1979;* with osteoma cutis *Rook p.2370, 1998, Sixth Edition;* CREST – plate-like calcinosis cutis

Serum sickness – lymphadenopathy

Sjögren's syndrome – parotid swelling *Ghatan p.250, 2002, Second Edition*

Still's disease (juvenile rheumatoid nodule) *Ann Rheum Dis 17:278–283, 1958*

### CONGENITAL LESIONS

Branchial cleft sinus and/or cyst

Bronchogenic cyst (suprasternal, scapular) *JAAD 46:S16–18, 2002; AD 136:925–930, 2000; Ped Derm 12:304–306, 1995;* skin-colored nodule of chin *BJD 143:1353–1355, 2000*

Cervical thyroid

Chordoma – arise from notochord; skin of perineum, sacrum, buttocks; single or multiple nodules; resemble sacral cysts *JAAD 29:63–66, 1993*

Congenital cartilaginous rest of the neck – nodule over medial clavicle *AD 127:1309–1310, 1991*

Congenital fibromatosis of the palm *Textbook of Neonatal Dermatology, p.401, 2001*

Congenital generalized fibromatosis *JAAD 10:365–371, 1984*

Congenital lipomatosis – adipose tissue malformation *Rook p.550, 1998, Sixth Edition; Skeletal Radiol 9:248–254, 1983; J Pediatr Surg 6:742–744, 1971*

Congenital neurilemmomatosis *JAAD 26:786–787, 1992*

Cutaneous ciliated cyst – on legs of womens *AD 136:925–930, 2000*

Darwinian tubercle

Dermoid cyst

Fibrous hamartoma of infancy – solitary nodule on shoulder, arm, axilla *JAAD 41:857–859, 1999; Ped Derm 13:171–172, 1996; AD 125:88, 1989*

Heterotopic brain tissue – skin-colored scalp nodule *Dermatol Therapy 18:104–116, 2005*

Lipomyelomeningocoele (lower back)
vs. Angiomatous nevi
True tail in newborn *Ped Derm 12:263–266, 1995*
Perirectal inflammatory lesions
Giant cell tumors of the sacrum

Meningocoele

Pyramidal lobe of thyroid gland

Solitary congenital calcified nodule of ear

Spinal dysraphism with overlying protrusion, dimple, sinus, lipoma, faun tail nevus, dermoid cyst, hemangioma, port wine stain *AD 114:573–577, 1978; AD 112:1724–1728, 1976*

Striated muscle hamartoma (rhabdomyomatous mesenchymal hamartoma) – skin-colored papule of upper chest; may be single or multiple, dome-shaped, pedunculated or filiform *Ped Derm 16:65–67, 1999*

Vestigial tail *Arch J Dis Child 104:72–73, 1962*

Wattle (cutaneous cervical tag) *AD 121:22–23, 1985*

## DEGENERATIVE DISORDERS

Baker's cyst

Frontal mucoceole – skin-colored nodule of forehead *JAAD 51:1030–1031, 2004*

## DRUG-INDUCED

Anti-retroviral agents – scalp nodules *NEJM 352:63, 2005*

Corticosteroid – corticosteroid granuloma, resembling rheumatoid nodule *Am J Dermatopathol 4:199–203, 1982;* steroid atrophy

Insulin – insulin granuloma, zinc-induced *Clin Exp Dermatol 14:227–229, 1989;* lipohypertrophic insulin lipodystrophy *JAAD 19:570, 1988*

Leupoprolin acetate granulomas *BJD 152:1045–1047, 2005*

Methotrexate nodulosis *J Dermatol 26:46–464, 1999; JAAD 39:359–362, 1998*

Minocycline-induced *p*-ANCA$^+$ cutaneous polyarteritis nodosa (vasculitis) – subcutaneous nodules of extremities *JAAD 48:311–340, 2003; JAAD 44:198–206, 2001*

Protease inhibitor (saquinavir, nelfinavir, indinavir) – buffalo hump, supraclavicular fat pads, angiolipomas *JAAD 46:284–293, 2002*

## EXOGENOUS AGENTS

Aluminum – persistent subcutaneous nodules at the injection site *Bolognia p.1477, 2003;* immunization site granuloma – due to aluminum hydroxide *JAAD 52:623–629, 2005; AD 131:1421–1424, 1995; AD 120:1318–1322, 1984*

Bovine collagen implant *J Derm Surg Oncol 9:377–380, 1983*

Foreign body granuloma from IVDA *JAAD 13:869–872, 1985*

Hair granuloma *Rook p.923, 1998, Sixth Edition*

Implanted stones, glass beads of penis *JAAD 20:852, 1989*

Oleomas – multiple subcutaneous oleomas due to injection with sesame seed oil *JAAD 42:292–294, 2000*

Paraffinoma (sclerosing lipogranuloma) – face, breast, thighs, buttocks *Acta Chir Plast 33:163–165, 1991; Plast Reconstr Surg 65:517–524, 1980*

Plant thorns – common blackthorn; persistent nodules of wrists and fingers *Lancet i:309–310, 1960*

Povidone panniculitis (polyvinyl pyrrolidone) *AD 116:704–706, 1980*

Silica granuloma *AD 127:692–694, 1991*

Silicone – silicone granulomas with facial nodules at crow's feet *BJD 152:1064–1065, 2005; Derm Surg 29:429–432, 2003*

## INFECTIONS AND INFESTATIONS

Acanthamoeba – subcutaneous nodule *J Clin Inf Dis 20:1207–1216, 1995*

Actinomycosis, disseminated *Arch Int Med 134:688–693, 1974;* primary cutaneous – subcutaneous nodules with draining sinuses *Hum Pathol 4:319–330, 1973*

African trypanosomiasis – enlargement of posterior cervical lymph nodes (Winterbottom's sign)

Alternaria alternata *JAAD 52:653–659, 2005; BJD 143:910–912, 2000*

Amebiasis

Aspergillosis – primary cutaneous aspergillosis *JAAD 31:344–347, 1994;* subcutaneous granuloma *BJD 85 (suppl 17):95–97, 1971*

Bacillary angiomatosis *(Bartonella henselae) Hautarzt 44:361–364, 1993; JAAD 22:501–512, 1990*

Bartonellosis (*Bartonella bacilliformis*) *Clin Inf Dis 33:772–779, 2001*

*Calymmatobacterium granulomatis* (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*

*Candida* – chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981*

Cat scratch disease – lymphadenopathy

Coccidioidomycosis – primary inoculation *Am Rev Resp Dis 117:559–585; 727–771, 1978*

Cryptococcosis *JAAD 37:116–117, 1997*

Cysticercosis (*Taenia solium*) (*Cysticercus cellulosae*) *JAAD 43:538–540, 2000; JAAD 25:409–414, 1991; NEJM 330:1887, 1994; JAAD 12:304–307, 1985*

*Dermatophilus congolensis* – contact with infected animals *BJD 145:170–171, 2001*

Dipetalonemiasis

Dirofilariasis, subcutaneous (migratory nodules) – eyelid, scrotum, breast, arm, leg, conjunctiva *Cutis 72:269–272, 2003; JAAD 35:260–262, 1996*

Echinococcosis – dog tapeworm; hydatid cyst *BJD 147:807, 2002; Rook p.1401, 1998, Sixth Edition*

Filariasis – *Wuchereria bancrofti*, *Brugia malayi*, *Brugia timori*; mosquito vector – first sign is edema, pain, and erythema with swellings of arms, legs, or scrotum *Dermatol Clin 7:313–321, 1989*

Histoplasmosis *Ghatan p.9, Second Edition*

HIV/AIDS – parotid lymphoepithelial cysts

Infectious mononucleosis – cervical lymphadenopathy

Leishmaniasis – disseminated cutaneous leishmaniasis *JAAD 34:257–272, 1996;* AIDS-related visceral leishmaniasis *BJD 143:1316–1318, 2000*

Leprosy – lepromatous leprosy *Rook p.1224, 1998, Sixth Edition;* primary neuritic leprosy with nerve abscesses *AD 130:243–248, 1994;* erythema nodosum leprosum; Lucio's phenomenon – firm subcutaneous nodules *AD 114:1023–1028, 1978;* histoid lesions of relapse of lepromatous leprosy *Int J Lepr 31:129–142, 1963*

Loiasis – Calabar swellings; temporary of arm and hand, and elsewhere; angioedema *Rook p.1387–1388, 1998, Sixth Edition*

Lyme borreliosis – juxta-articular fibroid nodule in acrodermatitis chronica atrophicans *AD 131:1341–1342, 1995*

Molluscum contagiosum, giant

Mumps – presternal swelling *Cutis 39:139–140, 1987;* parotid swelling

Mycetoma

*Mycobacterium avium* complex – traumatic inoculation panniculitis; disseminated infection in AIDS – nodules, panniculitis *BJD 130:785–790, 1994;* subcutaneous nodule *J Dermatol 25:384–390, 1998*

*Mycobacterium chelonei-fortuitum* – disseminated nodules *AD 123:1603–1604, 1987*

*Mycobacterium szulgai* – diffuse cellulitis, nodules, and sinuses *Am Rev Respir Dis 115:695–698, 1977;* subcutaneous nodule *BJD 142:838–840, 2000*

*Mycobacterium tuberculosis* – tuberculous gumma (metastatic tuberculous ulcer) – firm subcutaneous nodule or fluctuant swelling breaks down to form undermined ulcer; bluish surrounding skin bound to the inflammatory mass; sporotrichoid lesions along draining lymphatics; extremities more than trunk *Scand J Infect Dis 32:37–40, 2000; JAAD 6:101–106, 1982; Semin Hosp Paris 43:868–888, 1967;* parasternal pulsatile nodule *J Clin Inf Dis 22:871–872, 1996;* parotid swelling *Ghatan p.250, 2002, Second Edition;* miliary tuberculosis *JAAD 33:433–440, 1995*

*Mycobacterium ulcerans* (Buruli ulcer) – subcutaneous nodule *Aust J Dermatol 26:67–73, 1985*

Myiasis, furuncular – house fly *BJD 76:218–222, 1964;* New World screw worm (*Cochliomyia*), Old World screw worm (*Chrysomya*), Tumbu fly (*Cordylobia*) *BJD 85:226–231, 1971*; black blowflies (*Phormia*) *J Med Entomol 23:578–579, 1986;* greenbottle (*Lucilia*), bluebottle (*Calliphora*), flesh flies (*Sarcophaga*, *Wohlfartia*) *Neurosurgery 18:361–362, 1986;* rodent botflies (*Cuterebra*) *JAAD 21:763–772, 1989;* human botflies (*Dermatobia hominis*) *Clin Inf Dis 37:542, 591–592, 2003; AD 126:199–202, 1990; AD 121:1195–1196, 1985*

Onchocerciasis – onchocercomas *AD 140:1161–1166, 2004; Cutis 72:297–302, 2003; JAAD 45:435–437, 2001; Cutis 65:293–297, 2000*

Phaeohyphomycosis, subcutaneous *JAAD 36:863–866, 1997; J Clin Inf Dis 25:1195, 1997*

Plague (*Yersinia pestis*) – bubo (subcutaneous nodule)

Protothecosis *Am J Clin Pathol 77:485–488, 1982*

*Pseudomonas aeruginosa Cutis 63:161–163, 1999*

Rheumatic fever – nodules of occiput, wrist, backs of forearms *Indian Heart J 45:463–467, 1993; JAAD 8:724–728, 1983*; *Arch Pathol 30:70–89, 1940*

Rubella – cervical lymphadenopathy

Scarlet fever – cervical lymphadenopathy

Sparganosis – ingestion sparganosis – edematous painful nodules *JAAD 15:1145–1148, 1986; S. proliferum* – subcutaneous nodules and pruritic papules *Am J Trop Med Hyg 30:625–637, 1981*

Sternoclavicular joint septic arthritis *J Clin Inf Dis 19:964–966, 1994*

Streptocerciasis – *Mansonella streptocerca* – similar rash to onchocerciasis; acute or lichenified papules with widespread lichenification and hypopigmented macules *Rook p.1384, 1998, Sixth Edition*

Subcutaneous phaeohyphomycosis – *Exophiala jeanselmei*; nodule of leg *BJD 150:597–598, 2004*

Syphilis – secondary – facial nodule *J Clin Inf Dis 23:462–467, 1996*; osteitis of the skull *JAAD 40:793–794, 1994;* tertiary *Cutis 59:135–137, 1997;* lymphadenopathy; parotid swelling *Ghatan p.250, 2002, Second Edition*

Toxoplasmosis – lymphadenopathy

*Trichophyton rubrum*, invasive – subcutaneous nodule *Cutis 67:457–462, 2001*

Tularemia – bubo; lymphadenopathy

Tungiasis – *Tunga penetrans JAAD 20:941–944, 1989*

Visceral larva migrans – *Toxocara canis*

Warts

Whipple's disease – subcutaneous Whipple's disease *JAAD 16:188–190, 1987*

Yaws – tertiary – gumma; subcutandous nodule; overlying skin ulcerates with purulent discharge; atrophic pigmented scars *Rook p.1271, 1998, Sixth Edition*

Zygomycosis – subcutaneous zygomycosis (*Basidiobolus ranarum*) – subcutaneous nodule with edema *Derm Clinics 17:151–185, 1999*; *JAAD 30:904–908, 1994*

## INFILTRATIVE DISEASES

Amyloidosis – nodular tumefactive amyloid *Rook p.2628–2630, 1998, Sixth Edition*

Cutaneous focal mucinosis (superficial angiomyxoma) – face, trunk, or extremities *Am J Surg Pathol 12:519–530, 1988; AD 93:13–20, 1966*

Generalized eruptive histiocytosis *Ghatan p.9, Second Edition*

Indeterminate cell histiocytosis *BJD 153:206–207, 2005*

Langerhans cell histiocytosis – eosinophilic granuloma

Lichen myxedematosus *Rook p.2626–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995*

Papular mucinosis

Reticulohistiocytoma cutis – solitary reticulohistiocytoma *Hifuka Gakkai Zasshi 101, 735–742, 1991;* destructive arthritis with rheumatoid-like nodules *Clin Exp Dermatol 15:1–6, 1990*

Subcutaneous xanthogranulomatosis *JAAD 21:924–929, 1989*

## INFLAMMATORY

Acne keloidalis nuchae *Dermatol Clin 6:387–395, 1988*

Dissecting cellulitis of the scalp

Interstitial granulomatous dermatitis – multiple skin-colored papules *JAAD 51:S105–107, 2004*

Kimura's disease (angiolymphoid hyperplasia with eosinophilia) – large subcutaneous swellings of face, neck, extremities *Cutis 70:57-61, 2002*; large subcutaneous nodule *AD 136:837–839, 2000; JAAD 27:954–958, 1992; JAAD 38:143–175, 1998; JAAD 16:143–145, 1987; JAAD 12:781–796, 1985*

Lymph node – lymphadenitis; lymphadenopathy

Lymphocytoma cutis – skin-colored to plum-red dermal or subcutaneous nodules; idiopathic or due to insect bites, *Borrelia burgdorferi*, trauma, vaccinations, injected drugs or antigens for

hyposensitization, injection of arthropod venom, acupuncture, gold pierced earrings, tattoos, post-zoster scars *JAAD 38:877–905, 1998*

Malacoplakia

Masseter spasm due to hypersensitive mastication muscle syndrome

Myositis, focal – painful nodule *Cutis 54:189–190, 1994*

Myospherulosis *JAAD 38:274–275, 1998; AD 127:88–90, 1991; JAAD 21:400–403, 1989*

Nodular cystic fat necrosis *JAAD 21:493–498, 1989*

Nodular fasciitis – painful subcutaneous nodule *JAAD 40:490–492, 1999;* on the head and neck, extremities, or trunk *AD 137:719–721, 2001*

Nodular pseudosarcomatous fasciitis *AD 124:1559–1564, 1988; Arch Pathol Lab Med 73:437–444, 1962*

Cutaneous sinus histiocytosis with lymphadenopathy (Rosai–Dorfman disease) *AD 133:231–236, 1977*

Sarcoid – panniculitis *JAAD 45:325–361, 2001;* subcutaneous (Darier–Roussy) sarcoid *BJD 153:790–794, 2005; JAAD 44:725–743, 2001; AD 133:882–888, 1997; Am J Med 85:731–736, 1988; AD 120:1028–1031, 1984;* subcutaneous sarcoid mimicking breast cancer *BJD 146:924, 2002;* lymphadenopathy; uveoparotid fever (Heerfordt's syndrome) – parotid swelling *Ghatan p.250, 2002, Second Edition*

Sialadenosis – swelling of parotid gland

Subcutaneous fat necrosis of the newborn *AD 117:36–37, 1981*

Tietze's disease

## METABOLIC

Abetalipoproteinemia

Albright's hereditary osteodystrophy

Alcoholism – parotid enlargement

Benign symmetrical lipomatosis

Calcinosis cutis – idiopathic *Rook p.2665, 1998, Sixth Edition;* papular or nodular calcinosis cutis secondary to heel sticks *Ped Derm 18:138–140, 2001*; cutaneous calculus *BJD 75:1–11, 1963;* extravasation of calcium carbonate solution; metastatic calcification *JAAD 33:693–706, 1995; Cutis 32:463–465, 1983;* tumoral calcinosis

Calciphylaxis (vascular calcification cutaneous necrosis syndrome) – papules or nodules around large joints or flexures *JAAD 40:979–987, 1999; JAAD 33:53–58, 1995*; *JAAD 33:954–962, 1995*;*J Dermatol 28:27–31, 2001; Br J Plast Surg 53:253–255, 2000; J Cutan Med Surg 2:245–248, 1998; JAAD 33:954–962, 1995; AD 127:225–230, 1991*

Cerebrotendinous xanthomatosis (cholestanosis)

Chronic renal failure – benign nodular calcification of chronic renal failure *JAAD 33:693–706, 1995*

Cryoglobulinemia – dermal nodules *JAAD 48:311–340, 2003*

Cushing's disease – buffalo hump, supraclavicular fat pads

Gout – tophi *Semin Arthritis Rheum 29:56–63, 1999; AD 113:655–656, 1977*

Hyperoxaluria, primary *JAAD 46:S16–18, 2002; AD 131:821–823, 1995*; *AD 125:380–383, 1989;* secondary hyperoxaluria – calcified nodules or miliary papules *JAAD 49:725–728, 2003*

IgM storage papule – knee, elbow *AD 128:377–380, 1992; BJD 106:217–222, 1982*

Miliaria profunda – skin-colored papules

Osteoma cutis – primary miliary osteoma cutis *JAAD 24:878–881, 1991;* congenital plate-like osteoma cutis; primary multiple miliary osteomas *AD 134:641–643, 1998;* differential diagnosis of primary osteoma
- Albright's hereditary osteodystrophy
- Fibrodysplasia ossificans progressiva
- Congenital plate-like osteomatosis
- Progressive osseous dysplasia

Oxalate granulomas *BJD 128:690–692, 1993*

Pretibial myxedema *Cutis 58:211–214, 1996*

Progressive osseous heteroplasia *Ped Derm 16:74–75, 1999; AD 132:787–791, 1996; J Bone Joint Surg Am 76:425–436, 1994*

Sickle cell anemia – parotid swelling *Ghatan p.250, 2002, Second Edition*

Sitosterolemia – subcutaneous tuberous and tendon xanthomas *Ped Derm 17:447–449, 2000*

Xanthomas with or without fibrosis *Rook p.2605–2606, 1998, Sixth Edition*

## NEOPLASTIC

Acrochordon, giant

Acrospiroma *Cutis 58:349–351, 1996*

Adenolipoma *JAAD 29:82, 1993*

Alveolar soft part sarcoma – tumor of muscle or fascial planes *Clin Exp Dermatol 10:523–539, 1985*

Angioleiomyoma *JAAD 46:477–490, 2002;* subcutaneous nodule of leg, face, trunk, or oral cavity *JAAD 38:143–175, 1998* Epstein–Barr virus positive angioleiomyomas in AIDS *BJD 147:563–567, 2002*

Angiomatoid fibrous histiocytoma *BJD 142:537–539, 2000*

Angiomyolipoma (angiolipoleiomyoma) (face, ear, elbow, toe) *AD 139:381–386, 2003; JAAD 29:115–116, 1993; JAAD 23:1093–1098, 1990*

Angiolipoma – arms, legs, abdomen *JAAD 38:143–175, 1998; AD 126:666–667, 669, 1990; AD 82:924–931, 1960*

Angiosarcoma *AD 133:1303–1308, 1997*

Apocrine nevus *Ped Derm 12:248–251, 1995*

Atypical fibroxanthoma *Cancer 55:172–180, 1985*

Baker's cyst

Basal cell carcinoma, including multiple hereditary infundibulocystic basal cell carcinomas *AD 135:1227–1235, 1999*

Carcinoid tumors *Tumori 76:44–47, 1990;* primary cutaneous carcinoid *JAAD 51:S74–76, 2004*

Castleman's syndrome

Chondroid syringoma *AD 140:751–756, 2004; Cutis 71:49–55, 2003*

Chordoma, metastatic *AD 133:1579–1584, 1997*

Collagenous fibroma (desmoplastic fibroblastoma) *JAAD 41:292–294, 1999*

Connective tissue nevus (collagenoma) *JAAD 3:441–446, 1980;* familial collagenoma *BJD 101:185–195, 1979; Cutis 10:283–288, 1972; AD 98:23–27, 1968*

Cylindromas – scalp, face, nose, around ears and neck

Dermatofibroma – deep fibrous histiocytoma *Cutis 65:243–245, 2000*

Dermatofibrosarcoma protuberans *Sem Cut Med Surg 21:159–165, 2002; JAAD 35:355–374, 1996*

Dermatomyofibroma – oval nodule or firm plaque of shoulders, axillae, upper arms, neck, or abdomen *Clin Exp Dermatol 21:307–309, 1996*

Desmoid tumor – subcutaneous mass in subumbilical paramedian region *Rook p.2368–2369, 1998, Sixth Edition*

Digital mucous cyst

Dupuytren's contractures – palmar, plantar

Eccrine angiomatous hamartoma *Ped Derm 18:117–119, 2001; Ped Derm 14:401–402, 1997; Ped Derm 13:139–142, 1996;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine nevi *JAAD 51:301–304, 2004*

Eccrine porocarcinoma *JAAD 35:860–864, 1996*

Eccrine spiradenoma *Ghatan p.312, 2002, Second Edition*

Eccrine syringofibroadenoma – skin-colored nodule of distal extremity *BJD 143:591–594, 2000*

Elastofibroma dorsi – back, over deltoid muscle, ischial tuberosity, greater trochanter, olecranon, stomach, cornea, foot *JAAD 51:1–21, 2004; JAAD 21:1142–1144, 1989*

Elastoma

Embryonal rhabdomyosarcoma *AD 138:689–694, 2002; Ped Derm 15:403–405, 1998*

Ependymoma – lumbosacral nodule *Pathology 12:237–243, 1980*

Epidermoid cyst *Rook p.1667, 1998, Sixth Edition*

Epithelioid cell sarcoma *JAAD 38:815–819, 1998; AD 121:394–395, 1985;* proximal type epithelioid sarcoma *Ped Derm 21:117–120, 2004*

Subcutaneous fibrohistiocytic tumors
- Angiomatoid malignant fibrous histiocytoma
- Cutaneous solitary fibrous tumor with myxoid stroma *BJD 147:1267–1269, 2002*
- Neural hamartoma
- Plexiform fibrohistiocytic tumor
- Recurrent adult myofibromatosa
- Soft tissue sarcomas

Fibroepithelioma of Pinkus – abdomen or groin *AD 126:953–958, 1990; AD 67:598, 1953*

Fibrolipoma

Fibroma

Fibromatosis *Cutis 65:243–245, 2000*

Fibromatosis colli *Textbook of Neonatal Dermatology, p.395, 2001*

Fibrosarcoma *JAAD 38:815–819, 1998;* congenital fibrosarcoma *AD 134:625–630, 1998*

Fibrous hamartoma of infancy *Ped Derm 17:429–431, 2000; AD 125:88–91, 1989*

Solitary fibrous tumors of soft tissue *Am J Surg Pathol 19:1257–1266, 1995*

Folliculosebaceous cystic hamartomas *AD 139:803–808, 2003*

Frontalis-associated sarcoma – forehead nodule *JAAD 31:1048–1049, 1994*

Ganglion cyst of the ankle *JAAD 13:873–877, 1985;* of the knee

Ganglioneuroma *JAAD 35:353–354, 1996*

Giant cell fibroblastoma of soft tissue – neck and trunk *Ped Derm 19:28–32, 2002; Ped Derm 18:255–257, 2001*

Giant cell tumors of the sacrum – lumbosacral nodule *Rook p.607, 1998, Sixth Edition*

Giant cell tumor of the tendon sheath – single or multiple *JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996; J Bone Joint Surg Am 66:76–94, 1984*

Giant folliculosebaceous cystic hamartoma – skin colored exophytic papules *AD 141:1035–1040, 2005; Am J Dermatopathol 13:213–220, 1991*

Granular cell tumor (nodule) *JAAD 47:S180–182, 2002; Cutis 69:343–346, 2002*; *Cutis 62:147–148, 1998; Cutis 43:548–550, 1989;* multiple granular cell tumors *JAAD 24:359–363, 1991*

Hair follicle hamartoma

Hibernoma – neck, axilla, central back, scapular region; vascular dilatation overlying lesion *Rook p.2431, 1998, Sixth Edition; AD 73:149–157, 1956*

Hidradenoma papilliferum; nodular hidradenoma *JAAD 48:S20–21, 2003; JAAD 12:15–20, 1985*; poroid hidradenoma *Cutis 50:43–46, 1992;* scalp *JAAD 19:133–135, 1988;* eyelid *AD 117:55–56, 1981;* nipple *Hautarzt 19:101–109, 1968;* external auditory canal *J Laryngol Otol 95:843–848, 1981*

Hidrocystoma

Infantile desmoid type fibromatosis – deep nodule *Skeletal Radiol 23 (5):380–384, 1994*

Infantile digital fibromatosis *Textbook of Neonatal Dermatology, p.395, 2001; Ped Derm 8:137–139, 1991; J Cut Pathol 5:339–346, 1978*

Infantile systemic fibromatosis *Textbook of Neonatal Dermatology, p.395, 2001*

Infantile myofibromatosis – single or multiple; head, neck, trunk *Ped Derm 22:281–282, 2005; JAAD 41:508, 1999; AD 134:625–630, 1998*
- vs. soft tissue sarcomas
  - hemangioendotheliomas
  - fibrosarcomas
  - lipomas
  - fibrous histiocytomas
  - lipoblastomas
  - metastatic neuroblastoma
  - neurofibromas
  - rhabdomyosarcomas

Juvenile xanthogranuloma *JAAD 36:355–367, 1997*

Keloid

Leiomyoma – angiomyoma; leg, trunk, face *Rook p.2367, 1998, Sixth Edition*

Leiomyosarcoma *JAAD 21:1156–1160, 1989; JAAD 38:137–142, 1998; J Exp Clin Cancer Res 17:405–407, 1998*

Leukemia – parotid swelling

Lipoblastoma *Cutis 65:243–245, 2000;* lipoblastomatosis *Ped Derm 12:82, 1995*

Lipoma *Rook p.2431, 1998, Sixth Edition;* lipoma of forehead – *Textbook of Neonatal Dermatology, p.425, 2001;* frontalis-associated lipoma *JAAD 20:462–468, 1989;* subgaleal lipoma of forehead *AD 125:384–385, 1989;* mobile encapsulated lipomas *Cutis 49:63–64, 1992;* congenital infiltrating lipoma *BJD 143:180–182, 2000*

Lipomatous variant of eccrine angiomatous hamartoma

Liposarcoma – diffuse nodular infiltration of leg or buttock *Bolognia p.1895, 2003; Rook p.2369, 1998, Sixth Edition; JAAD 38:815–819, 1998*

Lymphoepithelioma *JAAD 22:691–693, 1990*

Lymphoepithelioma-like carcinoma of the skin *AD 134:1627–1632, 1998*

Lymphoepithelioid cysts of the parotid gland *Ghatan p.249, 2002, Second Edition*

Lymphoma – Burkitt's lymphoma; cutaneous T-cell lymphoma *Rook p.2376–2378, 1998, Sixth Edition*; adult T-cell lymphoma/leukemia (HTLV-1) *JAAD 46:S137–141, 2002; AD 134:439–444, 1998; JAAD 34:69–76, 1996; BJD 128:483–492, 1993; Am J Med 84:919–928, 1988;* angiocentric T-cell lymphoma *AD 132:1105–1110, 1996;* Hodgkin's disease – parotid swelling; non-B-cell large cell lymphoma of AIDS; lymphadenopathy

Malignant fibrous histiocytoma *Sem Cut Med Surg 21:159–165, 2002; JAAD 42:371–373, 2000; AD 135:1113–1118, 1999; JAAD 38:815–819, 1998*

Malignant giant cell tumor of soft parts *Am J Dermatopathol 11:197–201, 1989*

Malignant histiocytosis – skin-colored nodule (s) *Hum Pathol 15:368–377, 1984*

Malignant schwannoma (neurofibrosarcoma) – nodule which enlarges and becomes painful *JAAD 38:815–819, 1998; Am J Dermatopathol 11:213–221, 1989*

Melanocytic nevi; intradermal nevus

Melanoma – amelanotic melanoma; desmoplastic melanoma *JAAD 26:704–709, 1992;* metastatic melanoma; melanoma of the soft parts (clear cell sarcoma) – nodule of the foot, ankle, knee, hand, wrist *JAAD 38:815–819, 1998*

Meningioma – intracranial malignant meningioma *JAAD 34:306–3077, 1996;* primary cutaneous meningioma – scalp or paraspinal region of children and teenagers *Cancer 34:728–744, 1974*

Merkel cell tumor *JAAD 29:143, 1993*

Metastases *JAAD 31:319–321, 1994;* including scalp nodules due to metastases – lung and kidney in men; breast in women; also ovaries, uterus, gallbladder, prostate, testis, gastrointestinal, melanoma, leukemia, lymphoma, thyroid; subungual nodule – metastatic renal cell carcinoma *JAAD 36:531–537, 1997; AD 130:913–918, 1994;* lymphadenopathy

Microcystic adnexal carcinoma *Derm Surg 27:979–984, 2001; JAAD 45:283–285, 2001; JAAD 41:225–231, 1999*

Mixed tumor

Mucinous carcinoma *AD 103:68–78, 1971*

Mucinous nevus – skin-colored papules or plaque *AD 132:1522–1523, 1996; JAAD 28:797–798, 1993*

Musculoaponeurotic fibromatosis (extra-abdominal desmoid) *Ped Derm 10:49–53, 1993*

Myofibroma – skin-colored to hyperpigmented nodules of hand, mouth, genitals, shoulders *JAAD 46:477–490, 2002; J Cutan Pathol 23:445–457, 1996; Histopathol 22:335–341, 1993*

Myxoid liposarcoma *Ped Derm 17:129–132, 2000*

Myxoma (intramuscular) *JAAD 34:928–930, 1996*

Nerve sheath myxoma *Bolognia p.1845, 2003*

Neurilemmomas (schwannomas) *JAAD 38:106–108, 1998*

Neuroblastoma, metastatic *AD 134:625–630, 1998*

Neurofibroma *Bolognia p.1845, 2003*

Neurolipomatosis (fibrolipomatous hamartoma of nerve) *Am J Surg Pathol 9:7–14, 1985*

Neuroma – traumatic neuroma *Bolognia p.1845, 2003;* interdigital neuroma *JAAD 38:815–819, 1998*

Neurothekeoma – skin-colored scalp nodule *BJD 144:1273–1274, 2001;* head and neck *JAAD 50:129–134, 2004*

Neuromuscular hamartoma (triton tumor) *Cancer 55:43–54, 1985*

Nevus lipomatosis superficialis *Textbook of Neonatal Dermatology, p.416, 2001*; *AD 120:376–379, 1984*

Ossifying fibromyxoid tumor of the skin *JAAD 52:644–647, 2005*

Osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Osteosarcoma of mandible

Palisaded encapsulated neuroma *Bolognia p.1845, 2003*

Palmar fibromatosis

Papillary eccrine adenoma (arm or leg) *JAAD 19:1111–1114, 1988*

Parotid tumors

Pilar cyst

Pilomatrixoma

Plantar aponeurotic fibroma *Ped Derm 17:429–431, 2000*

Plasmacytoma – extramedullary plasmacytoma *AD 129:1331–1336, 1993; AD 127:69–74, 1991; JAAD 19:879–890, 1988*

Pleomorphic adenoma of parotid gland

Plexiform fibrohistiocytic tumor *Derm Surg 27:768–771, 2001*

Polyfibromatosis syndrome – Dupuytren's contracture (palmar fibromatosis), Peyronie's disease (penile fibromatosis), Ledderhose's nodules (plantar fibromatosis), knuckle pads, keloids *JAAD 41:106–108, 1999; Rook p.2044, 1998, Sixth Edition;* stimulation by phenytoin *BJD 100:335–341, 1979*

Polymorphous sweat gland carcinoma *JAAD 46:914–916, 2002*

Porocarcinoma *BJD 152:1051–1055, 2005*

Precalcaneal congenital fibrolipomatous hamartoma – benign anteromedial plantar nodule of childhood – a distinct form of plantar fibromatosis *Ped Derm 21:655–656, 2004; Ped Derm 17:429–431, 2000; Med Cut Ibero Lat Am 18:9–12, 1990*

Progressive nodular fibrosis

Progressive nodular histiocytosis *JAAD 29:278–280, 1993*

Rhabdomyomatous mesenchymal harmartoma (striated muscle hamartoma) (congenital) – associated with Dellemann's syndrome – multiple skin tag-like lesions (pedunculated and snake-like) of infancy *Ped Derm 15:274–276, 1998; Ped Derm 14:370, 1994*

Rhabdomyosarcoma *Cutis 73:39–43, 2004; JAAD 38:815–819, 1998*

Malignant schwannoma

Smooth muscle hamartoma *Rook p.547, 1998, Sixth Edition*

Solitary fibrous tumor of the skin – facial, scalp, posterior neck nodule *JAAD 46:S37–40, 2002*

Spindle cell hemangioendothelioma *JAAD 18:393–395, 1988*

Squamous cell carcinoma

Steatocystomas (steatocystoma multiplex)

Storiform collagenoma (sclerotic fibroma) *Cutis 64:203–204, 1999*

Striated muscle hamartoma (like a soft fibroma) *AD 136:1263–1268, 2000; Ped Derm 3:153–157, 1986*

Subdermal fibrous hamartoma *Cutis 65:243–245, 2000*

Synovial sarcoma *JAAD 51:1–21, 2004*

Syringocystadenoma papilliferum *AD 71:361–372, 1955*

Syringoma *JAAD 10:291–292, 1984*

Teratoma *Cutis 65:243–245, 2000*

Trichoblastoma *J Cutan Pathol 26:490–496, 1999*

Trichoepithelioma

Trichofolliculoma

Waldenström's IgM storage papules

Warthin's tumor, extraparotid – skin-colored neck nodule *JAAD 40:468–470, 1999*

Virchow's node

## PARANEOPLASTIC DISORDERS

Necrobiotic xanthogranuloma with paraproteinemia *JAAD 52:729–731, 2005*

## PRIMARY CUTANEOUS DISEASES

Axillary accessory breast tissue *JAAD 49:1154–1156, 2003; AD 137:1367–1372, 2001*

Acne necrotica varioliformis (KA-like) *JAAD 16:1007–1014, 1987*

Acne vulgaris – multiple miliary osteoma cutis *AD 110:113–114, 1974;* acne cyst with osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Adiposa dolorosa (Dercum's disease)

Anetoderma, neurofibroma-like appearance *AD 120:1032–1039, 1984*

Angiolymphoid hyperplasia with eosinophilia

Benign rheumatoid nodules – healthy children; pretibial areas, feet, scalp *Aust NZ J Med 9:697–701, 1979*

Cutis anserina (goosebumps)

Dupuytren's contracture

Epidermolysis bullosa – dominant dystrophic epidermolysis bullosa, albopapuloidea (Pasini) – pretibial nodules and plaques *BJD 146:267–274, 2002*

Fascial hernias of the legs *JAMA 145:548–549, 1951*

Granuloma annulare – including subcutaneous granuloma annulare (head, hands, buttock, shins) (pseudorheumatoid nodule) *Curr Prob Derm 14:41–70, 2002; JAAD 45:163–183, 2001; JAAD 3:217–230, 1980*

Infantile perianal pyramidal protrusion *AD 132:1481–1484, 1996*

Knuckle pads *AD 129:1043–1048, 1993*

Lipofascial hernia in natal or perianal region – mimics lipoma *Rook p.2431, 1998, Sixth Edition*

Pachydermodactyly, distal *JAAD 38:359–362, 1998*

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis – dermal nodules *Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979*

## SYNDROMES

Albright's hereditary osteodystrophy (pseudohypoparathyroidism) – osteoma cutis – periarticular calcified or ossified nodules *JAAD 15:353–356, 1986; AD 104:636–642, 1971; Medicine 37:317–352, 1958*

Atrichia with papular lesions – autosomal recessive; follicular cysts *AD 139:1591–1596, 2003; JAAD 47:519–523, 2002*

Autoimmune lymphoproliferative syndrome *NEJM 351:1409–1418, 2004*

Bannayan–Riley–Ruvalcaba syndrome (macrocephaly and subcutaneous hamartomas) (lipomas and hemangiomas) – autosomal dominant *AD 132:1214–1218, 1996; Eur J Ped 148:122–125, 1988;* lipoangiomas (perigenital pigmented macules, macrocephaly) *AD 128:1378–1386, 1992;* lipomas in Ruvalcaba–Myhre–Smith syndrome *Ped Derm 5:28–32, 1988*

Beckwith–Wiedemann syndrome (Exomphalos–Macroglossia–Gigantism) (EMG) syndrome – autosomal dominant; umbilical hernia, zosteriform rash at birth, exomphalos, macrosomia, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma; neonatal hypoglycemia *Am J Med Genet 79:268–273, 1998; JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Benign symmetric lipomatosis (Launois–Bensaude) (Madelung disease) *JAAD 17:663–674, 1987*

vs. Familial multiple lipomatosis *JAAD 15:275–279, 1986*
- Lipomatosis (adiposis) dolorosa (Dercum's disease)
- Michelin tire baby syndrome – folded skin with lipomatous nevus
- Multiple angiolipomas
- Neurolipomatosis
- Multiple lipomas due to intracranial lesions (Froehlich syndrome)
- Hereditary lipomas
- NF-1
- Buffalo neck (Cushing)
- Muscular dystrophy with pseudoathletic appearance
- Lymphoma
- Cervical cysts

Blue rubber bleb nevus syndrome (Bean syndrome) – large subcutaneous venous malformations; blue lesions of skin and mucous membranes *JAAD 50:S101–106, 2004*

Buschke–Ollendorff syndrome – connective tissue nevi and osteopoikilosis; single or multiple yellow, white, or skin-colored papules, nodules, plaques of extremities *JAAD 48:600–601, 2003*

Carbohydrate-deficient glycoprotein syndrome – emaciated appearance; lipoatrophy over buttocks; lipoatrophic streaks extend down legs; high nasal bridge, prominent jaw, large ears, inverted nipples, fat over suprapubic area and labia majora, fat pads over buttocks; hypotonia *Textbook of Neonatal Dermatology, p.432, 2001*

Carney complex – subcutaneous myxomas *JAAD 46:161–183, 2002*

Cleft lip-palate, sensorineural hearing loss, sacral lipomas, aberrant fingerlike appendages *Syndromes of the Head and Neck, p.773, 1990*

COPS syndrome – poikiloderma, calcinosis cutis, osteoma cutis, skeletal abnormalities

Cowden's syndrome – sclerotic fibroma of skin *JAAD 24:508–509, 1991;* ganglioneuromas, lipomas, angiolipomas, epidermoid cysts *Rook p.2711, 1998, Sixth Edition*

Cutaneous nodules with urinary tract abnormalities *Cancer 26:1256–1260, 1970*

Dermo-chondro-corneal dystrophy

Diffuse cutaneous reticulohistiocytosis *JAAD 25:948–951, 1991*

Down's syndrome – generalized connective tissue nevus *AD 115:623–624, 1979*

Ehlers–Danlos syndrome – cutaneous calcification; painful piezogenic pedal papules*;* molluscoid pseudotumors *JAAD 17:205–209, 1987;* firm cyst-like nodules (spheroids) of shins and forearms *JAAD 46:161–183, 2002*

Ekbom's syndrome (myoclonic epilepsy and ragged muscle fibers) (mitochondrial syndrome) – cervical lipomas *JAAD 39:819–823, 1998*

Encephalocranial lipomatosis – lipomas with overlying alopecia, scalp nodules, skin-colored nodules, facial and eyelid papules and nodules; lipomas and fibrolipomas; organoid nevi (nevus sebaceus) *JAAD 47:S196–200, 2002; JAAD 37:102–104, 1998; JAAD 32:387–389, 1995*

Familial histiocytic dermatoarthritis

Farber's disease (lipogranulomatosis)

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 131:710–712, 1995*

Fibrodysplasia ossificans progressiva

Gardner's syndrome – epidermoid cysts, osteomas, desmoid tumors – arise in incisional scars of abdomen *Curr Prob Derm 14:41–70, 2002; Cancer 36:2327–2333, 1975; AD 90:20–30, 1964*

Goeminne syndrome – multiple spontaneous keloids

Hereditary progressive mucinous histiocytosis – autosomal dominant; skin-colored or red–brown papules; nose, hands, forearms, thighs *JAAD 35:298–303, 1996; AD 130:1300–1304, 1994*

Hunter's syndrome (mucopolysaccharidosis IIb) – X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; linear and reticulated 2–10 mm skin-colored papules over and between scapulae, chest, neck, arms; also posterior axillary lines, upper arms, forearms, chest, outer thighs; rough thickened skin, coarse scalp hair, and hirsutism; short stature, full lips, coarse facies with frontal bossing, hypertelorism, and thick tongue (macroglossia); dysostosis multiplex; hunched shoulders and characteristic posturing; widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias hepatosplenomegaly; upper and lower respiratory infections due to laryngeal or tracheal stenosis; mental retardation; deafness; retinal degeneration and corneal clouding; umbilical and inguinal hernias; valvular and ischemic heart disease with thickened heart valves lead to congestive heart failure; clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus; adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea *Ped Derm 21:679–681, 2004; Clin Exp Dermatol 24:179–182, 1999; Ped Derm 7:150–152, 1990*

Hurler's syndrome – scapular papules; also posterior axillary lines, upper arms, forearms, chest, outer thighs *Acta Paediatr 41:161–167, 1952*

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, flexion contractures of large and small joints *Textbook of Neonatal Dermatology, p.395, 2001; JAAD 16:881–883, 1987*

Kawasaki's syndrome – cervical lymphadenopathy

Leri–Weill dyschondrosteosis – mesomelic short stature syndrome with Madelung's deformity; SHOX haploinsufficiency like Turner's syndrome *JAAD 50:767–776, 2004*

Mikulicz's syndrome – swelling of major salivary glands

Mitochondrial DNA syndrome – lipomas *JAAD 39:819–823, 1998*

Mucolipidoses (pseudo-Hurler polydystrophy) – connective tissue nevus *BJD 130:528–533, 1994*

Multicentric reticulohistiocytosis *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple endocrine neoplasia syndrome (MEN I) – lipomas *AD 133:853–857, 1997;* collagenomas *JAAD 42:939–969, 2000*

Multiple mucosal neuroma syndrome (MEN IIB) – skin-colored neuromas of oral mucosa, tongue, eyelids, conjunctivae, perioral or periocular lentigines, freckles, or hyperpigmentation

Neurofibromatosis type 1

Nodular fibromatosis

Penchaszadeh syndrome (nasopalpebral lipoma–coloboma syndrome) – eyelid lipoma *Am J Med Genet 11:397–410, 1982*

Polyneuropathy with nerve angiomatosis and multiple soft tissue tumors *Am J Surg Pathol 19:1325–1332, 1995*

Proteus syndrome – lipomas, connective tissue nevi, lymphatic malformations *AD 140:947–953, 2004; AD 125:1109–1114, 1989*

Pseudoxanthoma elasticum – multiple calcified cutaneous nodules *Am J Med 31:488–489, 1961*

Rubenstein–Taybi syndrome – keloids, hypertrichosis, long eyelashes, thick eyebrows, keratosis pilaris or ulerythema ophyrogenes, low-set ears, very short stature, broad terminal phalanges of thumbs and great toes, hemangiomas, nevus flammeus, café au lait macules, pilomatrixomas, cardiac anomalies, mental retardation *Ped Derm 19:177–179, 2002; Am J Dis Child 105:588–608, 1963*

Steatocystoma multiplex

Self-healing infantile familial cutaneous mucinosis *Ped Derm 14:460–462, 1997*; self-healing juvenile cutaneous mucinosis – papules, plaques, and nodules of head and trunk *JAAD 31:815–816, 1994*

Multiple trichoepitheliomas

Tuberous sclerosis

Wells' syndrome *Ped Derm 14:312–315, 1997*

Williams' syndrome with granular cell tumors

Winchester syndrome – dwarfism, osteolysis, corneal opalities, rheumatoid-like joint destruction, hypertrichosis, thickening of skin, widespread nodular lesions *JAAD 50:S53–56, 2004*

Wiskott–Aldrich syndrome – parotid gland enlargement

## TOXINS

Iodine poisoning – parotid swelling *Ghatan p.250, 2002, Second Edition*

Lead poisoning – parotid swelling *Ghatan p.250, 2002, Second Edition*

Oral mercury *JAAD 39:131–133, 1997*

## TRAUMA

Athletes' nodules – foot/knee/knuckle (collagenomas) *Cutis 50:131–135, 1992*

Dermabrasion with osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Fascial hernias of the legs *JAMA 145:548–549, 1951*

Hematoma with osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Lipomembranous panniculitis after air bag deployment *AD 140:231–236, 2004*

Piezogenic papules or leg nodules; piezogenic wrist papules

Pseudocyst of the auricle

Puncture sites with osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Surfer's nodules of anterior tibial prominence, dorsum of feet, knuckles *Cutis 50:131–135, 1992*

## VASCULAR

Aneurysm of the superficial temporal artery

Angiomyxoma *JAAD 38:143–175, 1998*

Arterial fibromuscular dysplasia; cutaneous aneurysm; pulsatile subcutaneous nodule *JAAD 27:883–885, 1992*

Benign lymphangiomatous papules of the skin – skin-colored papules *JAAD 52:912–913, 2005*

Churg–Strauss disease *JAAD 48:311–340, 2003; JAAD 27:821–824, 1992*

Cystic hygroma (lymphatic malformation) *NEJM 309:822–825, 1983;* lymphatic malformation *Rook p.2292, 1998, Sixth Edition*

Dabska's tumor (papillary intralymphatic angioendothelioma) *Bolognia p.1828, 2003*

Epithelioid hemangioendothelioma *JAAD 38:143–175, 1998*

Hemangioma, including sinusoidal hemangioma; fibrous remnant of resolved proliferating hemangioma

Hemangiopericytoma *JAAD 37:887–920, 1997; AD 134:625–630, 1998*

Intravascular papillary endothelial hyperplasia *AD 124:263–268, 1988*

Lipodermatosclerosis – chronic venous insufficiency with hyperpigmentation, induration, inflammation *Lancet ii:243–245, 1982*

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *Rook p.2294–2295, 1998, Sixth Edition; BJD 132:1014–1016, 1996*

Lymphangioma circumscriptum with underlying lymphatic malformation *Rook p.2292, 1998, Sixth Edition; BJD 83:519–527, 1970;* acquired lymphangioma (lymphangiectasia) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *BJD 132:1014–1016, 1996*

Lymphostasis

Malignant glomus tumors *JAAD 38:143–165, 1998*

Neuroma of the supraorbital nerve – subcutaneous nodule of the forehead *JAAD 49:S286–288, 2003*

Polyarteritis nodosa, systemic; cutaneous (livedo with nodules) – painful or asymptomatic red or skin-colored multiple nodules along arteries with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk; nodules of cutaneous PAN around malleoli *JAAD 48:311–340, 2003; Ped Derm 15:103–107, 1998*; *AD 130:884–889, 1994; JAAD 31:561–566, 1994; JAAD 31:493–495, 1994*

Pseudoaneurysm of the superficial temporal artery – subcutaneous nodule of the forehead *JAAD 49:S286–288, 2003*

Retiform hemangioendothelioma *JAAD 38:143–175, 1998*

Seroma (lymphocoele) *Rook p.2294, 1998, Sixth Edition*

Spindle cell hemangioendotheliomas *Cutis 62:23–26, 1998*

Takayasu's arteritis *Clin Exp Rheumatol 12:381–388, 1994*

Traumatic aneurysm

Vascular malformation

Wegener's granulomatosis *JAAD 48:311–340, 2003; AD 130:861–867, 1994*

# NODULES, ULCERATED

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease *AD 130:105–110, 1994;* of scalp *AD 103:351–357, 1971*

Common variable immunodeficiency – ulcerated papulonodular lesions of legs *BJD 147:364–367, 2002; Dermatology 198:156–158, 1999*

Dermatitis herpetiformis – prurigo nodularis-like lesions *J Eur Acad Dermatol Venereol 16:88–89, 2002*

Graft vs. host disease

Leukocyte adhesion deficiency ($\beta_2$-integrin deficiency) – (congenital deficiency of leukocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18)) – pyoderma gangrenosum-like lesions*;* necrotic cutaneous abscesses, psoriasiform dermatitis, gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *BJD 139:1064–1067, 1998; BJD 123:395–401, 1990*

Lupus erythematosus – discoid LE, tumid LE

Pemphigoid nodularis *JAAD 27:863–867, 1992*

Rheumatoid arthritis – superficial ulcerating necrobiosis *AD 118:255–259, 1982;* ulcerated rheumatoid nodule *Rook p.2566, 1998, Sixth Edition;* ulcerated rheumatoid nodule of the vulva *J Clin Pathol 49:85–87, 1996;* ulcerated rheumatoid nodule of sacrum *Br Med J iv:92–93, 1975;* pyoderma gangrenosum *AD 111:1020–1023, 1975;* rheumatoid neutrophilic dermatosis *Rook p.2568, 1998, Sixth Edition;* neutrophilic lobular panniculitis *JAAD 45:325–361, 2001; J R Soc Med 84:307–308, 1991*

## DRUG-INDUCED

G-CSF – pyoderma gangrenosum *Ped Derm 17:205–207, 2000*

Interferon-$\alpha$ – pyoderma gangrenosum at injection site *JAAD 46:611–616, 2002*

## EXOGENOUS AGENTS

Drug abuse *NEJM 277:473–475, 1967*

Bromoderma – ingestion of soft drink (Ruby Red Squirt) *NEJM 348:1932–1934, 2003*

Foreign body granuloma

Paraffinoma (sclerosing lipogranuloma) *Acta Chir Plast 33:163–165, 1991; Plast Reconstr Surg 65:517–524, 1980*

## INFECTIONS AND INFESTATIONS

Actinomycosis

Adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white–yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

African trypanosomiasis *AD 131:1178–1182, 1995*

AIDS – cutaneous $CD8^+$ T-cell infiltrates in advanced HIV disease *JAAD 41:722–727, 1999*

Alternariosis *BJD 143:910–912, 2000; Alternaria jenuissima* – ulcerated verrucous nodule *BJD 142:840–841, 2000*

Alveolar echinococcosis *JAAD 34:873–877, 1996*

Amebiasis, including *Acanthamoeba* in AIDS *Cutis 73:241–248, 2004; Clin Inf Dis 20:1207–1216, 1995*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Bacillary angiomatosis *JAAD 35:285–287, 1996; Am J Clin Pathol 80:714–718, 1983*

Bejel

*Bipolaris spicifera AD 125:1383–1386, 1989*

Candidal sepsis – ecthyma gangrenosum-like lesion *Rook p.2752, 1998, Sixth Edition*

Cat scratch disease *AD 135:983–988, 1999*

Chancriform pyoderma

Chancroid

Chromomycosis – feet, legs, arms, face, and neck *AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis *AD 129:1589–1593, 1993;* primary inoculation coccidioidomycosis *Int J Derm 33:720–722, 1994*

Cowpox

Cryptococcosis *JAAD 32:844–850, 1995*

Ecthyma

Ecthyma gangrenosum *JAAD 11:781–787, 1984*

Erythema induratum *AD 133:457–462, 1997; JAAD 738–742, 1986*

Fire coral granulomas

*Fusarium* – ecthyma gangrenosum-like lesions *Ped Derm 13:118–121, 1996;* violaceous nodules with central necrosis *Clin Inf Dis 32:1237–1240, 2001*

Gonorrhea – chancre as primary lesion on thighs of women *Bull Soc Fr Dermatol Syphilol 81:159–160, 1974*

Granuloma inguinale *JAAD 32:153–154, 1995*

Histoplasmosis *BJD 133:472–474, 1995; AD 114:1197–1198, 1978;* mimicking pyoderma gangrenosum *Int J Dermatol 40:518–521, 2001*

Insect bites

*Klebsiella* sepsis

Kerion

Leishmaniasis *JAAD 46:803, 2002;* KA-like lesions *Clin Inf Dis 22:1–13, 1996*; *JAAD 16:1183–1189, 1987;* L. tropica – ulcerated nodule of face *JAAD 53:810–815, 2005; Leishmania brasilienses BJD 153:203–205, 2005; J Clin Inf Dis 22:1–13, 1996; L. infantum Rook p.1414, 1998, Sixth Edition;* leishmaniasis recidivans (lupoid leishmaniasis) – brown–red or brown–yellow papules close to scar of previously healed lesion; resemble lupus vulgaris; may ulcerate or form concentric rings; keloidal form, verrucous form of legs, extensive psoriasiform dermatitis *Rook p.1414, 1998, Sixth Edition*

Leprosy – lepromatous leprosy of legs *Rook p.1225, 1998, Sixth Edition;* ulcerative erythema nodosum leprosum *BJD 144:175–181, 2001; Rook p.1227, 1998, Sixth Edition; AD 128:1643–1648, 1992;* Lucio's phenomenon; type 1 reaction in borderline leprosy *Rook p.1227, 1998, Sixth Edition*

Lobomycosis

Mucormycosis

Mycetoma *JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982; AD 99:215–225, 1969*

*Mycobacterium avium* complex – traumatic inoculation *BJD 130:785–790, 1994*

*Mycobacterium bovis* – chancre *JAAD 43:535–537, 2000*

*Mycobacterium chelonae AD 139:629–634, 2003; BJD 147:781–784, 2002; Clin Inf Dis 33:1433–1434, 2001*

*Mycobacterium fortuitum AD 139:629–634, 2003; BJD 147:781–784, 2002*

*Mycobacterium gordonae* – crusted nodule; prurigo nodularis-like *J Clin Inf Dis 25:1490–1491, 1997*

*Mycobacterium haemophilum Clin Inf Dis 14:1195–1200, 1992*

*Mycobacterium kansasii BJD 152:727–734, 2005; JAAD 40:359–363, 1999*

*Mycobacterium marinum* – ulcerated digital papule or nodule *Clin Inf Dis 31:439–443, 2000*

*Mycobacterium tuberculosis* – primary (chancre), tuberculous gumma *BJD 144:601–603, 2001;* multilocular inoculation tuberculosis *BJD 143:226–228, 2000;* erythema induratum of Bazin (nodular vasculitis) – tuberculid; nodules on backs of erythrocyanotic lower legs; ulcerate *JAAD 45:325–361, 2001; Rook p.2204, 2206, 1998, Sixth Edition; JAAD 14:738–342, 1986;* scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *BJD 134:350–352, 1996*

*Mycobacterium ulcerans*

Myiasis *JAAD 28:254–256, 1993*

Nocardiosis – chancriform syndrome with sporotrichoid lymphangitic spread *J Inf Dis 134:286–289, 1976;* disseminated nocardiosis or nocardial mycetoma *JAAD 13:125–133, 1985*

North American blastomycosis – inoculation chancre *Cutis 19:334–335, 1977;* disseminated blastomycosis *Clin Infect Dis 33:1706, 1770–1771, 2001; Am Rev Resp Dis 120:911–938, 1979; Medicine 47:169–200, 1968*

Orf *AD 126:356–358, 1990*

Paracoccidiodomycosis

Phaeohyphomycosis (*Phoma* species) *JAAD 34:679–680, 1996;* subcutaneous phaeohyphomycosis – *Exophiala jeanselmii Cutis 72:132–134, 2003*

Protothecosis *AD 130:243–248, 1994; AD 125:1249–1252, 1989*

*Pseudomonas mesophilica AD 128:273–274, 1992*

Rat bite fever (*Spirillium minor*)

*Rhodococcus* species *JAAD 24:328–332, 1991*

*Scopulariopsis – S. brevicaulis* – vegetative ulcerative nodule of forearm *Clin Inf Dis 30:820–823, 2000; S. brumptii* – ulcerating granulomas of perineum, inguinal area, and buttock *Clin Inf Dis 19:198–200, 1994*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm; group to form mamillated plaques; nodules develop with overlying dark pigmentation, scale, and ulceration *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

Sporotrichosis, disseminated *JAAD 27:463–464, 1992*; pyoderma gangrenosum-like; solitary lesion *Cutis 33:549–551, 1984;* multiple ulcerated nodules in AIDS *JAAD 40:350–355, 1999*

Staphylococcal botryomycosis with hyper-IgE syndrome *JAAD 28:109–111, 1993*

Syphilis – primary chancre of genitalia, arm, neck, nipple, lips *Rook p.1244, 1998, Sixth Edition;* secondary (noduloulcerative) (lues maligna) in AIDS *AD 141:1311–1316, 2005; Clin Inf Dis 25:1343, 1447, 1997; Clin Inf Dis 20:387–390, 1995; JAAD 22:1061–1067, 1990;* tertiary (gumma) *AD 134:365–370, 1998*; tertiary serpiginous nodulo-ulcerative lesions *Rook p.1250, 1998, Sixth Edition;* endemic (Bejel)

Tanapox virus – few pruritic papules undergoing central necrosis, then evolving into ulcerated nodules, healing with scarring *AD 140:656, 2004; Tyring p.59, 2002*

*Trichophyton rubrum* – invasive; in AIDS *JAAD 34:1090–1091, 1996*

*Trichosporon beigelei*

*Trypanosoma brucei rhodiense J Clin Inf Dis 23:847–848, 1996*

Tularemia – *Franciscella tularensis*; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; toxemic stage heralds generalized morbilliform eruption, erythema multiforme-like rash, crops of red nodules on extremities *Medicine 54:252–269, 1985*

Yaws – secondary; tertiary – ulcerated nodules, tuberous lesions gumma; multiple subcutaneous nodules; overlying skin ulcerates with purulent discharge; atrophic pigmented scars *Rook p.1270–1271, 1998, Sixth Edition*

## INFILTRATIVE

Juvenile xanthogranuloma *Acta DV 82:210–211, 2002; Textbook of Neonatal Dermatology, p.403, 2001; Rook p.2324, 1998, Sixth Edition; JAAD 36:355–367, 1997; JAAD 24:1005–1009, 1991*

Langerhans cell histiocytosis – ulcerated nodule of groin *Curr Prob Derm 14:41–70, 2002;* solitary Langerhans cell histiocytoma *AD 122:1033–1037, 1986*; vulvar *JAAD 13:383–404, 1985;* granulomatous ulcerative nodules *JAAD 13:481–496, 1985*

## INFLAMMATORY DISEASES

Crohn's disease – metastatic Crohn's *AD 132:928–932, 1996*; pyoderma gangrenosum

Cytophagic histiocytic panniculitis

Dissecting cellulitis of the scalp

Malacoplakia *JAAD 34:325–332, 1996*

Pancreatic panniculitis *Rook p.2414, 1998, Sixth Edition; JAAD 34:362–364, 1996; Arthritis Rheum 22:547–553, 1979*

Pyoderma gangrenosum

Relapsing idiopathic nodular panniculitis *BJD 152:582–583, 2005*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) *JAAD 51:931–939, 2004*

Sarcoid *AD 133:215–219, 1997; BJD 67:255–260, 1955*

Subcutaneous fat necrosis of the newborn *Dermatology 197:261–263, 1998*

Weber–Christian disease

## METABOLIC

$\alpha_1$-antitrypsin deficiency panniculitis – trunk and proximal extremities *JAAD 51:645–655, 2004; Cutis 71:205–209, 2003; JAAD 18:684–692, 1988; AD 123:1655–1661, 1987*

Calcinosis cutis – idiopathic *Rook p.2665, 1998, Sixth Edition;* papular or nodular calcinosis cutis secondary to heel sticks *Ped Derm 18:138–140, 2001*; cutaneous calculus *BJD 75:1–11, 1963;* extravasation of calcium carbonate solution; metastatic calcification *JAAD 33:693–706, 1995; Cutis 32:463–465, 1983*

Cryoglobulinemia

Gout – tophaceous gout *AD 134:499–504, 1998; Cutis 48:445–451, 1991; Am J Pathol 32:871–895, 1956;* ulcerative fungating mass *Arthr Rheum 35:1399–1340, 1992;* gouty panniculitis with urate crystal deposition *Cutis 76:54–56, 2005*

Hyperoxaluria, primary *JAAD 46:S16–18, 2002; AD 131:821–823, 1995*; *AD 125:380–383, 1989*

Porphyria cutanea tarda with calcinosis

Thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Leuk Lymphoma 22 Suppl 1:47–56, 1996; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

## NEOPLASTIC

Adenocarcinoma with fistula

Atypical fibroxanthoma *Sem Cut Med Surg 21:159–165, 2002; Cutis 51:47–48, 1993; Cancer 31:1541–1552, 1973*

Atypical piloleiomyoma *Cutis 57:168–170, 1996*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Clear cell hidradenoma *Ped Derm 17:235–237, 2000; JAAD 12:15–20, 1985; Cancer 23:641–657, 1969*

Cylindroma *NEJM 351:2530, 2004*

Cytophagic histiocytic panniculitis – manifestation of hemophagocytic syndrome; red tender nodules; T-cell lymphoma, B-cell lymphoma, histiocytic lymphoma, sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *Rook p.2419, 1998, Sixth Edition; JAAD 4:181–194, 1981; Arch Int Med 140:1460–1463, 1980*

Dermatofibrosarcoma protuberans *JAAD 35:355–374, 1996*

Eccrine epithelioma *JAAD 6:514–518, 1982*

Eccrine hidroadenoma – dermal nodule with or without ulceration; face, scalp, anterior trunk *AD 97:651–661, 1968*

Eccrine porocarcinoma *JAAD 49:S252–254, 2003*

Eccrine poroma – blue–black pedunculated tumor of chin *BJD 152:1070–1072, 2005*

Eccrine sweat gland carcinoma *AD 122:585–590, 1986*

Embryonal rhabdomyosarcoma *Ped Derm 15:403–405, 1998*

Epidermoid cyst, ruptured

Epithelioid hemangioendothelioma *JAAD 26:352–355, 1992*

Epithelioid cell sarcoma *JAAD 38:815–819, 1998; AD 121:394–395, 1985*

Exostosis, subungual *JAAD 45:S200–201, 2001*

Fibrosarcoma/spindle cell sarcoma – ulcerated red or violaceous nodule *Rook p.2352, 1998, Sixth Edition*

Granular cell myoblastoma *Bolognia p.1845, 2003; Rook p.2364, 1998, Sixth Edition*

Hidroadenocarcinoma *JAAD 52:101–108, 2005*

Hidradenoma papilliferum – vulvar or perianal nodule *AD 83:965–967, 1961*

Hidroacanthoma simplex

Histiocytic lymphoma (true histiocytic lymphoma) *JAAD 50:S9–10, 2004*

Hodgkin's disease – ulcerated papules, plaques and nodules of the scalp and face *AD 127:405–408, 1991*

Kaposi's sarcoma *Rook p.1063,2358–2360, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Keloids – suppurative necrosis *Rook p.2056–2057, 1998, Sixth Edition*

Keratoacanthomas – multiple self-healing keratoacanthomas of Ferguson–Smith – cluster around ears, nose, scalp; red nodule becomes ulcerated, resolve with crenellated scar; develop singly or in crops *Cancer 5:539–550, 1952;* one reported unilateral case *AD 97:615–623, 1968*

Leiomyosarcoma *Sem Cut Med Surg 21:159–165, 2002; JAAD 38:137–142, 1998*; *Ped Derm 14:281–283, 1997*

Leukemia – large granular lymphocytic leukemia *JAAD 31:251–255, 1994;* chronic lymphocytic leukemia – leukemia cutis of lower legs *Rook p.2397, 1998, Sixth Edition*

Lymphangiosarcoma (Stewart–Treves tumor) – ulcerated nodules in lymphedematous extremity *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphoma – cutaneous T- and B-cell lymphomas *Curr Prob Dermatol 19:203–220, 1990, JAAD 29:549–554, 1993;* cytophagic histiocytic panniculitis and subcutaneous panniculitis-like T-cell lymphoma *JAAD 50:465–459, 2004; AD 136:889–896, 2000; JAAD 34:904–910, 1996;* angioimmunoblastic lymphadenopathy with dysproteinemia (angioimmunoblastic T-cell lymphoma) *JAAD 36:290–295, 1997;* lymphomatoid granulomatosis (angiocentric lymphoma) *JAAD 17:621–631, 1987; Hum Pathol 3:457–458, 1972;* nasal and nasal type natural killer T-cell lymphoma (angiocentric lymphoma) *JAAD 40:268–272, 1999;* Ki-1$^+$ anaplastic large cell lymphoma *JAAD 29:696–700, 1993; JAAD 26:813–817, 1992;* CD30$^+$ lymphoma *JAAD 44:239–247, 2001;* regressing CTCL or CD30$^+$ anaplastic large-cell lymphoma (regressing atypical histiocytosis) – thighs and buttocks *Cancer 70:476–483, 1992;* Ki-1 (CD30$^+$) positive anaplastic large cell lymphoma *JAAD 51:103–110, 2004; JAAD 49:1049–1058, 2003; JAAD 47:S201–204, 2002;* CD30$^+$ Ki-1$^+$ anaplastic large cell

lymphoma (associated with hepatitis C cryoglobulinemias) *BJD 151:941–943, 2004;* primary cutaneous $CD30^+$ lymphoproliferative disorder ($CD8^+/CD4^+$) *JAAD 51:304–308, 2004;* gamma/delta T-cell lymphoma *AD 136:1024–1032, 2000;* Hodgkin's disease *AD 133:1454–1458, 1997;* lymphoblastoid natural killer-cell lymphoma *BJD 146:148–153, 2002;* large cell B-cell lymphoma of the leg *JAAD 49:223–228, 2003*

Lymphomatoid papulosis *JAAD 33:741–748, 1995*

Malignant eccrine spiradenoma *AD 121:1445–1448, 1985*

Malignant fibrous histiocytoma *JAAD 52:101–108, 2005*

Malignant histiocytosis – ulcerated skin-colored to violaceous nodules *Hum Pathol 15:368–377, 1984*

Malignant proliferating trichilemmal cyst *JAAD 32:870–873, 1995*

Melanocytic nevi – giant congenital melanocytic nevi with proliferative nodules *AD 140:83–88, 2004; Ped Derm 17:299–301, 2000*

Melanoma – primary nodular melanoma; amelanotic melanoma *AD 138:1246–1251, 2002; Rook p.1743–1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975;* acral lentiginous melanoma *Caputo p.93, 2000*

Meningioma – primary cutaneous meningioma – scalp or paraspinal region of children and teenagers *Cancer 34:728–744, 1974*

Metastases – tumid ulceration *Rook p.2709, 1998, Sixth Edition;* metastatic mucoepidermoid carcinoma *JAAD 37:340–342, 1997;* Sister Mary Joseph nodule; stomach *AD 111:1478–1479, 1975;* renal cell carcinoma *AD 140:1393–1398, 2004; J Comput Assist Tomogr 22:756–757, 1998;* ovarian *JAAD 10:610–615, 1984;* pancreas *Cutis 31:555–558, 1983*; uterus *Br J Clin Pract 46:69–70, 1992;* leiomyosarcoma *AD 120:402–403, 1984;* peritoneal mesothelioma *Am J Dermatopathol 13:300–303, 1991;* cervical carcinoma *JAAD 45:133–135, 2001*

Mucinous carcinoma of skin *JAAD 36:323–326, 1997*

Multiple myeloma *Int J Derm 29:562–566, 1990*

Myelodysplastic syndromes *JAAD 33:187–191, 1995;* neutrophilic dermatosis with myelodysplastic syndrome *JAAD 23:247–249, 1990*

Myofibromatosis – solitary or multiple *Ped Derm 20:345–349, 2003*

Nevus lipomatosis superficialis *Int J Dermatol 14:273–276, 1975*

Nodular hidradenoma *AD 136:1409–1414, 2000; JAAD 42:693–695, 2000*

Pilar cyst, ruptured

Piloleiomyoma *Cutis 57:168–170, 1996*

Pilomatrixoma, perforating *JAAD S146–147, 2003; JAAD 18:754–755, 1988;* pilomatrix carcinoma (trichilemmal carcinoma) *Dermatol Surg 28:284–286, 2002; BJD 143:646–647, 2000; JAAD 36:107–109, 1997*; *JAAD 17:264–270, 1987*

Plantar fibromatosis (Ledderhose's disease) – red plantar nodule; painful; may ulcerate *Curr Prob Derm 8:137–188, 1996*

Plasmacytoma – extramedullary plasmacytoma *JAAD 49:S255–258, 2003; Am J Clin Oncol 20:467–470, 1997; Clin Exp Dermatol 21:367–369, 1996; AD 127:69–74, 1991; JAAD 19:879–890, 1988*

Progressive nodular histiocytoma *AD 114:1505–1508, 1978*

Proliferating trichilemmal cyst *Cancer 48:1207–1214, 1981*

Sebaceous gland carcinoma – ulcerated violaceous nodule *AD 137:1367–1372, 2001; Nippon Ganka Gakkai Zasshi 104:740–745, 2000*

Skin tag

Solitary congenital indeterminate cell histiocytoma *AD 129:81–85, 1993*

Spiradenoma, malignant *JAAD 44:395–398, 2001*

Spitz nevus *Great Cases from the South; AAD Meeting; March 2000*

Squamous cell carcinoma *Caputo p.77, 2000; Rook p.1689–1690, 1998, Sixth Edition*; perianal squamous cell carcinoma *J Clin Inf Dis 21:603–607, 1995;* squamous cell carcinoma of the external auditory canal – ulcerated nodule with extensive destruction and purulent discharge *Cancer 59:156–160, 1987*

Suppurative keloidosis *JAAD 15:1090–1092, 1986*

Syringocystadenoma papilliferum – eyelid *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.5, 1999*

## PARANEOPLASTIC DISEASES

Carcinoid syndrome – pyoderma gangrenosum *Cutis 18:791–794, 1976*

Insect bite-like reactions associated with hematologic malignancies *AD 135:1503–1507, 1999*

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997; Medicine (Baltimore) 65:376–388, 1986; BJD 113:339–343, 1985; JAAD 3:257–270, 1980*

Neutrophilic dermatosis with myelodysplastic syndrome *JAAD 23:247–249, 1990*

## PRIMARY CUTANEOUS DISEASE

Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Erythema elevatum diutinum *AD 129:1043–1044;1046–1048, 1993, JAAD 28:846–849, 1993*

Lichen sclerosus et atrophicus

Painful piezogenic pedal papule *JAAD 36:780–781, 1997*

Prurigo nodularis

Reactive perforating collagenosis and other perforating disorders

## SYNDROMES

Alport's syndrome – tophi

Antiphospholipid antibody syndrome – pyoderma gangrenosum-like lesions *BJD 120:419–429, 1989*

Behçet's disease – pyoderma gangrenosum-like lesions *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

Congenital self-healing reticulohistiocytosis (Hashimoto–Pritzker disease) *Curr Prob Dermatol 14:41–70, 2002; AD 134:625–630, 1998; Ped Derm 3:230–236, 1986*

Hemophagocytic syndrome *AD 128:193–200, 1992*

Infantile myofibromatosis – solitary or multicentric *Curr Prob Derm 14:41–70, 2002; Ped Derm 8:306–309, 1991; Cancer 48:1807–1818, 1981*
- vs. Calcifying aponeurotic fibroma
  - Digital fibromatosis
  - Fibrous hamartoma of infancy
  - Fibromatosis colli
  - Hyaline fibromatosis
  - Intravascular fasciitis

Juvenile hyaline fibromatosis

Neurofibromatosis – ulcerated neurofibromas, neurofibrosarcomas *Ann DV 114:807–811, 1987*

Noonan's syndrome – keloids

Regressing atypical histiocytosis *AD 123:1183–1187, 1987; Dermatologica 174:253–7, 1987*

Sweet's syndrome

Turner's syndrome – keloids

### TRAUMA

Chondrodermatitis nodularis chronicus helicis

Equestrian cold panniculitis

Granuloma fissuratum

### VASCULAR

Angiosarcoma *JAAD 49:530–531, 2003; JAAD 40:872–876, 1999;* including angiosarcoma of Stewart–Treves; radiation-induced angiosarcoma – ulcerated nodules and plaques *JAAD 38:143–175, 1998; JAAD 38:837–840, 1998*

Endovascular papillary angioendothelioma (Dabska's tumor) *JAAD 38:143–175, 1998*

Epithelioid hemangioendothelioma *JAAD 49:113–116, 2003; Eur J Dermatol 9:487–490, 1999*

Hemangioma, infantile *Rook p.554, 1998, Sixth Edition*

Lymphangiosarcoma

Polyarteritis nodosa, systemic or cutaneous *JAAD 48:311–340, 2003; Ped Derm 15:103–107, 1998*

Pustular vasculitis of hands (Sweet's-like) *JAAD 32:192–198, 1995*

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition*

Rapidly involuting congenital hemangioma (RICH) – palpable tumor with pale rim, coarse overlying telangiectasia with central depression or ulcer *Ped Dev Pathol 6:495–510, 2003; Ped Derm 19:5–11, 2002*

Wegener's granulomatosis – pyoderma gangrenosum-like lesions *JAAD 31:605–612, 1994*

## NODULES, UNSPECIFIED LOCATION

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bowel-associated dermatitis–arthritis syndrome – red nodules *AD 135:1409–1414, 1999*

Chronic granulomatous disease – granulomas, furuncles, suppurative nodules *NEJM 317:687–694, 1987*

Graft vs. host disease – chronic; hyperpigmented nodules which soften and atrophy *Rook p.2517, 1998, Sixth Edition*

Morphea *AD 122:76–79, 1986*

Nodular scleroderma *JAAD 32:343–5, 1995*

### CONGENITAL ANOMALIES

Congenital self-healing Langerhans cell histiocytosis – multiple congenital red–brown nodules *Ped Derm 17:322–324, 2000*

### DRUGS

Calcium gluconate – soft tissue calcification

Corticosteroids – peristomal granulomas due to fluorinated corticosteroids *J Cutan Pathol 8:361–364, 1981*

Drug-induced pseudolymphoma – red nodules *AD 132:1315–1321, 1996*

### EXOGENOUS AGENTS

Aluminum hypersensitivity – vaccination sites *Ghatan p.252, 2002, Second Edition*

Foreign body granuloma, including cutaneous reaction to broken thermometer *JAAD 25:915–919, 1991*

Metal sutures – red nodule

### INFECTIONS AND INFESTATIONS

AIDS – cutaneous $CD8^+$ T-cell infiltrates in advanced HIV disease – red nodules *JAAD 41:722–727, 1999*

Aspergillosis

Bacillary angiomatosis

Botryomycosis

*Candida* – candidal granuloma; disseminated candidiasis in immunosuppressed host – red nodule

Cat scratch disease

Chancroid – inguinal buboe, purulent *Clin Inf Dis 22:233–239, 1996*

Chromomyocosis – red nodule

Coccidioidal granuloma – red nodule

Cryptococcosis

Cutaneous larva migrans – red nodules of buttocks *BJD 145:434–437, 2001*

Cysticercosis – *Taenia solium NEJM 330:1887, 1994*

*Fusarium solanae* sepsis – red nodule

Histoplasmosis *AD 132:341–346, 1996*

Insect bite granuloma

Leeches – hyperpigmented papules and nodules due to application of *Hirudo medicinalis* (leeches) *JAAD 43:867–869, 2000*

Leishmaniasis, acute or chronic, disseminated cutaneous leishmaniasis (diffuse nodules) *Ped Derm 13:455–463, 1996*

Lobomycosis (keloidal blastomycosis)

Lymphogranuloma venereum – inguinal buboes *Clin Inf Dis 22:233–239, 1996*

Malacoplakia – violaceous nodules *AD 134:244–245, 1998; Am J Dermatopathol 20:185–188, 1998; JAAD 34:325–332, 1996; JAAD 30:834–836, 1994*

Mucormycosis

Mycetoma

*Mycobacterium kansasii JAAD 16:1122–1128, 1987*

*Mycobacterium* (TB, non-tuberculous (scrofulaceum, chelonei, marinum, ulcerans) *Derm Clinics 17:151–185, 1999*); tuberculous chancre – brown papule or nodule, ragged undermined ulcer with granular hemorrhagic base; face; paronychia; surrounded by lupoid nodules; occurs after circumcision *Semin Hosp Paris 43:868–888, 1967;* traumatic wounds, surgical wounds *Rev Bras Oftel 23:183–192, 1964;* tattoos *AD 121:648–650, 1985*

Myiasis (New World screw-worm) *Trans R Soc Trop Med Hyg 84:747–748, 1990*

North American blastomycosis

Onchocercoma

*Paecilomyces lilacinus* – violaceous nodules *JAAD 39:401–409, 1998*

Papular urticaria – red–brown nodules *Ped Derm 19:409–411, 2002*

Paracoccidioidomycosis

*Penicillium marneffei* – nodules *Lancet 344:110–113, 1994; Mycoses 34:245–249, 1991*

Phaeohyphomycosis – *JAAD 40:364–366, 1999; Derm Clinics 17:151–185, 1999*

Protothecosis

*Pseudomonas* sepsis – red nodule

Q fever – red nodule of buttock with granulomatous panniculitis *BJD 151:685–687, 2004*

*Salmonella* abscess

Sparganosis – *Spirometra mansonoides* – subcutaneous nodule *Derm Clinics 17:151–185, 1999*

Sporotrichosis – fixed nodular type

Staphylococcal abscess

*Strongyloides stercoralis* – prurigo nodularis *Cutis 71:22–24, 2003*

Syphilis – tertiary *AD 134:365–370, 1998*

*Trichophyton rubrum*, invasive – red nodule

Yaws

## INFILTRATIVE

Amyloidosis, primary systemic

Colloid milium, nodular *Cutis 10:355–358, 1985*

Eosinophilic granuloma

Jessner's lymphocytic infiltrate – red nodule

Juvenile xanthogranuloma – red nodule

Langerhans cell histiocytosis *JAAD 13:481–496, 1985*

Xanthoma disseminatum – brown nodule

## INFLAMMATORY DISEASES

Crohn's disease *JAAD 36:986–988, 1996*

Lymphocytoma cutis – skin-colored to plum-red dermal or subcutaneous nodules; idiopathic or due to insect bites, *Borrelia burgdorferi*, trauma, vaccinations, injected drugs or antigens for hyposensitization, injection of arthropod venom, acupuncture, gold pierced earrings, tattoos, post-zoster scars *JAAD 38:877–905, 1998*

Panniculitis

(1) Enzyme panniculitis
    Pancreatic panniculitis
    $\alpha_1$-antitrypsin dificiency *JAAD 18:684–692, 1988*
(2) Immunologic panniculitis
    Erythema nodosum, including familial erythema nodosum *Arthr Rheum 34:1177–1179, 1991*
    Lupus panniculitis
    Complement deficiency
    Lipoatrophic panniculitis
    Lipophagic panniculitis of childhood *JAAD 21:971–978, 1989*
    Cytophagic histiocytic panniculitis
(3) Neoplastic
    Lymphoma, leukemia
    Histiocytosis, including cytophagic histiocytic panniculitis
(4) Cold panniculitis, including cold panniculitis of neonate – red nodules of cheeks; equestrian cold panniculitis
(5) Factitial panniculitis
(6) Post-steroid panniculitis
(7) Crystal panniculitis
(8) Eosinophilic panniculitis
(9) Idiopathic nodular panniculitis
(10) Associations with Sweet's syndrome, sarcoid, Behçet's disease, familial Mediterranean fever, Whipple's disease, relapsing polychondritis
(11) Lipomembranous panniculitis with nodular fat necrosis
(12) Subcutaneous fat necrosis after hypothermic cardiac surgery *JAAD 15:331–336, 1986*
(13) Subcutaneous fat necrosis of newborn

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – cutaneous nodules *Ped Derm 17:377–380, 2000*

Sarcoidosis – Darier–Roussy sarcoid

## METABOLIC

Calcinosis cutis – tumoral calcinosis

Gout (tophus) – foot nodule *Cutis 62:239–241, 1998*

Primary hyperoxalosis *AD 131:821–823, 1995*

Pretibial myxedema

Xanthomas (tuberous)

## NEOPLASTIC DISEASES

Adenoid cystic carcinoma

Atypical fibroxanthoma

Atypical histiocytoma – red nodule

Basal cell carcinoma

Carcinoid – metastatic cutaneous carcinoid *JAAD 13:363–366, 1985*

Chondroid syringoma

Dermal duct tumor – red nodule of back *AD 140:609–614, 2004*

Dermatofibroma – brown–yellow papules, nodules *Rook p.2350, 1998, Sixth Edition*

Dermatofibrosarcoma protuberans

Desmoid tumor *JAAD 34:352–356, 1996*

Eccrine angiomatous nevus – brown to yellow nodule

Eccrine poroma

Eccrine spiradenoma

Elastofibroma dorsi – red nodule of the back *AD 135:341346, 1999*

Fibroepithelioma of Pinkus

Fibroma

Fibrosarcoma

Folliculosebaceous cystic hamartoma *JAAD 34:77–81, 1996*

Glomus tumor

Granular cell myoblastoma – red, hyperpigmented *Ped Derm 14:489–490, 1997*

Hidradenoma papilliferum

Hidrocystoma

Kaposi's sarcoma

Keratoacanthoma

Leiomyoma

Leiomyosarcoma – brown nodule *AD 135:341–346, 1999*

Leukemia cutis (chloroma) – large truncal nodules *BJD 143:773–779, 2000*

Lipoma

Liposarcoma

Lymphoepithelioma-like carcinoma of the skin – red nodule of trunk, face, or scalp *AD 134:1627–1632, 1998*

Lymphoma – including angioimmunoblastic lymphadenopathy with dysproteinemia (angioimmunoblastic T-cell lymphoma) *JAAD 36:290–295, 1997;* Lennert's lymphoma *Am J Dermatopathol 11:549–554, 1989;* T-zone lymphoma – subcutaneous nodules of lower abdomen and groin *BJD 146:1096–1100, 2002;* cutaneous B-cell lymphoma

Malignant fibrous histiocytoma

Melanoma, including metastatic melanoma

Merkel cell tumor

Metastatic carcinoma

Mucoepidermoid carcinoma

Myeloma

Myxoma

Neurilemmoma

Neurofibroma

Neuroma

Nevus, melanocytic

Rhabdoid tumor

Rhabdomyosarcoma

Spitz nevus

Squamous cell carcinoma

Sweat gland adenoma

Synovial sarcoma

Syringocystadenoma papilliferum – pink, brown linear plaques or nodules *AD 71:361–372, 1955*

Waldenström's macroglobulinemia *AD 134:1127–1131, 1998*

### PHOTOSENSITIVITY DISORDERS

Actinic reticuloid – red nodules *JAAD 38:877–905, 1998*

### PRIMARY CUTANEOUS DISEASES

Acne vulgaris – keloidal scarring *Rook p.1949–1951, 1998, Sixth Edition*

### SYNDROMES

Antiphospholipid antibody syndrome *JAAD 36:149–168, 1997; JAAD 36:970–982, 1997*

Blue rubber bleb nevus syndrome

Hypereosinophilic syndrome *AD 132:535–541, 1996*

Hyper-IgD syndrome – periodic fever, red macules, urticaria, annular erythema, nodules, arthralgias, abdominal pain, lymphadenopathy *AD 130:59–65, 1994*

Infantile systemic hyalinosis – autosomal recessive; synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004*

Maffucci's syndrome

Myofibromatosis – red nodules

POEMS syndrome – cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, morphea-like changes, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001, JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985, AD 124:695–698, 1988, Cutis 61:329–334, 1998; JAAD 40:808–812, 1999*

Proteus syndrome

Pseudoxanthoma elasticum – chronic granulomatous nodules in skin lesions *AD 96:528–531, 1967*

Relapsing polychondritis *Clin Exp Rheumatol 20:89–91, 2002*

Rubinstein–Taybi syndrome – keloids

Turner's syndrome – keloids *JAAD 36:1002–1004, 1996*

Xanthogranuloma

### TRAUMA

Bicycle rider's nodule (athlete's nodule) – red nodule over sacrococcygeal area *BJD 143:1124–1126, 2000*

Contusion

Hypertrophic scar

Keloid

### VASCULAR

Angiokeratoma

Angiosarcoma

Degos' disease (malignant atrophic papulosis) – gumma-like nodules *Rook p.2216, 1998, Sixth Edition*

Hemangioma

Leukocytoclastic vasculitis *AD 134:309–315, 1998*

Lymphangioma

Polyarteritis nodosa

Portocaval shunt, infected – red nodule

Pyogenic granuloma

Stewart–Treves syndrome – red nodules

Wegener's granulomatosis *AD 130:861–867, 1994*

## NODULES, RED OR VIOLACEOUS, WITH VASCULAR APPEARANCE

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – presenting as panniculitis *JAAD 23:127–128, 1990*

Graft vs. host disease, chronic – eruptive violaceous vascular nodules *BJD 149:667–668, 2003; JAAD 10:918–921, 1984*

Low interleukin-2 level – vascular nodules and plaques *JAAD 29:473–477, 1993*

Lupus erythematosus – lupus profundus *JAAD 14:910–914, 1986*

Pemphigoid nodularis (purple) *AD 126:1522–1523, 1990; JAAD 21:1099–1104, 1989;* non-bullous pemphigoid *JAAD 29:293, 1993*

Pemphigus vulgaris *JAAD 23:522–523, 1990*

Rheumatoid nodule

### CONGENITAL LESIONS

Benign and/or disseminated (diffuse) neonatal hemangiomatosis – diffuse (visceral involvement) or benign (only cutaneous involvement) *Ped Derm 21:469–472, 2004; JAAD 37:887–920, 1997; JAAD 24:816–818, 1991; Ped Derm 8:140–146, 1991*

Encephalocele *Soc Ped Derm Annual Meeting, 2005*

Hamartoma with ectopic meningothelial elements – simulates angiosarcoma *Am J Surg Pathol 14:1–11, 1990*

Hemangiomatous branchial clefts, lip pseudoclefts, unusual facies – hemangiomatous branchial clefts in retroauricular areas extending down along the sternocleidomastoid muscle *Am J Med Genet 14:135–138, 1983*

Meningocoele – sequestrated meningocoele *Ped Derm 14:315–318, 1994*

Nasal glioma

Neonatal purple tumors or plaques – RICH, fibrosarcoma, malignant hemangiopericytoma, dermatofibrosarcoma protuberans *Ped Derm 19:5–11, 2002*

Omphalomesenteric duct remnants – completely patent, peripheral portion – cherry red nodule

Spinal dysraphism with overlying protrusion, dimple, sinus, lipoma, faun tail nevus, dermoid cyst, hemangioma, port wine stain *AD 114:573–577, 1978; AD 112:1724–1728, 1976*

Thyroglossal duct cyst

Urachus – complete or partial patency of urachus

## DRUG-INDUCED

Capecitabine – pyogenic granuloma-like paronychial lesions *BJD 147:1270–1272, 2002*

Cyclosporine-induced T-cell infiltrates

Furosemide-induced Sweet's eruption *JAAD 21:339–343, 1989*

Indinavir (protease inhibitor)-induced paronychial pyogenic granuloma *JAAD 46:284–293, 2002; BJD 140:1165–1168, 1999; NEJM 338:1776–1777, 1998*

Lisinopril – associated with development of Kaposi's sarcoma *BJD 147:1042–1044, 2002*

Neurileptics – pseudolymphoma *AD 128:121–123, 1992*

Retinoids, systemic – pyogenic granulomas

Sulindac – pancreatitis and subcutaneous fat necrosis *JAAD 13:366–369, 1985*

## EXOGENOUS AGENTS

Aspartame-induced lobular panniculitis *JAAD 24:298–300, 1991*

Duoderm-induced exuberant granulation tissue

Foreign body granuloma – silk or polymer sutures, talc, starch, oily material, silicone, hair, silica, tattoo, zirconium, beryllium, wood splinter

Mercury granuloma *JAAD 12:296–303, 1985*

Silicone granuloma *AD 130:787–792, 1994*

## INFECTIONS AND INFESTATIONS

Alternariosis

Amebiasis, including *Acanthamoeba* in AIDS *JAAD 26:352–355, 1992*

Aspergillosis, primary cutaneous – purple or brown *AD 129:1189–1194, 1993; AD 124:121–126, 1988*

Bacillary angiomatosis (*Bartonella henselae*) *Clin Inf Dis 33:772–779, 2001; BJD 136:60–65, 1997; J Hand Surg (Am) 21:307–308, 1996; JAMA 269:770–775, 1993; Hautarzt 44:361–364, 1993; JAAD 24:802–803, 807–808, 1991; JAAD 22:501–512, 1990*

Bartonellosis (Oroya fever) – verruga peruana *Tyring p.229, 2002;* bacillary angiomatosis *Clin Inf Dis 33:772–779, 2001; JAAD 22:501–512, 1990*

*Bipolaris spicifera* (dematiaceous fungus)

Botryomycosis *JAAD 21:1312–1314, 1989*

Brucellosis – erythema nodosum-like *AD 125:380–383, 1989*

*Candida* – sepsis, chronic mucocutaneous candidiasis

Cat scratch disease *JAAD 31:535–536, 1994*

Cave tick *(Ornithodoros tholozani)* bite *JAAD 27:1025–1026, 1992*

Chancriform pyoderma

Chromomycosis *AD 123:519–524, 1987*

Cryptococcosis *JAAD 26:122–124, 1992*

Cytomegalovirus *JAAD 18:1333–1338, 1988*

Dental sinus

Dirofilariasis

Echovirus infection – eruptive pseudoangiomatosis *JAAD 29:857–859, 1993;* vascular papules or nodules; Echovirus 25, 32; Coxsackie B virus *Ped Derm 19:76–77, 2002*

Furunculosis – *Staphylococcus aureus*

*Fusarium*

Glanders

Gnathostomiasis *JAAD 13:835–836, 1985*

Histoplasmosis *JAAD 29:311–313, 1993, JAAD 23:422–428, 1990;* histoplasma panniculitis *AD 121:914–916, 1985*

Insect bites, including exaggerated insect bite reaction in AIDS *JAAD 29:269–272, 1993*

Leishmaniasis – AIDS-related visceral leishmaniasis *BJD 143:1316–1318, 2000;* diffuse cutaneous leishmaniasis; mucocutaneous leishmaniasis *J Emerg Med 20:353–356, 2001; AD 134:193–198, 1998; J Clin Inf Dis 22:1–13, 1996*

Leprosy, including erythema nodosum leprosum *JAAD 14:59–69, 1986*

Lyme disease *AD 120:1520–1521, 1984*

Lymphogranuloma venereum

Malacoplakia due to *Escherichia coli*

Meningococcus

Milker's nodule – starts as flat red papule on fingers or face, progresses to red–blue tender nodule, which crusts; zone of erythema; may resemble pyogenic granulomas *Rook p.1004, 1998, Sixth Edition; AD 111:1307–1311, 1975*

Mucormycosis

Mycetoma

*Mycobacterium avium-intracellulare*

*Mycobacterium chelonae JAAD 28:352–355, 1993*

*Mycobacterium fortuitum*

*Mycobacterium haemophillum*

*Mycobacterium intracellulare* (erythema nodosum-like nodule) *JAAD 27:1019–1021, 1992*

*Mycobacterium kansasii*

*Mycobacterium malmoense*

*Mycobacterium marinum*

*Mycobacterium tuberculosis* – acute miliary, erythema induratum, lupus vulgaris

*Mycobacterium ulcerans*

Myiasis, cuterebrid myiasis *JAAD 763–772, 1989*

Nocardiosis *AD 130:243–248, 1994; JAAD 26:1132–133, 1992; Nocardia brasiliensis Ped Derm 2:49–51, 1985*

North American blastomycosis

Onchocercoma

Orf – with or without ulceration *Tyring p.54, 2002; JAAD 29:256–257, 1993; AD 126:356–358, 1990; JAAD 11:72–74, 1984*

Osteomyelitis

Papular urticaria

Phaeohyphomycosis *AD 123:1346–1350, 1987;* phaeohyphomycotic cyst *(Exophiala jeanselmei)*

*JAAD 12:207–212, 1985*

*Phialophora repens*

Phlegmon (Serratia)

*Pneumocystis carinii*

Porto-caval shunt, infected

Protothecosis – keratoacanthoma-like *AD 121:1066–1069, 1985;* purple subcutaneous nodules *Cutis 63:185–188, 1999*

*Pseudomonas* sepsis *Ped Derm 4:18–20, 1987*

Rhinosporidiosis – vascular nodules of nose, extending to pharynx or lips *Rook p.1360, 1998, Sixth Edition; Mycopathologica 73:79–82, 1981; Arch Otolaryngol 102:308–312, 1976*

Scabies – apple jelly *JAAD 32:758–764, 1995*

Scolecobasidium constrictum (dematiaceus fungus)

Sparganosis

Sporotrichosis – primary chancre

Syphilis – primary (chancre), extragenital chancre, nodular and nodulo-ulcerative secondary *AD 113:1027–1032, 1997*; tertiary (gumma)

Tick bite granuloma

Toxoplasmosis *JAAD 14:600–605, 1986*

*Trichophyton rubrum*, invasive *JAAD 51:s101–104, 2004; Cutis 67:457–462, 2001*; Majocchi's granuloma

*Trichosporon beigelii*

Trypanosomiasis – primary lesion

Tularemia

Tungiasis

Typhoid fever

*Xanthomonas maltophilia*

Yaws – 'crab yaws' – raspberry-like; primary red papule, ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (framboesia) *Rook p.1268–1271, 1998, Sixth Edition*

Zygomycosis

## INFILTRATIVE DISEASES

Primary amyloidosis – in Campbell de Morgan spots; targetoid lesions of amyloid in pre-existent capillary hemangioma *BJD 112:209–211, 1985;* tumefactive amyloid *Cutis 46:255–259, 1990;* nodular primary cutaneous amyloidosis *JAAD 14:1058–1062, 1986*

Jessner's lymphocytic infiltrate

Langerhans cell histiocytosis *Ped Derm 3:75–8, 1985;* resembling cherry angiomas *Caputo p.98, 2000; Ped Derm 3:75–78, 1985*; eosinophilic granuloma

Xanthoma disseminatum *AD 127:1717–1722, 1991; AD 86:582–589, 1962*

## INFLAMMATORY DISEASES

Adiposis dolorosa

Crohn's disease, metastatic (with or without ulceration) *AD 126:645–648, 1990; JAAD 19:421–425, 1988*

Endometriosis *duVivier p.686, 2003; AD 135:1113–1118, 1999*

Hidradenitis suppurativa

Membranous fat necrosis *AD 129:1331–1336, 1993*

Neutrophilic eccrine hidradenitis *JAAD 28:775–776, 1993; JAAD 26:793–794, 797, 1992; JAAD 11:584–590, 1984*

Pilonidal cyst and sinus

Pseudolymphomatous folliculitis

Pseudosarcomatous nodular fasciitis *Cancer 49:1668–1678, 1982*

Pyoderma gangrenosum

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy; histiocytic lymphophagocytic panniculitis *AD 124:1246–1249, 1988, JAAD 18:1322–1332, 1988; Ped Derm 4:247–253, 1987;* mimicking pyogenic granuloma *Semin Diagn Pathol 7:19–73, 1990*

Sarcoid AD 120:1239–1240, 1984

## METABOLIC

Angiokeratoma corporis diffusum
- Adult type neuraminidase deficiency
- Fabry's disease
- Fucosidosis type II
- Sialidosis type II
- Late infantile galactosialidosis
- Aspartyl glycosaminuria
- Adult onset GM1 gangliosidosis
- α-*N*-acetyl galactosaminidase deficiency
- β-mannosidase deficiency
- Normal variant

Blueberry muffin baby – widespread blue, purple or red macules, papules or nodules of trunk, head and neck; may develop petechiae on surface
- Dermal erythropoiesis
  - Congenital infections
    - Rubella
    - Cytomegalovirus
    - Coxsackie $B_2$
    - Syphilis
    - Toxoplasmosis
  - Hereditary spherocytosis
  - Rh incompatibility
  - ABO blood-group incompatibility
  - Twin–twin transfusion syndrome
- Neoplastic infiltrates
  - Congenital leukemia
  - Neuroblastoma
  - Congenital rhabdomyosarcoma
- Other disorders
  - Neonatal lupus erythematosus

Calcinosis cutis – tumoral calcinosis

Gamma heavy chain disease *JAAD 23:988–991, 1990*

Gout – tophi

Primary hyperoxaluria

IgA benign monoclonal gammopathy – violaceous nodules *JAAD 21:1303–1304, 1989*

Nodular pretibial myxedema *AD 129:365–370, 1993*

Pregnancy – pyogenic granulomas; small hemangiomas *Cutis 13:82–86, 1974*

Reactive angiomatosis with cryoproteinemia *JAAD 27:969–973, 1992*

## NEOPLASTIC DISEASES

Acrospiroma (clear cell, nodular, or solid-cystic hidradenoma) *JAAD 21:271–277, 1989*

Alveolar rhabdomyosarcoma *Ped Derm 5:254–256, 1988;* neonatal tongue lesion with massive macroglossia *Soc Ped Derm Annual Meeting, July 2005*

Aneurysmal benign fibrous histiocytoma *Histopathology 26:323–331, 1995*

Angiolipoleiomyoma, periungual *JAAD 23:1093–1098, 1990*

Angioleiomyoma – digital *JAAD 29:1043–1044, 1993*

Angiomatous nevus; angiomatous nevus following radiation

Angiomatoid malignant fibrous histiocytoma *AD 121:275–276, 1985*

Angiomyxoma *JAAD 33:352–355, 1995*

Angiosarcoma including Stewart–Treves tumor *Rook p.2361–2362, 1998, Sixth Edition; Cancer 77:2400–2406, 1996; AD 124:263–268, 1988;* angiosarcoma of the face and scalp (Wilson–Jones angiosarcoma) *JAAD 38:143–175, 1998*

Apocrine adenoma

Apocrine nevus *JAAD 18:579–581, 1988*

Juvenile aponeurotic palmoplantar fibroma

Atrial myxoma *BJD 115:239–242, 1986*

Atypical fibroxanthoma *AD 135:1113–1118, 1999;* pyogenic granuloma-like lesion *AD 112:1155–1157, 1976; Cancer 31:1541–1542, 1973*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Bony exostosis

Carcinoid, primary cutaneous *JAAD 22:366–370, 1990*

Castleman's disease (giant lymph node hyperplasia) *JAAD 29:778–780, 1993*

Chondroblastoma, subungual – toe tip *Ped Derm 21:452–453, 2004*

Chondroma, solitary

Chondroid syringoma *AD 84:835–847, 1961*

Clear cell acanthoma *JAAD 16:1075–1078, 1987*

Clear cell variant of mucoepidermoid carcinoma *JAAD 29:642–644, 1993*

Cylindroma *Cutis 56:239–240, 1995*

Dermal dendrocytoma (keratotic) *AD 126:689–690, 1990*

Dermatofibroma – dermatofibroma with spreading satellitosis *JAAD 27:1017–1019, 1992*

Dermatofibrosarcoma protuberans – congenital *AD 139:207–211, 2003; Pre-AAD Pediatric Derm Meeting, March 2000*

Eccrine acrospiroma – purple nodule *Cutis 49:49–50, 1992; Ped Derm 6:53–54, 1989*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 13:139–142, 1996*

Eccrine poroma *Cutis 54:183–184, 1994*

Eccrine spiradenoma *Int J Dermatol 37:221–223, 1998; J Cut Pathol 10:312–320, 1983*

Eccrine sweat gland carcinoma *AD 122:585–590, 1986;* metastatic eccrine gland carcinom

Eccrine syringofibroadenoma *AD 126:945–949, 1990*

Embryonal rhabdomyosarcoma *Ped Derm 22:218–221, 2005*

Endometriosis – brown *JAAD 21:155, 1989*

Epidermoid inclusion cyst – ruptured or with hemorrhage

Epithelioid cell histiocytoma *BJD 120:185–195, 1989*

Epithelioid sarcoma *JAAD 26:302–305, 1992*

Erythema nodosum with B-cell lymphoma infiltrate *JAAD 32:361–363, 1995*

Fibroma

Fibrosarcoma/spindle cell sarcoma – red or violaceous nodule *Rook p.2352, 1998, Sixth Edition;* fibrosarcoma, neonatal *Soc Ped Derm Annual Meeting, July 2005; JAAD 50:S23–25, 2004*

Giant cell tumor of the tendon sheath (finger nodules) *Cancer 57:875–884, 1986*

Glomus tumor – single or multiple; malignant glomus tumor *Derm Surg 27:837–840, 2001*

Granular cell myoblastoma – benign or malignant *AD 126:1051–1056, 1990*; *AD 130:913–918, 1994*

Hemophagocytic syndrome – purple nodule *JAAD 25:919–924, 1991; AD 128:193–200, 1992*

Hibernoma – neck, axilla, central back; vascular dilatation overlying lesion *AD 73:149–157, 1956*

Indeterminate cell tumor *JAAD 15:591–597, 1986*

Infantile choriocarcinoma *JAAD 14:918–927, 1986*

Infantile myofibromatosis – resembling hemangioma *JAAD 41:508, 1999;* red nodule *Curr Prob Derm 14:41–70, 2002; Ped Derm 18:305–307, 2001; Ped Derm 8:306–309, 1991*

Juvenile xanthogranuloma *JAAD 29:868–870, 1993*

Kaposi's sarcoma *Rook p.2359, 1998, Sixth edition; Cutis 54:275–260, 1994*; of the nasal mucosa *J Laryngol Otol 112:280–282, 1998;* in Castleman's disease *JAAD 26:105–109, 1992*

Keratoacanthoma

Leiomyomas

Leiomyosarcoma *Ped Derm 14:281–283, 1997*

Leukemia cutis *JAAD 11:121–128, 1984;* granulocytic sarcoma *AD 120:1341–1343, 1984;* congenital leukemia cutis *AD 129:1301–1306, 1993*

Lipoblastoma *Ped Derm 16:77–83, 1999*

Lymphocytoma cutis

Lymphoma – cutaneous T-cell lymphoma, immunoblastoma, lymphoplasmacytic lymphoma *JAAD 16:1106–110,1987;* HTLV-1 lymphoma, Ki-1$^+$, CD8$^+$ lymphoepithelioid lymphoma *JAAD 29:871–875, 1993*; cytophagic panniculitis (B-cell lymphoma) *JAAD 13:882–885, 1985;* primary cutaneous anaplastic large cell lymphoma *BJD 150:1202–1207, 2004;* large cell lymphoma resembling sarcoid *JAAD 28:327–330, 1993;* CD 30$^+$ anaplastic large cell lymphoma *Ped Derm 21:525–533, 2004; AD 139:1075–1080, 2003;* primary cutaneous CD30$^+$ lymphoproliferative disorder (CD8$^+$/CD4$^+$) *JAAD 51:304–308, 2004;* plasmablastic lymphoma after transplant *BJD 149:889–890, 2003*

Lymphomatoid granulomatosis (angiocentric lymphoma) *AD 127:1693–1698, 1991*

Lymphomatoid papulosis

Malignant eccrine poroma

Malignant fibrous histiocytoma resembling mycetoma – vascular nodule of leg *Sem Cut Med Surg 21:159–165, 2002*; purple *JAAD 29:318–321, 1993*

Malignant histiocytosis

Malignant rhabdoid tumor *Ped Derm 13:468–471, 1997*

Malignant synovioma

Melanocytic nevi – giant congenital melanocytic nevi with proliferative nodules *AD 140:83–88, 2004*

Melanoma – primary cutaneous; amelanotic melanoma *Rook p.1743–1746, 1998, Sixth Edition; Semin Oncol 2:5–118, 1975;* amelanotic subungual melanoma mimicking pyogenic granuloma *J R Coll surg Edinb 47:638–640, 2002;* metastatic melanoma *Cutis 69:353–356, 2002*

Merkel cell tumor *AD 140:609–614, 2004; JAAD 31:271–272, 1994; AD 127:571–576, 1991*; *AD 123:1368–1370, 1987;* mimicking angiosarcoma; eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.101, 1999*

Metastases – renal cell (purple) *Derm Surg 27:192–194, 2001;* oat cell carcinoma, anaplastic carcinoma, carcinoid, GI tract, retinoblastoma, Ewing's sarcoma, neuroblastoma, and leukemia cutis, thyroid, bronchogenic carcinoma *AD 126:665–670, 1990*; others *AD 127:571, 1991*; prostate *AD 128:1533–1538, 1992; J Urol 113:734–735, 1975*; testicular choriocarcinoma *Cutis 67:117–120, 2001;* Sister Mary Joseph nodule (umbilical metastatic carcinoma) *JAAD 10:610–615, 1984;* endometrial carcinoma

Multinucleate cell angiohistiocytoma *Cutis 59:190–192, 1997*

Multiple neurilemmomatosis *JAAD 10:744–754, 1984*

Myelodysplastic syndrome – subcutaneous eosinophilic necrosis with myelodysplastic syndrome *JAAD 20:320–323, 1989*

Myelofibrosis – extramedullary hematopoiesis *JAAD 32:805, 1995; JAAD 22:334–337, 1990; AD 112:1302–1303, 1976*

Myeloma *Ann DV 128:753–755, 2001;* extramedullary plasmacytoma in myeloma *AD 127:69–74, 1991*

Myofibroma *Textbook of Neonatal Dermatology, p.397, 2001*

Myxoid cyst

Neural hamartoma

Neurilemmoma (Schwannoma) – pink or vascular nodule of the foot *Cutis 67:127–129, 2001*

Neuroblastoma, metastatic *Dermatol Therapy 18:104–116, 2005; JAAD 24:1025–1027, 1991*

Neurothekoma *JAAD 25:80–88, 1991; AD 129:1505–1510, 1993, Ped Derm 9:272–274, 1992*

Neurovascular hamartoma – marker for renal tumors

Nodular hidradenoma (clear cell hidradenoma, eccrine acrospiroma, clear cell myoepithelioma) *AD 136:1409–1414, 2000*

Non-X histiocytosis *AD 124:1254–1257, 1988*

Osteosarcoma – primary cutaneous osteosarcoma *JAAD 51:S94–96, 2004*

Pilomatrixoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.71, 1999 Cutis 50:290–292, 1995* including perforating pilomatrixoma (draining nodule) *Cutis 44:130–132, 1989; JAAD 35:116–118, 1996*; proliferating trichilemmal tumor

Plasmacytoma – simulates hemangioma *Arch Pathol Lab Med 124:628–631, 2000;* eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.133, 1999; JAAD 19:879–890, 1988*

Plexiform fibrohistiocytic tumor *AD 131:211–216, 1995*

Plexiform neurofibroma

Porocarcinoma *AD 136:1409–1414, 2000*

Progressive nodular histiocytosis *Ped Derm 10:64–68, 1993*

Proliferating trichilemmal cyst *Cancer 48:1207–1214, 1981*

Reticulohistiocytoma, solitary *AD 126:665–670, 1990*

Reticulohistiocytoma of the dorsum (Crosti's syndrome) – red nodule; low grade B-cell lymphoma

Rhabdomyosarcoma *Curr Prob Derm 14:41–70, 2002; Textbook of Neonatal Dermatology, p.441, 2001;* congenital *Ped Derm 20:335–338, 2003*

Sebaceous adenoma in AIDS *AD 124:489–490, 1988*

Sebaceous epithelioma

Sebaceous gland carcinoma – ulcerated violaceous nodule *AD 137:1367–1372, 2001; Nippon Ganka Gakkai Zasshi 104:740–745, 2000*

Seborrheic keratosis, irritated

Self-healing reticulohistiocytosis *JAAD 48:S75–77, 2003; JAAD 13:383–404, 1985*

Spitz nevi, including Spitz nevi mimicking pyogenic granulomas in black children *JAAD 23:842–845, 1990*

Squamous cell carcinoma *Rook p.1689–1690, 1998, Sixth Edition*

Verrucous carcinoma *JAAD 32:1–21, 1995*

Xanthogranuloma – vascular nodule of sole *AD 135:707–712, 1999*

## PARANEOPLASTIC

Cytophagic histiocytic panniculitis – associated with malignant histiocytic syndromes *AD 121:910–913, 1985*

Granulomatous vasculitis with lymphocytic lymphoma *JAAD 14:492–501, 1986*

Neutrophilic dermatosis in chronic myelogenous leukemia *JAAD 29:290–292, 1993*

## PRIMARY CUTANEOUS DISEASES

Acne conglobata

Acne fulminans

Acne keloidalis

Acne rosacea

Acne vulgaris

Angiolymphoid hyperplasia with eosinophilia *Cutis 44:147–150, 1989; JAAD 12:781–796, 1985*

Endosalpingosis – ectopic fallopian tube epithelium; umbilical nodule *BJD 151:924–925, 2004*

Erythema elevatum diutinum *JAAD 49:764–767, 2003; AD 129:1043–148, 1993*

Granuloma faciale

Granuloma gluteale infantum *Ped Derm 7:196–198, 1990*

Lichen planus

Membranous lipodystrophy *JAAD 24:844–847, 1991*

MOTT *JAAD 24:208–215, 1991*

Progressive nodular fibrosis of the skin *JID 87:210–216, 1986*

Prurigo nodularis

## SYNDROMES

Antiphospholipid antibody syndrome *AD 128:847–852, 1992*

Bannayan–Riley–Ruvalcaba–Zonana syndrome – hemangiomas, genital hyperpigmentation, supernumerary nipples *AD 132:1214–1218, 1996; Am J Med Genet 44:307–314, 1992*

Beckwith–Wiedemann syndrome – hemangiomas; diagonal linear grooves of the ear lobes, preauricular tags or pits, nevus flammeus of central forehead and upper eyelids, macroglossia, macrosomia, omphalocele or other umbilical anomalies *Syndromes of the Head and Neck 1990:323–328*

Behçet's syndrome – erythema nodosum-like lesions

Blue rubber bleb nevus syndrome – vascular malformation *AD 116:924–929, 1996;* with phlebectasias *Ped Derm 3:304–310, 1986*

C syndrome – hemangiomas *Birth Defects 5:161–166, 1969*

Cardio-facio-cutaneous syndrome (Noonan-like short stature syndrome) (NS) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophyrogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 22:920–922, 1990; JAAD 28:815–819, 1993; AD 129:46–47, 1993;* port wine stain *Clin Genet 42:206–209, 1992*

Classic arthrogryphosis:amyoplasia – extensive proliferative hemangioma of the face

Congenital generalized fibromatosis *JAAD 10:365–371, 1984*

Cowden's syndrome (multiple hamartoma syndrome) – angiomas *JAAD 17:342–346, 1987*

Edward's syndrome (trisomy 18) – capillary hemangiomas *J Med Genet 15:48–60, 1978*

Epidermal nevus syndrome – hemangiomas *Ped Derm 6:316–320, 1989*

Fetal alcohol syndrome – short stature, angiomas, hypertrichosis *JAAD 46:161–183, 2002; Ped Derm 11:178–180, 1994*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Gorham's syndrome (hemangiomas with osteolysis) (disappearing bone disease) – cutaneous vascular lesions with replacement of bone by venous malformations *Am J Dis Child 132:715–716, 1978; AD 92:501–508, 1965;* with Kasabach–Merritt syndrome *JAAD 29:117–119, 1993*

Hemangiomas of the face and anterior trunk associated with sternal clefting, median abdominal raphe (sternal malformation vascular dysplasia syndrome) *Ped Derm 10:71–76, 1993; Am J Med Genet 21:177–186, 1985*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu syndrome) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987; NEJM 257:105–109, 1957*

Hereditary neurocutaneous angioma (vascular malformations) – hemangiomas, macular vascular anomalies; intracranial arteriovenous malformations *Clin Genet 33:44–48, 1988*

Hereditary phlebectasia of the lips

Hypomelia, hypotrichosis, facial hemangioma syndrome (pseudothalidomide syndrome) – sparse silvery blond hair *Am J Dis Child 123:602–606, 1972*

Infantile hemangiomatosis

Kassabach–Merritt syndrome – associated with Kaposiform hemangioendothelioma or tufted angioma; enlargement, tenderness, induration, and ecchymosis occur within the vascular lesion; consumptive coagulopathy with hemorrhage *Ped Derm 11:79–81, 1994*

Klippel–Trenaunay–Weber syndrome *Rook p.586, 1998, Sixth Edition; Clin Exp Derm 12:12–17, 1987*

Lipoid proteinosis

Lumbosacral hemangiomas, tethered cord and multiple congenital anomalies (occult spinal dysraphism) *Pediatrics 83:977–980, 1989; AD 122:684–687, 1986;* sacral hemangiomas, imperforate anus, genitourinary developmental defects *AD 122:684–687, 1986*

Macrocephaly with cutis marmorata, hemangioma, and syndactyly syndrome – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydrocephalus *Ped Derm 16:235–237, 1999; Clin Dysmorphol 6:291–302, 1997*

Maffucci's syndrome – enchondromas and hemangiomas *Ped Derm 12:55–58, 1995; BJD 96:317–322, 1977*

Melorheostosis – cutaneous lesions resemble linear morphea overlying bony lesions (endosteal bony densities resembling candle wax) with angiomas and arteriovenous abnormalities *J Bone and Joint Surg 61:415–418, 1979; BJD 86:297–301, 1972*

Muir–Torre syndrome

Multiple cutaneous hemangiomas, right aortic arch, and coarctation of the aorta

Neurofibromatosis *Neurofibromatosis 1:137–145, 1988*

Ollier's syndrome – enchondromas only *J Neurol 235:376–378, 1988*

Pallister–Hall syndrome – hemangiomas *Am J Med Genet 7:75–83, 1980*

Patau syndrome (trisomy 13) – hemangiomas of forehead; localized scalp defects *G Ital DV 121:25–28, 1986; J Genet Hum 23:83–109, 1975*

PHACES syndrome – posterior fossa malformation (Dandy–Walker malformation), large facial hemangiomas, arterial anomalies, coarctation of the aorta and other cardiac defects (atrial septal defect), eye abnormalities, sternal clefting or supraumbilical raphe *J Pediatr 139:117–123, 2001; AD 132:307–311, 1996; J Pediatr 122:379–384, 1993; Ped Derm 5:263–265, 1988*

Phakomatosis pigmentovascularis type IV A *AD 121:651–5, 1985*

POEMS syndrome – cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, morphea-like changes, maculopapular brown–violaceous lesions, purple nodules *JAAD 44:324–329, 2001, JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985, AD 124:695–698, 1988, Cutis 61:329–334, 1998; JAAD 40:808–812, 1999;* glomeruloid hemangioma – lesion of multicentric Castleman's disease associated with POEMS syndrome; intralesional protein deposits *BJD 148:1276–1278, 2003; Am J Surg Pathol 14:1036–1046, 1990*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *AD 140:947–953, 2004; Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *JAAD 25:377–383, 1991; Pediatrics 76:984–989, 1985; Am J Med Genet 27:87–97, 1987; Eur J Pediatr 140:5–12, 1983*

Reflex sympathetic dystrophy – pseudo-Kaposi's sarcoma *Cutis 68:179–182, 2001*

Roberts pseudothalidomide syndrome – superficial capillary hemangiomas of the midface, forehead, ears *Prog Clin Biol Res 104:351–356, 1982*

Rubinstein–Taybi syndrome – multiple hemangiomas; hypogonadotropic hypogonadism; autosomal dominant; mutations or deletions of chromosome 16p13.3; human cAMP

response element binding protein *Ped Derm 21:44–47, 2004; JAAD 46:161–183, 2002; JAAD 46:159, 2002*

Sweet's syndrome; with septal granulomatous or neutrophilic lobular panniculitis *AD 121:785–788, 1985*

Thrombocytopenia-absent radius syndrome (TAR syndrome) – extensive proliferative hemangioma of the face

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – hemangiomas, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Partial trisomy 2P – hemangiomas *Rook p.2812, 1998, Sixth Edition*

Tuberous sclerosis – angiofibromas *Syndromes of the Head and Neck, p.410–415, 1990*

Von Hippel–Lindau syndrome – hemangiomas *Rook p.2710, 1998, Sixth Edition*

X-linked hyper-IgM syndrome treated with G-CSF – disseminated pyogenic granulomas *JAAD 49:105–108, 2003*

XXYY syndrome – features of Klinefelter's; sparse body hair; also multiple angiomas, acrocyanosis, and premature peripheral vascular disease *AD 94:695–698, 1966*

## TRAUMA

Chondrodermatitis nodularis chronicus helicis

Fiddler's neck *JAAD 22:657–663, 1990*

Nose piercing with pyogenic granuloma *Rook p.925, 1998, Sixth Edition*

Perniosis

Picker's papule

Pseudo-Kaposi's sarcoma in reflex sympathetic dystrophy *JAAD 22:513–520, 1990*

## VASCULAR

Acral pseudolymphomatous angiokeratoma of children (APACHE) – unilateral multiple persistent vascular papules on hands and feet; may have keratotic surface or collar *JAAD 38:143–175, 1998; BJD 124:387–388, 1991; AD 126:1524–1525, 1990*

Acroangiodermatitis of Mali *JAAD 37:887–920, 1997*; *Int J Dermatol 33:179–183, 1994;* due to A-V shunts *JAAD 21:499–505, 1989; Arch Derm Res 281:35–39, 1989; AD 110:907, 1974; AD 111:1656, 1975; AD 100:297, 1969;* associated with chronic venous insufficiency *AD 96:176, 1967; AD 92:515, 1965*

Angiokeratoma – circumscriptum; angiokeratoma of Fordyce; Mibelli – acral vascular papules *JAAD 45:764–766, 2001;* solitary papular, of scrotum or vulva; angiokeratoma corporis diffusum (Fabry's disease (α-galactosidase A) *NEJM 276:1163–1167, 1967;* fucosidosis ($\alpha_1$-fucosidase) – autosomal recessive *Rook p.2639, 1998, Sixth Edition; AD 107:754–757, 1973;* Kanzaki's disease (α-*N*-acetylgalactosidase) – lesions on face and extremities *AD 129:460–465, 1993*; β-mannosidase deficiency; neuraminidase deficiency (sialidosis) *Ghatan p.124, 2002, Second Edition;* aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991;* adult-onset GM1 gangliosidosis (β-galactosidase) *Clin Genet 17:21–26, 1980;* galactosialidosis (combined β-galactosidase and sialidase) *AD 120:1344–1346, 1984;* no enzyme deficiency *AD 123:1125–1127, 1987; JAAD 12:885–886, 1985*) – telangiectasias or small angiokeratomas; and arteriovenous fistulae without metabolic disorders – papules *AD 131:57–62, 1995*

Angiolymphoid hyperplasia with eosinophilia (Kimura's disease) – papules and/or nodules along hairline *AD 136:837–839, 2000; JAAD 38:143–175, 1998; JAAD 12:781–796, 1985*

Arteriovenous aneurysms

Arteriovenous fistula with venous hypertension and pseudo-Kaposi's sarcoma *Rook p.2731, 1998, Sixth Edition; Clin Exp Dermatol 14:289–290, 1989*

Arteriovenous hemangioma (cirsoid aneurysm or acral arteriovenous tumor) – associated with chronic liver disease *BJD 144:604–609, 2001*

Arteriovenous malformation

Benign (reactive) angioendotheliomatosis (benign lymphangioendothelioma, acquired progressive lymphangioma, multifocal lymphangioendotheliomatosis) – present at birth; red brown or violaceous nodules or plaques on face, arms, legs with petechiae, ecchymoses, and small areas of necrosis *AD 140:599–606, 2004; JAAD 38:143–175, 1998; AD 114:1512, 1978*

Bossed hemangioma with telangiectasia and peripheral pallor *AD 134:1145–1150, 1998*

Cherry angiomas (Campbell de Morgan spots) *Rook p.2092, 1998, Sixth Edition*

Churg–Strauss disease

Congenital infiltrating giant cell angioblastoma *JAAD 37:887–920, 1997*

Congenital non-progressive hemangiomas – blue nodules *AD 137:1607–1620, 2001*

Deep vein thrombosis

Endovascular papillary angioendothelioma (Dabska's tumor) – vascular nodule *JAAD 38:143–175, 1998*

Epithelioid angiosarcoma – legs – resembles angiosarcoma *JAAD 38:143–175, 1998*

Epithelioid hemangioendothelioma *JAAD 20:362–366, 1989*

Eruptive pseudoangiomatosis – red papules *Ped Derm 19:243–245, 2002; BJD 143:435–438, 2000; JAAD 29:857–859, 1993*

Erythema induratum

Extravascular papillary angioendothelioma *Ped Derm 4:332–335, 1987*

Exuberant granulation tissue

Familial cutaneo-cerebral capillary malformations – hyperkeratotic cutaneous vascular malformations *Hum Mol Genet 9:1351–1355, 2000; Ann Neurol 45:250–254, 1999*

Familial multiple mucocutaneous venous malformations *Hum Mol Genet 8:1279–1289, 199: Cell 87:1181–1190, 1996*

Glomangiomyoma – congenital multiple plaque-like glomangiomyoma *Am J Dermatopathol 21:454–457, 1999*

Glomus tumor, solitary – painful pink, purple nodule *Rook p.2357, 1998, Sixth Edition;* multiple or plaque type; hemi-facial *JAAD 45:239–245, 2001; Ped Derm 18:223–226, 2001; AD 127:1717–1722, 1991*

Hemangioendothelioma

Hemangioma, proliferative, thrombosed; hemangioma of lower lateral cheek associated with airway obstruction; large facial hemangiomas of PHACES syndrome; sacral hemangiomas associated with spinal dysraphism; benign neonatal

hemangiomatosis, disseminated neonatal hemangiomatosis *JAAD 48:477–493, 2003*
  Differential diagnosis of hemangioma of infancy *JAAD 48:477–493, 2003*
    Arteriovenous malformation
    Capillary malformation
    Dermatofibrosarcoma protuberans
    Encephalocoele
    Fibrosarcoma
    Giant cell fibroblastoma
    Kaposiform hemangioendothelioma
    Lipoblastoma
    Lymphatic malformation
    Myofibromatosis
    Nasal glioma
    Neurofibroma
    Non-involuting congenital hemangioma
    Pyogenic granuloma
    Rapidly involuting congenital hemangioma
    Rhabdomyosarcoma
    Spindle cell hemangioendothelioma
    Tufted angioma
    Venous malformation

Hemangiopericytoma *AD 116:806, 1980*; familial *Cancer 61:841–844, 1988*

Hemolymphangioma

Histiocytoid hemangioma *Dermatology 189:87–89, 1994*

Hobnail hemangioma – vascular papules of the nose *BJD 146:162–164, 2002*

Intravascular papular endothelial hyperplasia (Masson's intravascular papillary endothelial hyperplasia (pseudoangiosarcoma)) – red or purple papules and nodules of the legs *Cutis 59:148–150, 1997; JAAD 10:110–113, 1984*

Kaposiform hemangioendothelioma of infancy – red plaque or nodule with ecchymotic or purpuric border *Ped Derm 19:388–393, 2002; JAAD 38:799–802, 1998; AD 133:1573–1578, 1997*

Lichen aureus

Lymphangioendothelioma (red macules and plaques) *J Cut Pathol 19:502–505, 1992*

Lymphangioma circumscriptum

Lymphangiosarcoma

Lymphangiosarcoma of Stewart–Treves

Lymphostasis verrucosa cutis – Milroy's, etc

Malignant angioendotheliomatosis (intravascular malignant lymphoma) – red to purple nodules and plaques on trunk and extremites with prominent telangiectasias overlying the lesion *JAAD 18:407, 1988; JAAD 38:143–175, 1998; AD 104:320, 1971; AD 84:22, 1961*

Microvenular hemangioma *AD 131:483–488, 1995*

Multifocal lymphangioendotheliomatosis – congenital appearance of hundreds of flat vascular papules and plaques associated with gastrointestinal bleeding, thrombocytopenia with bone and joint involvement; spontaneous resolution *J Pediatr Orthop 24:87–91, 2004*

Multinucleate cell angiohistiocytoma – red to purple dome-shaped 2–15-mm vascular papules, grouped on hands, wrists, and thighs; mimics Kaposi's sarcoma *AD 139:933–938, 2003; JAAD 38:143–175, 1998*

Non-involuting congenital hemangioma (NICH) – warm high-flow lesion with coarse telangiectasias over surface; less commonly ulcerated *Plast Reconstr Surg 107:1647–1654, 2001*

Papular angioplasia *AD 79:17–31, 1959*

Progressive lymphangioma

Polyarteritis nodosa, including cutaneous PAN *AD 130:884–889, 1994*

Port wine stain – may be associated with underlying vascular malformation; or have pyogenic granuloma, angiokeratoma, arteriovenous malformation, or angiosarcoma develop within it *BJD 144:644–645, 2001; Rook p.570, 1998, Sixth Edition; AD 120:1453–1455, 1984*

Progressive multiple angioma *Acta DV 31:304–307, 1951*

Pseudo-Kaposi's sarcoma – Bluefarb–Stewart syndrome *Caputo p.69, 2000; JAAD 37:887–920, 1997;* after A-V shunt *JAAD 21:499–505, 1989; Arch Dermatol Res 281:35–39, 1989;* pseudo-Kaposi's sarcoma – due to acquired arteriovenous fistula *J Dermatol 24:28–33, 1997*

Pseudoangiosarcoma

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition;* disseminated pyogenic granulomas after exfoliative erythroderma *JAAD 32:280–282, 1995;* eruptive pyogenic granulomas *JAAD 21:391–394, 1989; Acta DV 50:134–136, 1970;* due to trauma, retinoids *J Dermatol Treat 1:151–154, 1990;* after burn and hypogammaglobulinemia *BJD 98:461–465, 1978;* cyclosporine *BJD 132:829–830, 1995;* alcoholic cirrhosis *Am J Dermatopathol 8:379–385, 1986*

Rapidly involuting congenital hemangioma (RICH) – palpable tumor with pale rim, coarse overlying telangiectasia with central depression or ulcer *Ped Dev Pathol 6:495–510, 2003; Ped Derm 19:5–11, 2002*

Reactive diffuse dermal angioendotheliomatosis *JAAD 45:601–605, 2001*

Retiform hemangioendothelioma – *JAAD 42:290–292, 2000;* red plaque of scalp, arms, legs, and penis *JAAD 38:143–175, 1998*

Self-healing pseudoangiosarcoma *AD 124:695–698, 1988*

Spindle cell hemangioendotheliomas *Cutis 62:23–26, 1998*

Subungual vascular nodules
  Glomus tumor
  Pyogenic granuloma
  Angiomatous nevus

Superficial spreading capillary hemangioma

Takayasu's arteritis – erythema nodosum or pyoderma gangrenosum *AD 123:796–800, 1987;* Churg–Strauss granuloma in Takayasu's arteritis *JAAD 17:998–1005, 1987*

Targetoid hemosiderotic hemangioma – brown to violaceous nodule with ecchymotic halo *AD 138:117–122, 2002; AD 136:1571–1572, 2000; J Cutan Pathol 26:279–286, 1999; JAAD 32:282–284, 1995; JAAD 41:215–224, 1999*

Superficial migratory thrombophlebitis

Thrombosed capillary aneurysm

Tufted angioma *Ped Derm 19:388–393, 2002; JAAD 20:214–225, 1989; Am J Dermatopathol 9:299–300, 1987*

Varicocele *Rook p.2256, 1998, Sixth Edition*

Vasculitis – small, medium or large vessel vasculitis

Vascular malformation

Venous lake

Verrucous hemangioma *Ped Derm 17:213–217, 2000; AD 132:703–708, 1996; Int J Surg Pathol 2:171–176, 1995; J Derm Surg Oncol 13:1089–1092, 1987; Ped Derm 2:191–193, 1985; AD 96:247–253, 1967;* linear *JAAD 42:516–518, 2000*

## NO FINGERPRINT SYNDROMES

***JAAD 50:782, 2004***

AEC syndrome

Baird syndrome – absence of dermatoglyphics

Basan's syndrome

Dermatopathia pigmentosa reticularis

Epidermolysis bullosa progressiva (Ogna Gedde-Dahl) – autosomal recessive; delayed onset; bullae with surrounding atrophic (cigarette paper) wrinkled skin, absent nail plates, palmoplantar keratoderma, absent dermal finger ridges, tooth and enamel defects *JAAD 16:195–200, 1987*

Jorgenson's syndrome

Naegeli–Franceschetti–Jadassohn syndrome

Rapp–Hodgkin syndrome

X-linked hypohidrotic ectodermal dysplasia

# NORMAL SKIN/BARELY PERCEPTIBLE PLAQUE

## INFECTIONS AND INFESTATIONS

Dental sinus, quiescent

Leprosy bonita *JAAD 42:324–328, 2000*

Lichen scrofulosorum

Morphea

Syphilis – macular syphilid in dark-skinned persons

Tinea incognito

Verruca plana

## INFILTRATIVE DISEASES

Amyloidosis

Amyloid elastosis *JAAD 42:324–328, 2000*

Papular mucinosis

Pretibial myxedema

Solitary mucinosis

## INFLAMMATORY DISEASES

Sarcoid *JAAD 42:324–328, 2000*

## METABOLIC

Erythropoietic protoporphyria

Myxedema

Nephrogenic fibrosing dermopathy *BJD 152:531–536, 2005*

Pretibial myxedema *JAAD 42:324–328, 2000*

Xanthomas – plane xanthomas

## NEOPLASTIC DISEASES

Acne-free nevus – region of normal skin in patient with severe acne *BJD 96:287–290, 1977*

Connective tissue nevus

Eruptive vellus hair cysts

Hamartoma moniliformis

Lymphoma – cutaneous T-cell lymphoma – normal skin with pruritus *JAAD 47:S168–171, 2002; JAAD 42:324–328, 2000; JAAD 16:61–74, 1987*

Syringomas

Trichodiscoma

## NORMAL VARIANTS

Juxtaclavicular beaded lines

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis

Futcher's lines – pigmentary line of demarcation

Idiopathic unilateral circumscribed hyperhidrosis *AD 137:1241–1246, 2001; Ped Derm 17:25–28, 2000*

Lichen nitidus

Lichen planus *JAAD 42:324–328, 2000;* Graham–Little syndrome (lichen planopilaris)

Linea alba

Linea nigra

Perifollicular elastolysis

Pseudoxanthoma elasticum-like papillary dermal elastolysis *AD 136:791–796, 2000; JAAD 26:648–650, 1992*

Scleredema adultorum

Vulvodynia (vulvar vestibulitis) *Dermatologic Clin 10:435–444, 1992*

White fibrous papulosis of the neck *JAAD 20:1073–1077,1989*

## SYNDROMES

Buschke–Ollendorf syndrome

Ehlers–Danlos syndrome

Hunter syndrome

Proctalgia fugax (chronic idiopathic anal pain, coccygodynia) *J R Soc Med 75:96–101, 1982*

Pseudoxanthoma elasticum *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*

Red scrotum syndrome *BJD 104:611–619, 1981*

Tuberous sclerosis – hypopigmentation

## TOXINS

Eosinophilia myalgia syndrome

## VASCULAR

Angiokeratoma

Glomus tumor

# ONYCHOLYSIS

***JAAD 112:552–560, 1985***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – nail polish, acrylic cements *Eur J Dermatol 10:223–225, 2000; Int J Dermatol 37:31–36, 1998;* hydroxylamine in color developer *Contact Derm 24:158, 1991;* formaldehyde nail hardeners *Rook p.2867, 1998, Sixth Edition;* tulips *Cutis 71:347–348, 2003*

Alopecia areata

Lupus erythematosus, systemic

Pemphigus vulgaris

Scleroderma *Ghatan p.83, 2002, Second Edition*

## DRUG-INDUCED

Acridine *Rook p.3396, 1998, Sixth Edition*

Adriamycin *Rook p.3396, 1998, Sixth Edition*

Bleomycin *Rook p.3396, 1998, Sixth Edition*

Captopril *Ann Intern Med 105:305–306, 1986*

Capecitabine *Cutis 72:234–236, 2003; BJD 145:521–522, 2001*

Cephaloridine *Rook p.3396, 1998, Sixth Edition*

Chloramphenicol *Rook p.3396, 1998, Sixth Edition*

Chlorazepate dipotassium

Cloxacillin *Rook p.3396, 1998, Sixth Edition*

Cyclophosphamide *Cutis 71:229–232, 2003*

Demethylchlortetracycline *Rook p.3396, 1998, Sixth Edition*

Docataxel *Cutis 71:229–232, 2003*

Doxorubicin *AD 126:1244, 1990*

Doxycycline *Rook p.3396, 1998, Sixth Edition*

Etoposide *JAAD 40:367–398, 1999; Gynecol Oncol 57:436, 1995*

5-fluorouracil, topical *Acta DV 52:320–322, 1972*

Fluoroquinolones *Rook p.3396, 1998, Sixth Edition*

Hydroxyurea *Cutis 71:229–232, 2003*

Indomethacin *Textbook of Neonatal Dermatology, p.512, 2001*

Mercaptopurine

Methotrexate *AD 123:990–992, 1987*

Minocycline *Rook p.3396, 1998, Sixth Edition*

Mitozantrone *Clin Exp Dermatol 20:459–461, 1995*

Mycophenylate *Ann Intern Med 133:921–922, 2000*

Oral contraceptives (norethindrone and mestranol) *Rook p.3396, 1998, Sixth Edition*

Paclitaxel *Cutis 71:229–232, 2003; Cancer 88:2367–2371, 2000*

Phenothiazines *Rook p.3396, 1998, Sixth Edition*

Photo-onycholysis – psoralens, demethylchlortetracyline, doxycyline *JAAD 33:551–73, 1995;* including benoxaprofen, chlorpromazine, chloramphenicol, cephaloridine, clorazepate dipotassium *JAAD 21:1304–1305, 1989;* cloxacillin, fluoroquinolones, PUVA *Photodermatol 1:202–203, 1984;* quinine *Clin Exp Dermatol 14:335, 1989;* tetracycline *Cutis 23:657–658, 1979;* thiazide diuretics, trypaflavine

Practolol *Rook p.3396, 1998, Sixth Edition*

Psoralens *Rook p.3396, 1998, Sixth Edition*

Quinine

Retinoids *Rook p.3396, 1998, Sixth Edition*

Sodium valproate *Eur Neurol 42:64–65, 1999*

Sulfonamides *Rook p.3396, 1998, Sixth Edition*

Taxol

Tetracycline – photo-onycholysis *Rook p.3396, 1998, Sixth Edition*

Thiazides *Rook p.3396, 1998, Sixth Edition*

Vincristine *Cutis 71:229–232, 2003*

## EXOGENOUS AGENTS

Irritant contact dermatitis *Rook p.2825, 1998, Sixth Edition*

Hair cosmetics

Nail cosmetics

Subungual trichogranuloma

Water exposure (soap and water)

Weed killers *Ghatan p.82, 2002, Second Edition*

## INFECTIONS AND INFESTATIONS

*Candida*

Dermatophyte infection – *Trichophyton rubrum*, *T. mentagrophytes*; *T. violaceum BJD 144:212–213, 2001*

Herpes zoster

Leprosy

Onychomycosis

Paronychia

Poliomyelitis *Ghatan p.82, 2002, Second Edition*

*Pseudomonas*

Syphilis – secondary, tertiary

Verrucae vulgaris *Rook p.2845, 1998, Sixth Edition*

## INFILTRATIVE DISORDERS

Amyloidosis *Ghatan p.83, 2002, Second Edition*

Langerhans cell histiocytosis *BJD 130:523–527, 1994; AD 120:1052–1056, 1984*

## INFLAMMATORY DISEASES

Neuritis

Sarcoidosis *BJD 135:340, 1996*

## METABOLIC DISORDERS

Erythropoietic porphyria *Ghatan p.83, 2002, Second Edition*

Erythropoietic protoporphyria photoonycholysis *Proc R Soc Med 70:572–574, 1977*

Iron deficiency anemia

Pellagra

Porphyria cutanea tarda – induced by birth control pills *Postgrad Med J 52:535–538, 1976*

Pregnancy *Ghatan p.83, 2002, Second Edition*

Scurvy *Ghatan p.83, 2002, Second Edition*

Thyroid disease – hyper- or hypothyroidism *Thyroid 11:707, 2001*

## NEOPLASTIC DISORDERS

Bowen's disease *AD 130:204–209, 1994*

Lymphoma – cutaneous T-cell lymphoma

Metastases – distal phalangeal metastases of chondrosarcoma *Clin Exp Dermatol 17:463–465, 1992*

Myeloma *Ghatan p.83, 2002, Second Edition*

Squamous cell carcinoma *J Derm Surg Oncol 8:853–855, 1982*

## PARANEOPLASTIC DISORDERS

Carcinoma of the lung *Clin Exp Dermatol 21:244, 1996; JAMA 238:1246–1247, 1977*

## PHOTODERMATOSES

Chronic actinic dermatitis (actinic reticuloid)

Drug-induced photodermatoses

### PRIMARY CUTANEOUS DISEASES

Alopecia areata *Ghatan p.83, 2002, Second Edition*

Atopic dermatitis

Epidermolysis bullosa *Textbook of Neonatal Dermatology, p.512, 2001*

Hand dermatitis

Hereditary distal onycholysis *Clin Exp Dermatol 15:146–148, 1990*

Hyperhidrosis

Lichen planus

Lichen striatus

Palmoplantar pustulosis *BJD 134:1079–1080, 1996*

Primary onycholysis (idiopathic)

Pseudoporphyria – hemodialysis-related *Ann DV 117:723–725, 1990*

Psoriasis, including pustular psoriasis *Acta DV 80:209, 2000*

### PSYCHOCUTANEOUS DISEASES

Factitial *Ghatan p.82, 2002, Second Edition*

### SYNDROMES

Amelo-onychohypohidrotic dysplasia (amelogenesis imperfecta and terminal onycholysis) *Oral Surg 39:71086, 1975*

Cronkhite–Canada syndrome *Ghatan p.83, 2002, Second Edition*

Hereditary onychodysplasia of the fifth toenails

Hereditary partial onycholysis associated with hard nails *Dermatol Wochenschr 152:766–768, 1966*

Hidrotic ectodermal dysplasia *Ghatan p.83, 2002, Second Edition; Textbook of Neonatal Dermatology, p.512, 2001*

Leuko-onycholysis paradentotica (Schuppli syndrome)

Leprechaunism *Textbook of Neonatal Dermatology, p.512, 2001*

Multicentric reticulohistiocytosis

Naegeli–Franceschetti–Jadassohn syndrome

Pachyonychia congenita

Partial hereditary onycholysis with scleronychia *Textbook of Neonatal Dermatology, p.512, 2001*

Periodic shedding of the nails *Textbook of Neonatal Dermatology, p.512, 2001*

Reiter's syndrome

Shell–nail syndrome – clubbing with atrophy of underlying bone and nail bed *AD 96:694–695, 1967*

Yellow nail syndrome – bronchiectasis

### TRAUMA

Microwaves

Physical trauma – overzealous manicure, water, occupational, leisure activities *Rook p.2825, 1998*

Pressure onycholysis – slaughterhouse workers *Acta DV Suppl 120:88–89, 1985*

Thermal injury *Textbook of Neonatal Dermatology, p.512, 2001*

### VASCULAR DISEASES

Peripheral vascular disease with ischemia

Raynaud's disease *Ghatan p.83, 2002, Second Edition*

## ORAL MUCOSA, BLUE PIGMENTATION

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Systemic lupus erythematosus

### DRUG-INDUCED

Antimalarials *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:189–194, 2000;* amodiaquin – blue–black *Rook p.3105, 1998, Sixth Edition*

Argyria

Arsenic

Bismuth *AD 129:474–476, 1993*

Clofazimine *JAAD 17:867–871, 1987*

Doxorubicin

Estrogen *Cutis 48:61–64, 1991*

Gold

Hydroxychloroquine

Minocycline – blue–gray staining of gingiva *Rook p.3056,3105, 1998, Sixth Edition*

Quinidine *AD 122:1062–1064, 1986*

Steroid atrophy

### EXOGENOUS AGENTS

Amalgam tattoo *Quintessence Int 23:805–810, 1992; Oral Surg 49:139–147, 1980*

Graphite tattoo *Oral Surg 62:73–76, 1986*

Lead intoxication *AD 129:474–476, 1993*

Mercury intoxication *AD 122:1062–1064, 1986*

Tattoo – metal tattoo from dental instruments

### METABOLIC

Addison's disease *Ped Derm 9:123–125, 1992*

Hemochromatosis

Ochronosis

### NEOPLASTIC

Blue nevus *Oral Surg Oral Med Oral Pathol 49:55–62, 1980*

Kaposi's sarcoma *Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Lentigo maligna

Leukemia – chloroma *AD 123:251–256, 1987*

Lymphoma

Melanocytic nevi *J Oral Pathol Med 19:197–201, 1990*

Melanoma *Oral Oncol 36:152–169, 2000; Oral Surg Oral Med Oral Pathol 36:701–706, 1973*; diffuse melanosis of metastatic melanoma

Melanotic neuroectodermal tumor of infancy (odontoameloblastoma) – pigmented oral mass of early infancy – blue or black *Acta Pathol Jpn 39:465–468, 1989; Cancer 22:151–161, 1968*

Mucocele *Rook p.3111, 1998, Sixth Edition*

Mucocele of sublingual gland (ranula)

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *Rook p.1731, 1998, Sixth Edition; BJD 67:317–319, 1955*

Oral cyst *Rook p.3110, 1998, Sixth Edition*

### PRIMARY CUTANEOUS DISEASES

Lichen sclerosus et atrophicus – bluish–white plaques of mouth *Rook p.2549–2551, 1998, Sixth Edition*

### SYNDROMES

Albright's syndrome

Blue rubber bleb nevus syndrome *Arch Neurol 38:784–785, 1981*

Neurofibromatosis

Niemann–Pick disease – mongolian spots of skin and oral mucosa *Rook p.2644, 1998, Sixth Edition*

Peutz–Jegher's syndrome

Pseudoxanthoma elasticum

### VASCULAR DISEASES

Hemangioma

Hemangiosarcoma

Lymphangioma

Malignant angioendotheliomatosis *JAAD 18:407–412, 1988*

Sublingual varices *Rook p.3109, 1998, Sixth Edition*

## ORAL MUCOSA, CYSTS

***Ped Derm 1:301–306, 1984***

### CONGENITAL ANOMALIES

Alimentary duplication cyst of the floor of the mouth *Z Kinderchir 41:45–48, 1986*

Bohn's nodules – yellowish–white keratinous cysts of alveolar ridge *Textbook of Neonatal Dermatology, p.88,474, 2001*

Branchial cyst

Branchiogenic cyst, pseudocyst

Epstein's pearls – yellowish–white keratinous cysts in midline of junction of hard and soft palate *Textbook of Neonatal Dermatology, p.88,474, 2001; JAAD 23:77–81, 1990*

Eruption cyst – fluctuant swelling; blue–red to black *Textbook of Neonatal Dermatology, p.474, 2001*

Gingival cyst of newborn

Ranula – mucocele of anterior floor of mouth *Textbook of Neonatal Dermatology, p.88,474, 2001*

### INFECTIONS AND INFESTATIONS

Cysticercosis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 79:572–577, 1995*

### INFILTRATIVE LESIONS

Oral focal mucinosis *Int J Oral Maxillofac Surg 19:337–340, 1990*

### INFLAMMATORY DISEASES

Sarcoid

### NEOPLASTIC DISEASES

Cystic choristomas *Pediatr Pathol 12:835–838, 1992*

Dental lamina cyst – on crest of alveolar ridge

Dentigerous cyst

Dermoid cyst of the floor of the mouth (sublingual)

Epidermoid cyst *Oral Surg Oral Med Oral Pathol 67:181–184, 1989*

Gingival cyst of adult

Hydatid cyst

Kaposi's sarcoma

Lipoma of the floor of the mouth

Lymphoepithelial cysts of floor of mouth (sublingual)

Lymphoma

Mucocele of lip, tongue *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 88:469–472, 1999;* congenital oral mucous extravasation cysts *Pediatr Dent 21:285–288, 1999*

Neurilemmoma of the tongue

Palatine papilla cyst

Salivary gland cyst *Compendium 12:150, 152, 154–156, 1991*

Salivary gland tumor

Thryoglossal duct cyst of dorsum of tongue

## ORAL MUCOSA, NODULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Angioedema *Rook p.3111, 1998, Sixth Edition*

Rheumatoid nodule *J Oral Pathol 16:403–405, 1987*

### CONGENITAL LESIONS

Congenital epulis (granular cell myoblastoma) *J Oral Surg 30:30–35, 1972*

Dermoid cyst

Developmental cysts *Rook p.3111, 1998, Sixth Edition*

Epulis – soft nodule of gingival margin *Textbook of Neonatal Dermatology, p.473, 2001*

Fibrous developmental malformation of maxillary tuberosities

Lingual thyroid *Dermatol Clin 21:157–170, 2003; Br J Oral Surg 24:58–62, 1986*

Lingual tonsil – on posterior third of tongue *Dermatol Clin 21:157–170, 2003; J Laryngol Otol 103:922–925, 1989*

Odontomas *Rook p.3111, 1998, Sixth Edition*

### DRUGS

Gingival hyperplasia secondary to phenytoin, cyclosporine, nifedipine

Oral contraceptive – pill gingivitis

Hypertrophy of fungiform papillae of tongue – after transplant *Ped Derm 8:194–198, 1991*

### EXOGENOUS AGENTS

Denture-induced granuloma (epulis fissuratum) – buccal or labial vestibule *J Oral Pathol 10:65–80, 1981*

Foreign body, including body piercing (sarcoid-like) *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 84:28–31, 1997*

Pulse granuloma – embedded vegetables *Br J Oral Surg 23:346–350, 1985*

## INFECTIONS

Abscess of buccal mucosa *Rook p.3111, 1998, Sixth Edition*

Actinomycosis *Rook p.1370, 1998, Sixth Edition;* abscess *Br J Oral Surg 27:249–253, 1989*

Aspergillosis – aspergilloma *Rook p.3093, 1998, Sixth Edition*

Bacillary angiomatosis *Rook p.3063, 1998, Sixth Edition*

Epstein–Barr virus infection – mucocutaneous lymphocytic infiltration *Dermatologica 183:139–142, 1991*

*Gongylonema pulchrum* – parasite of pigs, bears, hedgehogs, monkeys – migratory nodules of pharynx *Rook p.1395, 1998, Sixth Edition*

Herpes zoster – tongue nodule

Histoplasmosis – oral mucosal nodules *Rook p.1370, 1998, Sixth Edition;* tongue nodule *Cutis 55:104–106, 1995*

Leishmaniasis – post-kala-azar dermal leishmaniasis – papules of cheeks, chin, ears, extensor forearms, buttocks, lower legs; in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1370,1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Leprosy – lepromatous leprosy – palate, uvula, tongue, gingivae *Rook p.1225, 1998, Sixth Edition;* histoid nodules of the lip *Int J Lepr Other Mycobact Dis 65:374–375, 1997*

Molluscum contagiosum

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, vegetative and ulcerative lesions of buccal mucosa, palate, gingiva, oropharynx *Rook p.1370, 1998, Sixth Edition; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Nocardiosis – abscess *Rook p.3112, 1998, Sixth Edition*

North American blastomycosis

Onchocerciasis *Oral Surg Oral Med Oral Pathol 62:560–563, 1986*

Oroya fever with verruga peruana – *Bartonella bacilliformis*; red papules in crops become nodular, hemangiomatous or pedunculated; face, neck, extremities, mucosal lesions *Ann Rev Microbiol 35:325–338, 1981*

Paracoccidioidomycosis – oral and perioral lesions; mulberry-like ulcerated swellings *Rook p.1370, 1998, Sixth Edition; Oral Surg 75:461–465, 1993; Oral Surg 72:430–435, 1991*

*Penicillium marneffei* – pharyngeal papules *JAAD 49:344–346, 2003*

Rhinoscleroma – *Klebsiella rhinoscleromatis* (Frisch bacillus) exudative stage with rhinorrhea; then proliferative stage with exuberant friable granulation tissue of nose, pharynx, larynx; progresses to nodules; then fibrotic stage *Acta Otolaryngol 105:494–499, 1988; Cutis 40:101–103, 1987*

Rhinosporidiosis

Syphilis – tertiary – gumma – white nodule of hard palate *Rook p.1252, 1998, Sixth Edition*

Wart (papilloma) *Oral Surg 65:526–532, 1988*

## INFILTRATIVE DISORDERS

Amyloidosis *Rook p.3111, 1998, Sixth Edition;* solitary intraoral amyloid *Ann Otol Rhinol Laryngol 101:794–796, 1992* red nodule of tongue in primary systemic amyloidosis *AD 126:235–240, 1990*

Juvenile colloid milium – eyelids, nose, gingiva, conjunctiva *Clin Exp Dermatol 25:138–140, 2000*

Juvenile xanthogranuloma *BJD 144:909–911, 2001; AD 135:707–712, 1999;* tongue nodule *Am J Otolaryngol 20:241–244, 1999; JAAD 36:355–367, 1997*

Langerhans cell histiocytosis *Curr Prob Dermatol 14:41–70, 2002; Rook p.3077, 1998, Sixth Edition*

Lichen myxedematosus – oral papules

Progressive nodular histiocytosis *BJD 143:628–631, 2000*

Verruciform xanthoma of the tongue or gingiva – pale, red, or keratotic surface *Oral Surg 51:619–625, 1981; Oral Surg 49:429–434, 1980*

Xanthoma disseminatum *NEJM 338:1138–1143, 1998;* disseminated verruciform xanthoma *BJD 151:717–719, 2004; Oral Surg Oral Med Oral Pathol 31:784–789, 1971*

## INFLAMMATORY DISORDERS

Acute gingivitis – oral papular eruption *AD 120:1451–1455, 1984*

Acute lymphonodular pharyngitis

Crohn's disease – gingival nodules *JAAD 36:697–704, 1997; Oral Surg 49:131–138, 1980;* pseudopolyps of the buccal mucosa (mucosal tags) *AD 135:439–442, 1999*

Fistula granuloma – at opening of duct of dental fistula

Necrotizing sialometaplasia *AD 122:208–210, 1986*

Nodular fasciitis *Br J Oral Surg 27:147–151, 1989*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Parotitis – acute suppurative parotitis

Peripheral giant cell granuloma

Pseudolymphoma – palatal nodule *Oral Surg 55:162–168, 1983*

Sarcoid *J Oral Surg 34:237–244, 1976*

## METABOLIC DISEASES

Calcinosis – gingival calcified nodule *OSOMOP 73:472–475, 1992*

Gout – tophus *Am J Pathol 32:871–895, 1956; AD 134:499–504, 1998*

Hyperparathyroidism, primary – brown giant cell tumor of palate

Tangier disease – yellow–orange tonsils and adenoids *Rook p.2615, 1998, Sixth Edition*

Xanthomas – eruptive xanthomas *Rook p.2605, 1998, Sixth Edition*

## NEOPLASTIC DISORDERS

Acanthoma

Acinar cell carcinoma

Adenocarcinoma of minor salivary gland

Adenocarcinoma of the palate

Adenoid cystic carcinoma – palatal nodule

Adenoid squamous cell carcinoma

Angiofibroma

Angiomyoma

Basal cell carcinoma

Benign fibrous histiocytoma *JAAD 41:860–862, 1999;* of the tongue

Benign lymphoepithelial tumor

Canalicular adenomas *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 87:346–350, 1999*

Carcinoma of the parotid gland duct

Chloroma (granulocytic sarcoma) – swollen maxilla *Br J Oral Surg 26:124–128, 1988*

Chondrosarcoma

Clear cell adenocarcinoma

Cysts, developmental

Dental lamina cyst – on crest of alveolar ridge

Dermatofibrosarcoma protuberans *JAAD 41:860–862, 1999*

Epidermal nevus (verrucous nevus) – red papules of uvula, soft palate, and gingiva *AD 141:515–520, 2005*

Epithelioid sarcoma of the tongue *J Clin Pathol 50:869–870, 1997*

Fibroepithelial hyperplasia *Oral Surg Oral Med Oral Pathol 46:34–39, 1978*

Fibroepithelial polyp *Periodontics 6:277–299, 1986*

Fibrofolliculomas

Fibroma *Rook p.3111, 1998, Sixth Edition*

Fibrosarcoma *JAAD 41:860–862, 1999;* of the tongue

Fordyce spots

Giant cell epulis *J Oral Surg 27:787–791, 1969*

Gingival fibromatosis *Textbook of Neonatal Dermatology, p.395, 2001*

Granular cell tumor of the gingiva (congenital epulis) *Ped Derm 18:234–237, 2001; Ped Derm 15:318–320, 1998*

Inclusion cyst

Kaposi's sarcoma – red, purple, brown, or bluish nodule *NEJM 346:1207–1210, 2002; JAAD 41:860–862, 1999; JAAD 38:143–175, 1998; Rook p.1063, 1998, Sixth Edition; Dermatology 190:324–326, 1995; Oral Surg 71:38–41, 1991*

Keratin-filled pseudocysts of sebaceous gland ducts of vermilion border *J Oral Pathol 3:279–283, 1974*

Keratoacanthoma *Rook p.1663, 1998, Sixth Edition; AD 120:736–740, 1984;* tongue papules – eruptive KAs *JAAD 29:299–304, 1993*

Leiomyoma – tongue or palate *Rook p.3115, 1998, Sixth Edition*

Leiomyosarcoma *JAAD 41:860–862, 1999*

Leukemia *Rook p.3111, 1998, Sixth Edition*

Lipoma *Head Neck Surg 3:145–168, 1980*

Lymphoepithelial carcinoma

Lymphoepithelial cysts of the oral mucosa *Oral Surg Oral Med Oral Pathol 35:77–84, 1973*

Lymphoma – nodules (occasionally ulcerated) – pharynx, palate, tongue, gingiva, lips; cutaneous T-cell lymphoma *Oral Surg 75:700–705, 1993*; non-Hodgkin's lymphoma in AIDS *NEJM 311:565–570, 1984;* Epstein–Barr virus associated lymphoma *Tyring p.155, 2002;* primary cutaneous $CD30^+$ lymphoproliferative disorder ($CD8^+/CD4^+$) – tongue nodule *JAAD 51:304–308, 2004*

Lymphomatoid papulosis – tongue nodule *Am J Dermatopathol 20:522–526, 1998*

Malignant fibrous histiocytoma *JAAD 41:860–862, 1999*

Malignant pleomorphic adenoma

Maxillary antral carcinoma *Rook p.3077, 1998, Sixth Edition*

Melanoma *Rook p.1746,3077, 1998, Sixth Edition;* desmoplastic melanoma *JAAD 41:860–862, 1999;* amelanotic melanoma *AD 138:1607–1612, 2002*

Melanotic neuroectodermal tumor of infancy (odontoameloblastoma) – pigmented oral mass of early infancy *Acta Pathol Jpn 39:465–468, 1989; Cancer 22:151–161, 1968*

Metastatic carcinoma – breast, lung, kidney, stomach, liver *J Maxillofac Surg 10:253–258, 1982;* metastatic chondrosarcoma *J Periodontol 62:223–226, 1991;* metastatic hepatocellular carcinoma – vascular nodule mimicking pyogenic granuloma *JAAD 49:342–343, 2003*

Mucocele *Rook p.3111, 1998, Sixth Edition*

Mucoepidermoid carcinoma

Mucosal horn of the tongue

Multiple idiopathic mucocutaneous neuromas *BJD 145:826–829, 2001*

Myeloma *Oral Surg 57:267–271, 1984*

Myofibroma – skin–colored to hyperpigmented nodules of hand, mouth, genitals, shoulders *JAAD 46:477–490, 2002*

Myxoma *Rook p.3115, 1998, Sixth Edition*

Nerve sheath tumors *JAAD 41:860–862, 1999*

Neurofibroma *Textbook of Neonatal Dermatology, p.474, 2001*

Neuroma – palisaded encapsulated neuroma *AD 140:1003–1008, 2004*

Neurothekeoma *JAAD 50:129–134, 2004*

Nevus sebaceus with introral fibroepitheliomatous nodules *Oral Surg 34:774–780, 1972*

Olmsted syndrome – white papules of tongue *Ped Derm 10:376–381, 1993*

Odontogenic cysts *Rook p.3111, 1998, Sixth Edition*

Odontogenic tumors (odontomas) *Rook p.3077, 1998, Sixth Edition*

Ossifying fibroma

Osteoma mucosae

Osteosarcoma *Rook p.3077, 1998, Sixth Edition*

Papillary cystadenoma lymphomatosum

Papilloma

Plasmacytoma *Cancer 43:2340–2343, 1979*

Pleomorphic adenoma of palate

Pterygoid hamulus

Reactive fibrous papule of the oral mucosa (giant-cell fibroma) – fingers and palms *Oral Surg Med Pathol 37:374–384, 1974;* giant cell fibroma of the tongue

Recurrent infantile digital fibromatosis – tongue papule *Am J Surg Pathol 8:787–790, 1984*

Reticulohistiocytoma *BJD 62:351–355, 1984*

Rhabdomyoma *Br J Oral Surg 23:284–291, 1985; Oral Surg 48:525–531, 1979*

Rhabdomyosarcoma *Oral Surg 64:585–596, 1987*

Salivary gland tumors *Rook p.3077, 1998, Sixth Edition*

Sarcoma *Rook p.3077, 1998, Sixth Edition*

Schwannoma of the tongue *Textbook of Neonatal Dermatology, p.474, 2001*

Spindle cell carcinoma

Squamous cell carcinoma *J Oral Maxillofac Surg 53:144–147, 1995; Oral Oncol 31B:16–26, 1995; Crit Rev Oncol Hematol 21:63–75, 1995*

Submucosal nodular chondrometaplasia *J Prosth Dent 54:237–240, 1985*

Verrucous carcinoma – oral florid papillomatosis *Int J Derm 18:608–622, 1979; JAAD 14:947–950, 1986; JAAD 32:1–21, 1995*

Warty dyskeratoma – papule or nodule of gingiva, palate, alveolar ridge *Int J Dermatol 23:123–130, 1984; AD 116:929–931, 1980*

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with IgA paraproteinemia *Am J Dermatopathol 12:579–584, 1990*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *Rook p.3111, 1998, Sixth Edition*

Angiolymphoid hyperplasia – of tongue *JAAD 11:333–339, 1984*

Bohn's nodules – buccal and lingual sides of alveolar ridges

Epidermolysis bullosa *Oral Surg Oral Med Oral Pathol 40:385–390, 1975*

Epstein's pearls

Epulis fissuratum

Foliate lingual papilla *Rook p.3111, 1998, Sixth Edition*

Herniation of buccal fat pad

Kimura's disease (angiolymphoid hyperplasia with eosinophilia) – papules and/or nodules *BJD 145:365, 2001; JAAD 43:905–907, 2000; BJD 134:744–748, 1996;* epithelioid hemangioma (angiolymphoid hyperplasia with eosinophilia) *Oral Oncol 35:435–438, 1999; BJD 134:744–748, 1996*

Median rhomboid glossitis *AD 135:593–598, 1999*

Parotid papillae *Rook p.3111, 1998, Sixth Edition*

Pterygoid hamulus *Rook p.3111, 1998, Sixth Edition*

Sialolith

Torus mandibularis; maxillaris *Cutis 71:350, 363, 2003; Scand J Dent Res 94:233–240, 1986*

Torus palatinus *Compend Contin Educ Dent 6:149–152 1985*

Unerupted teeth *Rook p.3111, 1998, Sixth Edition*

## SYNDROMES

Birt–Hogg–Dube syndrome – oral fibromas *JAAD 50:810–812, 2004*

Blue rubber bleb nevus syndrome *Br J Oral Surg 26:160–164, 1988*

Byars–Jurkiewica syndrome – gingival fibromatosis, hypertrichosis, fibroadenomas of breast

Carney complex (NAME/LAMB) – oral myxomas of palate or tongue *Oral Surg 63:175–183, 1987; JAAD 10:72–82, 1984*

Cowden's disease – lipomas, angiolipomas, tongue papillomas *JAAD 11:1127–1141, 1984; AD 106:682–690, 1972*

Cross syndrome – gingival fibromatosis with hypopigmentation, seizures, and mental retardation

Focal epithelial hyperplasia (Heck's disease) – lip and buccal mucosal papules; tongue papule

Gardner's syndrome – osteoma of the mandible *Rook p.3120, 1998, Sixth Edition*

Gingival fibromatosis; with ear, nose, bone, nail defects, and hepatosplenomegaly; with progressive deafness

Gingival fibromatosis with hypertrichosis

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Hereditary gingival fibromatosis – autosomal dominant *Oral Surg 78:452–454, 1994*

Hereditary mucoepithelial dysplasia – papules of palate or gingiva *JAAD 21:351–357, 1989*

Hereditary progressive mucinous histiocytosis – yellow dome-shaped papules of face, gingiva, hard palate *BJD 141:1101–1105, 1999*

Juvenile hyaline fibromatosis – gingival enlargement *Oral Surg 63:71–77, 1987*

Klippel–Trenaunay–Weber syndrome – hemangiomas of buccal mucosa and tonge *Oral Surg 63:208–215, 1987*

Laband syndrome – gingival fibromatosis, aplasia or dysplasia of fingernails, hypertrophy of nasal tip and ears, hypermobility

Maffucci's syndrome – intraoral hemangioma *Oral Surg 57:263–266, 1984*

Multicentric reticulohistiocytosis *Clin Rheumatol 15:62–66, 1996*

Multiple endocrine neoplasia syndrome (MEN I) – gingival papules *JAAD 42:939–969, 2000*

Multiple mucosal neuroma syndrome (MEN IIB) (Gorlin's syndrome) – skin-colored papules and nodules of lips, tongue, oral mucosa (buccal mucosa, gingiva, palate, pharynx) *Curr Prob Derm 14:41–70, 2002; Am J Med 31:163–166, 1961*

Neurofibromatosis – papillomatous tumors of the palate, buccal mucosa, tongue, and lips *J Dent Child 47:255–260, 1980*

Nevoid basal cell carcinoma syndrome – intraoral malignancies – fibrosarcoma, ameloblastoma, squamous cell carcinoma *Br J Oral Surg 25:280–284, 1987*

Oral–facial–digital syndrome – white nodules of tongue

Ramon syndrome – cherubism, gingival fibromatosis, epilepsy, mental deficiency, hypertrichosis, and stunted growth

Rutherford syndrome (congenital hypertrophy of the gingiva (fibromatosis), altered eruption of teeth, and corneal dystrophy)

Tuberous sclerosis – fibromatous nodules of gums and palate *Oral Med Oral Surg Oral Pathol 39:578–582, 1975*

Xeroderma pigmentosum – squamous cell carcinoma of tongue *JAAD 12:515–521, 1985*

## TRAUMA

Acanthoma fissuratum secondary to dentures

Denture-induced granuloma *Rook p.3111, 1998, Sixth Edition*

Epulis *Rook p.3111, 1998, Sixth Edition*

Herniation of buccal fat pad *J Oral Surg 24:265–268, 1986*

Papillary hyperplasia of the palate *Br Dent J 118:77–80, 1965*

Post-extraction granuloma

Post-traumatic spindle cell nodule *Oral Oncol 36:121–124, 2000*

## VASCULAR DISORDERS

Angiokeratoma circuscriptum – tongue lesions *Ped Derm 20:180–182, 2003*

Angioleiomyoma *JAAD 38:143–175, 1998*

Glomus tumors *J Dermatol 27:211–213, 2000*

Hemangioendothelioma

Hemangioma *Otolaryngol Clin North Am 19:769–796, 1986*

Hemangiopericytoma *JAAD 41:860–862, 1999*

Hemolymphangioma – red papules of tongue *JAAD 52:1088–1090, 2005*

Hereditary hemorrhagic telangiectasia

Lymphangioma (cystic hygroma) *Textbook of Neonatal Dermatology, p.476, 2001; Rook p.3111, 1998, Sixth Edition*

Phlebolith *Rook p.3063, 1998, Sixth Edition*

Polyarteritis nodosa – submucosal oral nodules along path of vessels *Oral Surg 56:597–601, 1983*

Pyogenic granuloma, including pregnancy tumor *Br J Oral Surg 24:376–382, 1986;* tongue nodule

Spindle cell hemangioendotheliomas *Cutis 62:23–26, 1998*

Tufted angioma – red or blue papule *BJD 142:794–799, 2000*

Vascular malformation

Wegener's granulomatosis *Rook p.3111, 1998, Sixth Edition*

# ORAL MUCOSA, ULCERATIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact stomatitis to propolis *AD 134:511–513, 1998;* allergic contact stomatitis to dental materials (mercuric chloride, copper sulfate) *Contact Dermatitis 27:157–160, 1992*

Antiepidermal growth factor receptor antibody C225 – aphthae *BJD 144:1169–1176, 2001*

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Aphthous stomatitis – minor, major, herpetiform

Bullous pemphigoid *Rook p.1869–1870, 1998, Sixth Edition*; anti-p200 and anti- alpha3 chain of laminin 5 – lip ulcers *JAAD 52:S90–92, 2005*

C4 deficiency and intraoral herpes simplex virus type 1 *Clin Inf Dis 33:1604–1607, 2001*

Chronic granulomatous disease – perioral and/or intraoral ulcers *JAAD 36:899–907, 1997; AD 130:105–110, 1994;* DLE-like lesions and stomatitis in female carriers *BJD 104:495–505, 1981; Oral Surg Oral Med Oral Pathol 46:815–819, 1978*

Chronic ulcerative stomatitis with stratified epithelium specific ANA *JAAD 22:215–220, 1990*

Cicatricial pemphigoid (mucous membrane pemphigoid) – desquamative gingivitis *AD 138:370–379, 2002; JAAD 43:571–591, 2000; J Periodontol 71:1620–1629, 2000; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

Common variable immunodeficiency *J Oral Pathol Med 22:157–158*

Dermatitis herpetiformis *AD 134:736–738, 1998; Oral Surg 62:77–80, 1986*

Dermatomyositis *Rook p.3087, 1998, Sixth Edition; Update 33:94–96, 1986*

Epidermolysis bullosa acquisita *AD 135:954–959, 1999; Ped Derm 12:16–20, 1995; AD 123:772–776, 1987*

Food sensitivities

Graft vs. host reaction – acute graft vs. host reaction *AD 120:1461–1465, 1984;* chronic *JAAD 38:369–392, 1998; AD 134:602–612, 1998*

Herpes gestationes – IgA herpes gestationes *JAAD 47:780–784, 2002*

IgA pemphigus *JAAD 20:89–97, 1989*

Immunoglobulin deficiency with hyper-IgM and neutropenia (hyper-IgM immunodeficiency syndromes, hypogammaglobulinemia with hyper-IgM – ulcers of palate, tongue, buccal mucosa, and lips) *Bolognia p.847, 2003; JAAD 38:191–196, 1998*

Leukocyte adhesion deficiency ($\beta_2$-integrin deficiency) (congenital deficiency of leucocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18)) – necrotic cutaneous abscesses, cellulitis, skin ulcerations (pyoderma gangrenosum-like ulcer), gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *JAAD 31:316–319, 1994; BJD 139:1064–1067, 1998; J Pediatr 119:343–354, 1991; BJD 123:395–401, 1990; Annu Rev Med 38:175–194, 1987; J Infect Dis 152:668–689, 1985*

Lichen planus pemphigoides

Lichenoid reactions with antibodies to desmoplakins I and II – ulcers of hard palate and tongue *JAAD 48:433–438, 2003*

Linear IgA disease – desquamative gingivitis *J Periodontol 74:879–882, 2003;* lip erosions, oropharyngeal ulcers *Oral Surg Oral Med Oral Pathol Oral Radiol Endo 88:196–201, 1999; JAAD 22:362–465, 1990*

Lupus erythematosus – systemic lupus erythematosus – lesions of palate, buccal mucosa, gums; red or purpuric areas with red halos break down to form shallow ulcers *BJD 135:355–362, 1996; BJD 121:727–741, 1989;* bullous dermatosis of SLE (annular bullae) – face, neck, upper trunk, oral bullae *JAAD 27:389–394, 1992; Ann Intern Med 97:165–170, 1982; Arthritis Rheum 21:58–61, 1978;* discoid lupus erythematosus *BJD 121:727–741, 1989;* subacute cutaneous lupus erythematosus – palatal ulcers *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988;* drug-induced lupus *Rook p.3087, 1998, Sixth Edition;* with C1q deficiency *BJD 142:521–524, 2000*

Mixed connective tissue disease – orogenital ulcers *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Neutropenia – cyclic, chronic benign or idiopathic neutropenia *J Pediatr 129:551–558, 1996;* autoimmune cyclic neutropenia *AD 132:1399–1400, 1996;* congenital neutropenia *Rook p.493, 1998, Sixth Edition;* cyclic neutropenia – oral aphthae, gingivitis, weakness, fever, sepsis, diarrhea, gangrenous enterocolitis *Ped Derm 20:519–523, 2003; Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976;* chronic benign neutropenia *Rook p.3121, 1998, Sixth Edition;* interdental ulcers in leukopenic patients

Pemphigus vulgaris *Acta Odontol Scand 40:403–414, 1982; AD 110:862–865, 1974*

Rheumatoid arthritis with Felty's syndrome *Rook p.3121, 1998, Sixth Edition*

Selective IgA deficiency *Rook p.3121, 1998, Sixth Edition*

Severe combined immunodeficiency *J Clin Immunol 11:369–377, 1991;* severe combined immunodeficiency in Athabascan Native American children; deep punched out oral ulcers of the neonate *AD 135:927–931, 1999*

X-linked agammaglobulinemia *Rook p.3121, 1998, Sixth Edition*

## CONGENITAL LESIONS

Congenital palatal ulcers associated with cleft lip and palate *Cleft Palate Craniofac J 33:262–263, 1996*

Noma neonatorum – deep ulcers with bone loss, mutilation of nose, lips, intraorally, anus, genitalia; *Pseudomonas*, malnutrition, immunodeficiency *Textbook of Neonatal Dermatology, p.149, 2001*

## DEGENERATIVE DISEASES

Neurotrophic ulcer *Ghatan p.91, 2002, Second Edition*

## DRUG-INDUCED

Alendronate *J Oral Pathol Med 29:514–518, 2000*

Amitryptiline *Rook p.3397, 1998, Sixth Edition*

Aspirin burn

Beta blockers – aphthous ulcers *BJD 143:1261–1265, 2000*

Bleomycin *JAAD 40:367–398, 1999*

Calcium channel blockers *J Am Dent Assoc 130:1611–1618, 1999*

Captopril *Ann Intern Med 94:659, 1981*

Cefaclor

Cancer chemotherapeutic agents – stomatitis with ulceration; actinomycin D, adriamycin, amsacrine, bleomycin, busulfan, chlorambucil, cyclophosphamide, dactinomycin, daunorubicin, doxorunicin, fluorouracil, IL-2, mercaptopurine, methotrexate, mithramycin, mitomycin, nitrosureas, procarbazine, vincristine *JAAD 40:367–398, 1999; NCI Monogr (9):61–71, 1990; Semin Dermatol 8:173–181, 1989; Oral Surg Oral Med Oral Pathol 63:424–428, 1987;* chemotherapy-induced neutropenia *Int J Paed Dentistry 2:73–79, 1992*

Chlorpromazine *Rook p.3397, 1998, Sixth Edition*

Corticosteroids – inhaled *Respir Med 88:159–160, 1994*

ddC in AIDS *JAAD 21:1213–1217, 1989*

Doxepin *Rook p.3397, 1998, Sixth Edition*

Doxorubicin *Dermatol Clin 21:1–15, 2003*

Drug reactions

Emepromium bromide *Lancet 30:1442, 1972*

Ergotamine tartrate in temporal arteritis – tongue ulcer *AD 130:261–262, 1994*

Estrogen

5-bromodeoxyuridine *JAAD 21:1235–1240, 1989*

Fixed drug eruption

Foscarnet *JAAD 27:124–126, 1992*

Gold *JAAD 16:845–854, 1987; Quintessence Int 18:703–706, 1987; Oral Surg 58:52–56, 1984*

Hepatitis B vaccine *Ann Derm Vener 123:657–659, 1996*

Hydralazine *Rook p.3397, 1998, Sixth Edition*

Hydroxyurea *JAAD 36:178–182, 1997;* oral erythema *AD 135:818–820, 1999*

IL-2 – aphthous ulcers *JAMA 258:1624–1629, 1987*

Imipramine *Rook p.3397, 1998, Sixth Edition*

Imiquimod – intraoral aphthous ulcers when imiquimod applied to lip *JAAD S35–37, 2005*

Indomethacin *J Am Dent Assoc 90:632–634, 1975*

Interferon-$\alpha$ *M I Med 158:126–127, 1993*

Lithium

Losartan *Clin Nephrol 50:197, 1998*

6-mercaptopurine (6-MP)

Methotrexate *Cancer Chemother Pharmacol 2:225–226, 1979*

Methyldopa *Rook p.3397, 1998, Sixth Edition*

Naproxen *Rook p.3397, 1998, Sixth Edition*

Nicorandil *BJD 138:712–713, 1998*

Non-steroidal anti-inflammatory drugs – erosive lichenoid eruptions *Oral Surg Oral Med Oral Pathol 64:541–543, 1987*

Penicillamine *JAAD 8:548, 1983; Oral Surg 45:385–395, 1978*

Potassium – slow release tablets *Br Med J Oct 19;4 (5937):164–165, 1974*

Prochlorperazine – lip ulceration

Tetracycline *Ann Pharmacother 30:547–548, 1996*

Valproic acid *Rook p.3397, 1998, Sixth Edition*

Vancomycin – linear IgA disease *JAAD 48:S56–57, 2003;* oral bullae *Cutis 73:65–67, 2004*

Zalcitabine *JAAD 46:284–293, 2002*

Zomepirac *Rook p.3397, 1998, Sixth Edition*

## EXOGENOUS AGENTS

Acrylic resin burn

Amalgam *Br J Dent 160:434–437, 1986*

Antiseptics

Betel chewing *Cutis 71:307–311, 2003; J Oral Pathol Med 27:239–242, 1998*

Bone marrow transplantation *Bone Marrow Transplant 4:89–95, 1989*

Cementation of adhesive bridges – sublingual ulceration *Dent Update 23:389–390, 1996*

Cyanamide *JAAD 23:1168–1169, 1990*

Denture cleanser tablets – mucosal injury *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 80:756–758, 1995*

Foreign bodies

Gluten sensitive recurrent oral ulceration without gastrointestinal abnormalities *J Oral Pathol Med 20:476–478, 1991*

Hydrogen peroxide *J Periodontol 57:689–692, 1986*

Irritant contact stomatitis

Oral hygiene products *NEJM 347:429–436, 2002*

Orthodontic

Phenol *Ghatan p.91, 2002, Second Edition*

Silver nitrate

Smokeless tobacco

Smoking cessation *Press Med 25:2043, 1996*

Stem cell transplantation *J Clin Oncol 19:2201–2205, 2001*

## INFECTIONS AND INFESTATIONS

Acanthamebiasis in AIDS *AD 131:1291–1296, 1995*

Actinomycosis

AIDS – HIV infection; acute retroviral syndrome – oral erythema with palatal and buccal erosions *AD 138:117–122, 2002; Rook p.1062, 1998, Sixth Edition; AD 134:1279–1284, 1998*; aphthae of AIDS – major aphthae *BJD 142:171–176, 2000;* HIV gingivitis/periodontitis *Oral Dis 3 (Suppl 1):S141–148, 1997*; linear gingival erythema of HIV; necrotizing stomatitis

Anthrax – ingestion of contaminated meat *Clin Inf Dis 19:1009–1014, 1994*

Aspergillosis – invasive aspergillus stomatitis in acute leukemia (*Aspergillus flavus*); gingival ulcer with or without necrosis of the alveolar bone *Clin Inf Dis 33:1975–1980, 2001;* rhinocerebral aspergillus with palatal necrosis *Rook p.3093, 1998, Sixth Edition*

Bejel – primary chancre *Rook p.1256–1257, 1998, Sixth Edition* *Calymmatobacterium granulomatis* (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*

Cancrum oris (Noma) – *Fusobacterium necrophorum*, *Prevotella intermedium Am J Trop Med Hyg 60:150–156, 1999; Br J Plast Surg 45:193–198, 1992; Cutis 39:501–502, 1987; S Afr Med J 46:392–394, 1972*

Candidiasis

*Capnocytophaga canimorsis*

Cat scratch disease

Chancroid

Coccidioidomycosis *Rook p.3093,3122, 1998, Sixth Edition*

Coxsackie B5 *Rook p.3122, 1998, Sixth Edition*

Cryptococcosis *Oral Surg Oral Med Oral Pathol 64:449–453,454–459, 1987*

Cytomegalovirus *Dermatology 200:189–195, 2000; J Oral Pathol Med 24:14–17, 1995; Oral Surg Oral Med Oral Pathol 77:248–253, 1994; JAAD 18:1333–1338, 1988; Oral Surg 64:183–189, 1987;* lip ulcer *Tyring p.186, 2002*

Dental sinus

Echovirus (Boston exanthem) *Rook p.3122, 1998, Sixth Edition*

*Enterobacter cloacae Cutis 59:281–283, 1997*

Epstein–Barr virus (infectious mononucleosis) – aphthosis *Rook p.3056,3089, 1998, Sixth Edition*

*Escherichia coli*

Exanthem subitum – human herpesvirus 6 – uvulo-palatoglossal junctional ulcers *J Clin Virol 17:83–90, 2000; Med J Malaysia 54:32–36, 1999; Rook p.3090, 1998, Sixth Edition*

Generalized juvenile periodontitis

*Giardia lamblia* infection – aphthous ulcer *B J Dent 166:457, 1989*

Gonococcal stomatitis *Pediatrics 84:623–625, 1989*

Hand, foot, and mouth disease (Coxsackie A5,10,16) – vesicular *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002; Tyring p.466, 2002; Rook p.998,1086, 1998, Sixth Edition; BJD 79:309–317, 1967;* Enterovirus 71 *Clin Inf Dis 32:236–242, 2001*

Herpangina – soft palatal ulcers *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002; Tyring p.469, 2002*; Coxsackie A1, A6, A10, A22, B1–5, Echovirus types 9, 11, 17 *J Infect Dis 15:191, 1987; Prog Med Virol 24:114–157, 1978*

Herpes simplex virus infection – primary gingivostomatitis *Infection 25:310–312, 1997*; recurrent herpes simplex *JAAD 18:169–172, 1988; NEJM 314:686–691, 1986; NEJM 314:749–757, 1986*

Herpes zoster *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002; Rook p.3088–3089,3122, 1998, Sixth Edition*

Histoplasmosis *AD 132:341–346, 1996*; in AIDS *JAAD 23:422–428, 1990*

*Klebsiella pneumoniae Cutis 59:281–283, 1997;* lip ulcer *Braz Dent J 11:161–165, 2000*

Kyasanur Forest disease (flavivirus) – hemorrhagic exanthem, papulovesicular palatine lesions *Tyring p.444, 2002*

Leishmaniasis – espundia (mucocutaneous leishmaniasis) – ulcers of mouth and lips *Oral Surg 73:583–584, 1992; Int J Derm 21:291–303, 1982*

Leprosy

Measles

Mucormycosis *Oral Surg 68:624–627, 1989*

Mumps

*Mycobacterium avium* complex (MAC) *JAAD 37:450–472, 1997*

*Mycobacterium chelonei Br J Oral Surg 13:278–281, 1976*

*Mycobacteria kansasii Ped Derm 18:131–134, 2001*

*Mycobacterium tuberculosis* – tuberculosis cutis orificialis (acute tuberculous ulcer) – oral ulcers; lip ulcers, floor of mouth, soft palate, anterior tonsillar pillar, and uvula *Rook p.1193, 1998, Sixth Edition; Clin Inf Dis 19:200–202, 1994; J Oral Surg 36:387–389, 1978;* tongue ulcer *Cutis 60:201–202, 1997;* lupus vulgaris

Myospherulosis *Int J Oral Maxillofacial Surg 22:234–235, 1993*

North American blastomycosis *Oral Surg Oral Med Oral Pathol 47:157–160, 1979;* ulceration of the lip *Rook p.3135, 1998, Sixth Edition*

Omsk hemorrhagic fever – papulovesicular eruption of soft palate *Tyring p.488, 2002*

*Paecilomyces* sinusitis – eroded hard palate *Clin Inf Dis 23:391–393, 1996*

Paracoccidioidomycosis – painful ulcerative stomatitis *Cutis 40:214–216, 1987;* ulceration of the lip *Rook p.3135, 1998, Sixth Edition*

Parvovirus B19, including papular–purpuric 'gloves and socks' syndrome – oral erosions *JAAD 41:793–796, 1999; AD 120:891–896, 1984*

Periodontitis

*Proteus* infections

*Pseudomonas*

Relapsing fever

Rickettsial pox *AD 139:1545–1552, 2003*

Rubella *Ghatan p.91, 2002, Second Edition*

*Salmonella* colitis *Am J Roent 158:918, 1992*

Schizophyllum – palatal ulcer *Sabouraudia 11:201–204, 1973*

*Serratia*

Smallpox

Sporotrichosis

Streptococcal gingivostomatitis

Syphilis, primary – chancre *Rev Stomatol Chir Maxillofac 85:391–398, 1984*; ulcerated tonsil *Rook p.1244, 1998, Sixth Edition;* secondary *AD 131:833, 1995; J Clin Inf Dis 21:1361–1371, 1995*; *Br J Dent 160:237–238, 1986;* tertiary – gumma – ulcers of palate with palatal perforation *Rook p.1251, 1998, Sixth Edition;* endemic (Bejel); congenital *Ghatan p.107, 2002, Second Edition*

Toxic shock syndrome

*Trichosporon beigelii*

Tularemia

Vaccinia

Varicella *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002; Tyring p.122, 2002; Rook p.3056,3088, 1998, Sixth Edition*

Vesicular stomatitis virus – vesicles of fingers, gums, buccal, and pharyngeal mucosa *NEJM 277:989–994, 1967*

Vincent's disease

*Xanthomonas maltophilia*

Yaws

*Yersinia*

Zygomycosis, mucormycosis

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis including Hand–Schuller–Christian disease; eosinophilic granuloma *AD 121:770–774, 1985*

## INFLAMMATORY DISEASES

Acute gingivitis *AD 120:1461–1465, 1984*

Acute necrotizing ulcerative gingivitis (ANUG) – rapid onset of painful friable gingivae, punched out ulcers of interdental papillae, and marginal gingival *Ann Periodontol 4:65–73, 1999; Rook p.3056, 1998, Sixth Edition; J Periodont 66:990–998, 1995*

Chronic marginal gingivitis

Crohn's disease – linear ulcers of sulci, aphthae-like ulcers, angular cheilitis and ulceration *AD 135:439–442, 1999; JAAD 36:697–704, 1997;* buccal space abscesses *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 88:33–36, 1999*

Cytophagic histiocytic panniculitis *Ped Derm 21:246–249, 2004*

Desquamative gingivitis

Eosinophilic ulcer of the lip, tongue, or buccal mucosa *AD 137:815–820, 2001; Cutis 57:349–351, 1996; JAAD 33:734–740, 1995*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* Stevens–Johnson syndrome *Am J Dis Child 24:526–533, 1922*

Gingivitis secondary to mouth breathing

Idiopathic midline destructive disease – palatal necrosis and ulceration *Am J Clin Pathol 77:162–167, 1982*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *JAAD 36:342–346, 1997; Am J Surg Pathol 14:872–876, 1990;* gingival ulcers *BJD 144:885–889, 2001*

Lethal midline granuloma

Necrotizing sialometaplasia – palatal ulcer *Histopathol 40:200, 2002; JADA 127:1087–1092, 1996; Oral Surg Oral Med Oral Pathol 72:3170325, 1991; Cutis 41:97, 1988; AD 122:208–10, 1986; Plast Reconstr Surg 41:325–328, 1983; Ann Otol Rhinol Laryngol 87:409–411, 1978; Cancer 32:130, 1973*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Periadenitis mucosa necrotica recurrens (Sutton's disease) *AD 133:1161–1166, 1997*

Pyoderma gangrenosum – oral ulcers *BJD 144:393–396, 2001;* orogenital ulcers *AD 94:732–738, 1966*

Pyostomatitis vegetans – deep fissures, pustules, papillary projections *JAAD 50:785–788, 2004; Oral Surg Oral Med Oral Pathol 75:220–224, 1993; J Oral Pathol Med 21:128–133, 1992; Gastroenterology 103:668–674, 1992; JAAD 21:381–387, 1989; AD 121:94–98, 1985*

Sarcoid – ulcers of buccal mucosa, palate, larynx, tongue *Rook p.2694, 1998, Sixth Edition*

Toxic epidermal necrolysis *Oral Maxillofac Surg 40:59–61, 1982*

Ulcerative colitis *Clin Gastroenterol 9:307, 1980; Gut 5:1, 1964*

## METABOLIC DISEASES

Acrodermatitis enteropathica – stomatitis *Ped Derm 19:426–431, 2002*

Acatalasia (acatalasemia) – Takahara's disease; ulceration, gangrene, and necrosis of soft tissues of mouth and nose *Textbook of Neonatal Dermatology, p.481, 2001; Lancet 2:1101–1104, 1952*

Agranulocytosis (leukopenic ulcers) – interdental ulcers *AD 132:1399–1400, 1996*

Anemia *Rook p.3057, 1998, Sixth Edition*

Celiac disease *Rook p.3057,3120, 1998, Sixth Edition; Br Med J 1:11–13, 1976*

Cryoglobulinemia *JAAD 25:21–27, 1991*

Erythropoietic porphyria *Rook p.3121, 1998, Sixth Edition*

Folate, deficiency – aphthosis *Med Clin (Barc) 109:85–87, 1997*

Gluten sensitive enteropathy – coeliac disease *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002*

Heavy chain disease (Franklin's disease) *AD 124:1538–1540, 1988*

Hypothyroidism *Oral Surg Oral Med Oral Pathol 46:216–219, 1978*

Iron deficiency – aphthosis *Med Clin (Barc) 109:85–87, 1997*

Kwashiorkor *Cutis 67:321–327, 2001*

Kynureninase deficiency (xanthurenicaciduria)

Malabsorption *Rook p.3120, 1998, Sixth Edition*

Menses – cyclic aphthosis

Neutropenia *J Periodontol 58:51–55, 1987*

Nutritional disorders

Pernicious anemia ($B_{12}$ deficiency) – aphthosis *Rook p.3120, 1998, Sixth Edition; SMJ 83:475–477, 1990;* severe stomatitis with recurrent ulcers *Ghatan p.91, 2002, Second Edition*

Pregnancy *Ghatan p.91, 2002, Second Edition*

Scurvy *Rook p.3121, 1998, Sixth Edition*

Vitamin $B_1$ deficiency (thiamine) – beriberi; edema, burning red tongue, vesicles of oral mucosa *Ghatan p.294, 2002, Second Edition; Oral Surg Oral Pathol Oral Med Oral Radiol Endod 82:634–636, 1996*

Type 1B glycogen storage disease *Oral Surg Oral Med Oral Pathol 69:174–176, 1990*

Uremic stomatitis – friable gingivae, ulcerative stomatitis, uremic glossitis, xerostomia *Ghatan p.177, 2002, Second Edition*

## NEOPLASTIC DISEASES

Canalicular adenomas *J Oral Pathol Med 27:388–394, 1998*

Carcinoma of the parotid gland duct

Chondrosarcoma

Erythroplasia

Kaposi's sarcoma

Keratoacanthoma – oral ulcer with rolled margin on gingiva *Br J Oral Surg 24:438–441, 1986*

Leukemia – acute lymphocytic leukemia; acute myelomonocytic leukemia; chronic myelogenous leukemia *Oral Oncol 30B:346–350, 1994;* acute lymphoblastic leukemia with eosinophilia *Ped Derm 20:502–505, 2003*

Lymphoma – AIDS-associated *Tyring p.374, 2002; Cutis 59:281–283, 1997; NEJM 311:565–570, 1984;* Hodgkin's/non-Hodgkin's lymphoma *J Oral Med 29:45–48, 1974*; lymphomatoid granulomatosis – palatal ulcer *Arch Otolaryngol 107:141–146, 1981*; nasal and nasal type natural killer T-cell lymphoma (angiocentric lymphoma) *JAAD 40:268–272, 1999;* lethal midline granuloma

Melanoma – neurotropic desmoplastic melanoma; lip ulcers *JAAD 53:S120–122, 2005*

Metastatic carcinoma

Mucocoeles, superficial *Oral Surg 66:318–322, 1988*

Multiple myeloma – bullous lichenoid lesions *Oral Surg Oral Med Oral Pathol 70:587–589, 1990;* plasmacytic ulcerative stomatitis (myeloma) – bulla *Oral Surg 75:483–487, 1993; Oral Surg 70:587–589, 1990*

Myelodysplastic syndrome *Eur J Cancer B Oral Oncol 30B:346–350, 1994; Oral Surg Oral Med Oral Pathol 70:579–583, 1990; Oral Surg 61:466–470, 1986*

Necrotizing sialometaplasia (ulcer of hard palate) *AD 122:208–210, 1986; Cutis 41:97, 1988*

Odontogenic and salivary gland tumors

Plasmacytoma

Polycythemia vera *Blood 90:3370–3377, 1997*

Sickle cell anemia *Ghatan p.92, 2002, Second Edition*

Squamous cell carcinoma *J Oral Maxillofac Surg 53:144–147, 1995; Oral Oncol 31B:16–26, 1995; Crit Rev Oncol Hematol 21:63–75, 1995*

Waldenström's macroglobulinemia

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus – extensive erosions and ulcers of lips, intra-oral surfaces; associated with non-Hodgkin's B-cell lymphoma, chronic lymphocytic leukemia, Waldenström's macroglobulinemia, Hodgkin's disease, T-cell lymphoma, Castleman's disease, thymoma, poorly differentiated sarcoma, round-cell liposarcoma, inflammatory fibrosarcoma, uterine adenosarcoma *AD 141:1285–1293, 2005; BJD 149:1143–1151, 2003; JAAD 48:S69–72, 2003; JAAD 40:649–671, 1999; JAAD 39:867–871, 1998; AD 129:866–869, 1993; NEJM 323:1729–1735, 1990*

## PRIMARY CUTANEOUS DISEASES

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) – red and necrotic lesions *AD 123:1335–1339, 1987; AD 118:478, 1982; Oral Surg 53:596–601, 1982*

Angina bullosa hemorrhagica (blood blisters) *Br Dent J 180:24–25, 1996; JAAD 31:316–319, 1994*

Aphthous stomatitis – major (Sutton's ulcer), minor (Mikulicz ulcers), herpetiform *AD 139:1259–1262, 2003; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 81:141–147, 1996*
- AIDS
- Behçet's syndrome *Tyring p.104, 2002*
- Crohn's disease *Rook p.3070, 1998, Sixth Edition*
- Celiac disease *BJD 103:111, 1980*
- Cyclic neutropenia
- FAPA syndrome
- Folate deficiency *Rook p.3070, 1998, Sixth Edition*
- Foreign bodies at distant locations
  - Intrauterine device
  - Contact lenses *Lancet 1:857, 1974*
- Herpes simplex
- Idiopathic
- Inflammatory bowel disease
- Iron deficiency *Rook p.3070, 1998, Sixth Edition*
- Luteal phase of menstrual cycle *Rook p.3070, 1998, Sixth Edition*
- MAGIC syndrome
- Neutropenia
  - Cyclic
  - Chemotherapy-induced
- Reiter's disease
- Sweet's syndrome *Dermatologica 169:102–103, 1984*
- Trauma *Rook p.3070, 1998, Sixth Edition*
- Vitamin $B_1$, $B_2$, $B_6$, $B_{12}$ deficiency *Rook p.3070, 1998, Sixth Edition*
- Zinc deficiency

Chronic ulcerative stomatitis – resembles ulcerative lichen planus *JAAD 22:215–220, 1990; JAAD 38:1005–1006, 1998*

Commissural lip pits

Epidermolysis bullosa simplex *Epidermolysis Bullosa: Basic and Clinical Aspects. New York:Springer, 1992:89–117;* oral bullae with epidermolysis bullosa; simplex – generalized, herpetiform (Dowling–Meara) *Cutis 70:19–21, 2002;* superficialis *AD 125:633–638, 1989;* junctional – Herlitz, generalized mild, localized, inverse, progressive; dominant dystrophic – hyperplastic, albopapuloid, and polydysplastic dystrophic type; recessive dystrophic – localized, generalized, mutilating, inverse *Rook p.3065, 1998, Sixth Edition; Oral Surg 43:859–872, 1977;* variants *Oral Surg Oral Med Oral Pathol 71:440–446, 1991; Oral Surg 67:555–563, 1989;* dystrophic epidermolyosis bullosa inversa – flexural bullae, oral ulcers, dental caries, milia *Ped Derm 20:243–248, 2003*

Hailey–Hailey disease

Hydroa vacciniforme – cheilitis with ulcers of the lip *Ped Derm 21:555–557, 2004*

Keratosis lichenoides chronica *JAAD 49:511–513, 2003; AD 131:609–614, 1995*

Kimura's disease (angiolymphoid hyperplasia with eosinophilia) *BJD 145:365, 2001; JAAD 43:905–907, 2000*

Lichen planus *JAAD 46:207–214, 2002; J Oral Maxillofac Surg 50:116–118, 1992; J Oral Pathol 14:431–458, 1985;* isolated lip erosions *Cutis 71–210–212, 2003*

Lichen sclerosus et atrophicus – bluish–white plaques of mouth *Rook p.2549–2551, 1998, Sixth Edition; BJD 131:118–123, 1994; Br J Oral Maxillofac Surg 89:64–65, 1991*

Pityriasis rosea *AD 121:1449–1451, 1985; JAMA 205:597, 1968; Cutis 50:276, 1992;* vesicular pityriasis rosea

Transient acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996*

Reactive perforating collagenosis *JAAD 25:1079–1081, 1991*

## PSYCHOCUTANEOUS DISEASES

Factitial *J Periodontol 66:241–245, 1995; Oral Surg Oral Med Oral Pathol 65:685–688, 1988;* gingival ulcers *J Periodont 65:442–447, 1994*

Self-mutilation *J Periodontol 66:241–245, 1995;* in Lesch–Nyhan syndrome *Oral Maxillofac Surg 23:37–38, 1994*

## SYNDROMES

Ataxia telangiectasia *Rook p.3121, 1998, Sixth Edition*

Behçet's disease *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

Chediak–Higashi syndrome *Rook p.493,3121, 1998, Sixth Edition*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28; oral bullae and erosions *Rook p.415, 1998, Sixth Edition; J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Ehlers–Danlos syndrome *Int Med 35:200–202, 1996*

FAPA syndrome (fever, aphthosis, pharyngitis, and adenitis) *Oral Medicine/Oral Pathology Forum; AAD Annual Meeting, Feb 2002*

Glucagonoma syndrome *South Med J 75:222–224, 1982*

Hypereosinophilic syndrome – erosions of buccal, gingival, or labial mucosa *AD 132:535–541, 1996; Semin Dermatol 14:122–128, 1995; Blood 83:2759–2779, 1994; JAMA 247:1018–1020, 1982*

Hyper-IgM syndrome (hypogammaglobulinemia with hyper-IgM) – X-linked with mutation in CD40 ligand gene; low IgA and IgG; sarcoid-like granulomas; multiple papulonodules of face, buttocks, arms *Ped Derm 21:39–43, 2004; Bolognia p.845, 2003; Ped Derm 18:48–50, 2001*

Kawasaki's disease *Oral Surg 67:569–572, 1989*

Keratosis–ichthyosis–deafness (KID) syndrome *AD 113:1701–1704, 1977*

Kindler's syndrome – oral bullae

Lesch–Nyhan syndrome

Lipoid proteinosis – oral erosions *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002*

MAGIC syndrome (relapsing polychondritis with or without Behçet's disease) *Am J Med 79:665, 1985; J Rheum 4:559, 1984*

Muckle–Wells syndrome *Am J Med Genet 53:72–74, 1994; AD 126:940–944, 1990*

Periodic fever, aphthous stomatitis, pharyngitis, and cervical adenopathy syndrome (PFAPA) *J Pediatr 135:98–101, 1999; J Ped Hem Onc 25:212–218, 1996; Ped Inf Dis J 8:186–187, 1989; J Pediatr 110:43–46, 1987*

Reiter's syndrome – erosions with marginal erythema; circinate erosions *NEJM 309:1606–1615, 1983; Semin Arthritis Rheum 3:253–286, 1974; Dtsch Med Wochenschr 42:1535–1536, 1916*

Riley–Day syndrome

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Shedding oral mucosa syndrome *Cutis 54:323–326, 1996*

Sweet's syndrome *JAAD 31:535–556, 1994; JAAD 23:503–507, 1990*

Van der Woude syndrome – congenital pits and sinuses of lips

### TOXINS

Arsenic poisoning – acute; stomatitis *BJD 149:757–762, 2003*

Mercury poisoning (acrodynia) – oral, perioral ulceration *AD 124:107–109, 1988*

### TRAUMA

Burns – pizza burn of tongue or palate *Rook p.3069, 1998, Sixth Edition;* chemical burn

Cheek biting *J Prosthet Dent 67:581–582, 1992*

Child abuse – ulcer of upper labial frenulum *Rook p.3069, 1998, Sixth Edition*

Dentures *J Oral Pathol 10:65–80, 1981*

Electrical burn

Endotracheal tube insertion – lip ulcer

Facial trauma *Rook p.3069, 1998, Sixth Edition*

Injection

Intubation *Chest 74:317–318, 1978*

Lye

Neurolytic mandibular nerve block *Reg Anesth Pain Med 24:188–189, 1999*

Neutrophilic ulcer *Proc Finn Dent Soc 72:23–26, 1976*

Oral sex *Am J Forensic Med Pathol 2:217–219, 1981*

Orthodontic treatment – traumatic ulcers *Community Dent Oral Epidemiol 17:154–157, 1989*

Overuse of mouthwash *Cutis 64:131–134, 1999*

Radiation stomatitis *Clin Oncol 8:15–24, 1996; J Oral Pathol Med 18:167–171, 1989*

Radiation recall stomatitis

Riga–Fede disease – affects teething infants aged less than two years and is always associated with local trauma (teeth); clinically and histopathologically resembles traumatic eosinophilic ulcer of the oral mucosa *JAAD 47:445–447, 2002; J Ped 116:1742–1743, 1990*

Seizure

Smoking – palatal erosions

Trauma

Traumatic eosinophilic ulcer of the oral mucosa – rarely recognized in clinical practice, it presents as a painless ulcer or indurated lesion on the tongue or buccal mucosa which heals spontaneously within one month; easily confused with squamous cell carcinoma; cause is unknown, but it is often associated with local trauma; mixed cell inflammatory infiltrate, mainly eosinophils beneath the ulcerated surface *Oral Oncol 33:375–379, 1997; Cutis 57:349–351, 1996*

### VASCULAR DISEASES

Calibre-persistent artery of lip – persistent ulcer of the lip *JAAD 46:256–259, 2002; BJD 113:757–760, 1985; J Oral Pathol 9:137–144, 1980*

Giant cell arteritis – ulcer of lip *J Oral Maxillofac Surg 51:581–583, 1993*

Necrotizing vasculitis with HIV disease *J Oral Maxillofac Surg 50:1000–1003, 1992*

Polyarteritis nodosa *Oral Surg 56:597–601, 1983*

Wegener's granulomatosis – oral erosions, ulcers, perforation of nasal septum, ulcers or perforation of hard palate *JAAD 48:311–340, 2003; JAAD 49:335–337, 2003; Ann Otol Rhinol Laryngol 107:439–445, 1998; AD 130:861–867, 1994; Oral Surg Oral Med Oral Pathol 46:53–63, 1978*

## ORAL MUCOSA, VERRUCOUS AND VEGETATING LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus – discoid lupus erythematosus *BJD 121:727–741, 1989*

Pemphigus vegetans

### DRUGS

Black hairy tongue

Bromides

Iodides

### INFECTIONS

Bartonellosis

Bejel

*Candida* – chronic hyperplastic candidiasis *Tyring p.339, 2002; Oral Surg Oral Med Oral Pathol 56:388–395, 1983;* chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981*

Coccidioidomycosis

Histoplasmosis *BJD 133:472–474, 1995*

Leishmaniasis

Leprosy

*Mycobacterium tuberculosis* – tuberculosis verrucosa

Oral hairy leukoplakia

Paracoccidioidomycosis – granulomatous friable lesions (blackberry stomatitis) *Rook p.1149,1370, 1998, Sixth Edition*

Pinta

Rhinoscleroma – *Klebsiella rhinoscleromatous* (Frisch bacillus) exudative stage with rhinorrhea; then proliferative stage with exuberant friable granulation tissue of nose, pharynx, larynx; progresses to nodules; then fibrotic stage *Acta Otolaryngol 105:494–499, 1988; Cutis 40:101–103, 1987*

Sporotrichosis

Syphilis
- Chancre
- Secondary lesions
- Intestitial glossitis

Verrucae *Textbook of Neonatal Dermatology, p.217, 2001*

Yaws

### INFILTRATIVE DISEASES

Verruciform xanthoma (disseminated verruciform xanthoma) – alveolar ridge, palate, floor of mouth *BJD 151:717–719, 2004; Oral Oncol 37:326–331, 2001; Int J Oral Maxillofac Surg 8:62–66, 1999; Oral Surg Oral Med Oral Pathol 31:784–789, 1971*

### INFLAMMATORY DISEASES

Crohn's disease *Oral Surg Oral Med Oral Pathol 75:220–224, 1993*

Median rhomboid glossitis

Pyostomatitis vegetans *Acta DV 81:134–136, 2001; JAAD 31:336–341, 1994*

### METABOLIC DISEASES

Tyrosinemia type II (Richner–Hanhart syndrome) – hyperkeratosis of the tongue *Ann DV 106:53–62, 1979*

### NEOPLASTIC DISEASES

Bowen's disease *Ghatan p.89, 2002, Second Edition*

Epithelioma *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 87:197–208, 1999*

Kaposi's sarcoma *Tyring p.377, 2002*

Lymphoma – cutaneous T-cell lymphoma

Proliferative verrucous leukoplakia *J Calif Dent Assoc 27:300–305, 308–309, 1999; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 83:471–477, 1997*

Squamous cell carcinoma

Verrucous carcinoma (oral florid papillomatosis) *Cancer 89:2597–2606, 2000; Dermatology 192:217–221, 1996; J Craniomaxillofac Surg 17:309–314, 1989; Surg 23:670–678, 1948*

Verrucous hyperplasia *J Maxillofac Surg 11:13–19, 1983; Cancer 46:1855–1862, 1980*

### PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *JAAD 31:1–19, 1994*

Darier's disease

Keratosis lichenoides chronica *Dermatology 191:188–192, 1995; AD 131:609–614, 1995*

Lichen planus *Rook p.3082, 1998, Sixth Edition*

Lichen planus vegetans

### SYNDROMES

Cowden's syndrome

Focal epithelial hyperplasia (Heck's disease) *J Oral Pathol Med 18:419–421, 1989*

Hereditary mucoepithelial dysplasia *Ghatan p.90, 2002, Second Edition*

Riga–Fede disease – white oral verrucous plaque of mucosal surface of lip, tongue, frenulum due to trauma; sign of infantile or natal teeth or sensory neuropathies *JAAD 47:445–447, 2002*

### TRAUMA

Dentures

### VASCULAR DISEASES

Lymphangioma circumscriptum

Pyogenic granuloma

## ORAL MUCOSAL HYPERPIGMENTATION

***JAAD 16:431–434, 1987; Br Dent J 158:9–12, 1985***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus (LE) – discoid lupus erythematosus; subacute cutaneous LE (SCLE)

### DRUGS

ACTH – soft palate, buccal mucosa, at sites of trauma *Br J Dent 158:297–305, 1985*

Amiodarone *Ghatan p.90, 2002, Second Edition*

Antimalarials *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:189–194, 2000;* amodiaquin – blue–black *Rook p.3105, 1998, Sixth Edition*

Arsenic

AZT (azidothymidine) *Am J Med 86:469–470, 1989*

Bismuth

Busulfan – brown hyperpigmentation *Rook p.3105,3383, 1998, Sixth Edition*

Chloroquine

Chlorpromazine

Clofazimine – brown hyperpigmentation *Rook p.3105, 1998, Sixth Edition*

Doxorubicin *Rook p.3383, 1998, Sixth Edition*

Estrogen – gingival hyperpigmentation *J Am Dent Assoc 100:713–714, 1980*

Fixed drug eruption

Gold – purplish–red hyperpigmentation *Rook p.3105, 1998, Sixth Edition*

Mephenytoin *Rook p.3105, 1998, Sixth Edition*

Minocycline – blue–gray staining of gingiva *Rook p.3056,3105, 1998, Sixth Edition;* lip lentigines *JAAD 30:802–803, 1994;* gray pigmentation of teeth

Oral contraceptives *Cutis 48:61–64, 1991*

Oxabolone *Acta DV 75:158:1995*

Premarin *Cutis 48:61–64, 1991*

Phenothiazines *Rook p.3105, 1998, Sixth Edition*

Phenolphthalein *Ghatan p.90, 2002, Second Edition*

Plaquenil

Quinacrine

Quinidine – blue–black *Rook p.3105, 1998, Sixth Edition*

Tetracycline teeth *Rook p.3119, 1998, Sixth Edition*

## EXOGENOUS AGENTS

Amalgam tattoos – silver, tin, mercury, copper, and zinc *AD 110:727–728, 1974*

Arsenic

Betel nut – betel nut chewing – gingival, oral mucosal and dental hyperpigmentation – red to black *JAAD 37:81–88, 1998*

Bismuth

Blackberries

Blue grapes

Brass

Cadmium

Carbon tattoo

Chloracne – halogenated aromatic hydrocarbons – chloronaphthalenes, chlorobiphenyls, chlorobiphenyl oxides used as dielectrics in conductors and insulators, chlorophenols in insecticides, fungicides, herbicides, and wood preservatives *Am J Ind Med 5:119–125, 1989*

Chrome

Copper

Coloring agents

Contact mucositis

Dyes

Eritrean soot tattooing *AD 124:1018–1019, 1988*

Gold

Ink

Juglans regia – chewing bark of plant Juglans regia

Lead *Rook p.3105, 1998, Sixth Edition; Oral Surg 52:143–149, 1981*

Manganese

Mercury *Rook p.3105, 1998, Sixth Edition*

Phenophthalein

Silver – gingival hyperpigmentation *JAAD 30:350–354, 1994*

Smoking (smoker's melanosis) *J Natl Med Assoc 83:434–438, 1991; J Oral Pathol Med 20:8–12, 1991; AD 113:1533–1538, 1977*

Tattoos – intentional gingival tattoo *J Oral Med 41:130–133, 1986;* graphite tattoo *Oral Surg 62:73–76, 1986*

Tin

Tobacco chewing

## INFECTIONS

Golden tongue syndrome – *Ramichloridium schulzeri*

HIV infection – *Ann DV 124:460–462, 1997; Oral Surg Oral Med Oral Pathol 70:748–755, 1990*

## INFLAMMATORY DISORDERS

Periodontitis – melanotic blue macules with periodontitis

Post-inflammatory hyperpigmentation

Sarcoid

## METABOLIC DISEASES

Acromegaly

Addison's disease – spots or patches *Cutis 76:97–99, 2005; Cutis 66:72–74, 2000; Rook p.2706, 1998, Sixth Edition;* gingival hyperpigmentation *Rook p.3055, 1998, Sixth Edition*

Cushing's syndrome

Graves' disease – Addisonian hyperpigmentation; gingiva, buccal mucosa *JAAD 48:641–659, 2003*

Hemochromatosis – Addisonian hyperpigmentation of oral mucosa *AD 113:161–165, 1977*

Nelson's syndrome *J Oral Med 1:13–17, 1982*

Niemann–Pick disease – black macules *Rook p.3121, 1998, Sixth Edition*

Ochronosis – hyperpigmentation of buccal mucosa, nails *Rook p.2649, 1998, Sixth Edition*

Porphyria *Ghatan p.90, 2002, Second Edition*

Thalassemia beta *Ghatan p.90, 2002, Second Edition*

## NEOPLASTIC DISORDERS

Blue nevus *Oral Surg Oral Med Oral Pathol 49:55–62, 1980*

Ephelis *Rook p.3105, 1998, Sixth Edition*

Kaposi's sarcoma – gingival hyperpigmentation *Rook p.3055, 1998, Sixth Edition*

Lentigo maligna – hyperpigmented lips and oral mucosa *AD 138:1216–1220, 2002*

Melanoacanthoma in blacks *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 84:492–494, 1997*

Melanocytic nevus *Oral Surg Oral Med Oral Pathol 49:55–62, 1980; Cancer 25:812–823, 1970*

Melanoma *Oral Oncol 36:152–169, 2000; Oral Surg Oral Med Oral Pathol 36:701–706, 1973; Cancer 25:812–823, 1970*

Melanotic macule (ephelis, lentigo) – vermilion of lips, gingiva, buccal mucosa, palate *Oral Surg Oral Med Oral Pathol 48:244–249, 1979*

Melanotic neuroectodermal tumor of infancy (pigmented neuroectodermal tumor of infancy) *Rook p.3106, 1998, Sixth Edition*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *Rook p.1731, 1998, Sixth Edition; BJD 67:317–319, 1955*

## PARANEOPLASTIC DISEASES

Acanthosis nigricans, malignant *JAAD 42:357–362, 2000*

Ectopic ACTH (bronchogenic carcinoma) – soft palate hyperpigmentation *Oral Surg 41:726–733, 1976*

Peutz–Jeghers-like mucocutaneous pigmentation – associated with breast and gynecologic carcinomas in women *Medicine (Baltimore) 79:293–298, 2000*

## PHOTOSENSITIVITY DISORDERS

Melasma

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Black hairy tongue

Focal melanosis

Idiopathic lenticular mucocutaneous pigmentation *AD 132:844–845, 1996*

Labial melanotic macule (melanotic macule of the lip)

Lentiginosis in blacks

Generalized lentiginosis

Lentigo

Lichen planus *Int J Derm 32:76, 1993;* lichen planus pigmentosus *Dermatologica 162:61–3, 1982*

Oral melanotic macules – 1-cm or less; young white women; lip, hard palate, tongue, buccal mucosa (mucosal melanotic macule)

Pigmented fungiform papillae of the tongue *AD 140:1275–1280, 2004; JAMA 45:588–594, 1905*

Racial pigmentation – gingiva, hard palate, buccal mucosa, tongue *Rook p.3056,3255, 1998, Sixth Edition; J Prosthet Dent 4:392–396, 1980*

### SYNDROMES

Albright's syndrome *Rook p.3105, 1998, Sixth Edition*

Carney complex (LAMB, NAME syndrome) – oral lentigines common *JAAD 46:161–183, 2002; Oral Surg 63:175–183, 1987*

Centrofacial lentiginosis

Dyskeratosis congenita

Incontinentia pigmenti *Rook p.3105, 1998, Sixth Edition*

Laugier–Hunziker syndrome *J Dermatol 28:54–57, 2001; Cutis 42:325–326, 1988*

LEOPARD syndrome – oral hyperpigmentation is unusual *Ped Derm 21:139–145, 2004*

Nelson's syndrome

Neurofibromatosis *Rook p.3105, 1998, Sixth Edition*

Peutz–Jeghers syndrome *JAAD 53:660–662, 2005; Rook p.3057,3063, 1998, Sixth Edition*

Pseudoxanthoma elasticum

Wilson's disease *Ghatan p.90, 2002, Second Edition*

### TRAUMA

Leukokeratosis/leukedema

Mechanical trauma

Radiation therapy *Oral Surg Oral Med Oral Pathol 77:431–434, 1994*

Smoking – irritation

### VASCULAR DISORDERS

Bleeding diathesis

Blue rubber bleb nevus

Thrombosed varix

## OSTEOMA CUTIS

***BJD 146:1075–1080, 2002***

Primary osteoma cutis
- Albright's hereditary osteodystrophy
- Fibrodysplasia ossificans progressiva
- Myositis ossificans progressiva
- Plate-like osteoma cutis
- Progressive osseous heteroplasia
- Pseudohypoparathyroidism
- Pseudopseudohypoparathyroidism

Secondary osteoma cutis
- Acne vulgaris
- Basal cell carcinoma
- Morphea profunda
- Pseudoxanthoma elasticum

## PAINFUL TUMORS

***JAAD 28:298–300, 1993***

### EXOGENOUS AGENTS

Iododerma *Australas J Dermatol 29:179–180, 1988*

### INFLAMMATORY DISEASES

Myositis – focal myositis presenting as painful nodules *Cutis 54:189–190, 1994*

Nodular fasciitis – skin-colored nodules (tender or painful) on the head and neck, extremities, or trunk *AD 137:719–721, 2001*

Palmoplantar eccrine hidradenitis *Ped Derm 18 (Suppl):60, 2001*

### NEOPLASTIC DISEASES

Adenoid cystic carcinoma – head and neck *JAAD 17:113–118, 1987*

Angioleiomyomas *J Hand Surg (Br) 20:479–483, 1995; AD 79:32–41, 1959*

Angiolipoma *Am J Surg Pathol 14:75–81, 1990*

'Blend an egg'

Carcinoid, metastatic

Clear cell hidradenoma *Ped Derm 17:235–237, 2000; Cancer 23:641–657, 1969*

Dermatofibroma

Eccrine angiomatous hamartoma *Ped Derm 22:175–176, 2005; Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; Ped Derm 18:117–119, 2001; JAAD 41:109–111, 1999; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 13:139–142, 1996; AD 129:105–110, 1993;* skin-colored nodule with blue papules

Eccrine epithelioma *JAAD 6:514–518, 1982*

Eccrine hidrocystoma

Eccrine poroma *AD 128:1530, 1533, 1992*

Eccrine spiradenoma *AD 138:973–978, 2002; J Eur Acad DV 15:163–166, 2000; BJD 140:154–157, 1999*

Eccrine sweat gland carcinoma *J Cutan Pathol 14:65–86, 1987*

Enchondroma, subungual *Derm Surg 27:591–593, 2001*

Endometrioma

Epithelioma cuniculatum *AD 128:106–107, 109–110, 1992*

Granular cell tumor

Keratoacanthomas *Int J Dermatol 35:648–650, 1996*

Leiomyomas *JAAD 38:272–273, 1998; Dermatology 191:295–298, 1995;* cold-induced pain *BJD 118:255–260, 1988*

Lymphoma – immunocytoma (low grade B-cell lymphoma) – blue or reddish–brown papules *JAAD 44:324–329, 2001;* marginal zone B-cell lymphoma of MALT type *JAAD S86–88, 2003*

Malignant schwannoma (neurofibrosarcoma) – nodule which enlarges and becomes painful *JAAD 38:815–819, 1998; Am J Dermatopathol 11:213–221, 1989*

Metastases – esophageal carcinoma (scalp nodule) *Cutis 70:230–232, 2002;* transitional cell carcinoma of renal pelvis *JAAD 42:867868, 2000;* colon cancer *Cutis 60:297–298, 1997;* carcinoid *JAAD 36:997–998, 1996;* gastric carcinoid *Am J Dermatopathol 14:263–269, 1992;* chondrosarcoma (scapula) *AD 114:584–586, 1978*

Morton's neuroma – damage to plantar digital nerve with fibrosis; pain between third and fourth metatarsals *Rook p.2364, 1998, Sixth Edition*

Neurilemmoma (schwannoma) – pink–gray or yellowish nodules of head and neck *Rook p.2363, 1998, Sixth Edition*

Neuroma *J Bone Joint Surg Br 76:474–476, 1994*

Neuromatoid hyperplasia *Rook p.2357, 1998, Sixth Edition*

Neurothekoma (nerve sheath myxoma) *J Korean Med Sci 7:85–89, 1992*

Osteoid osteomas – nocturnal pain *Derm Surg 27:591–593, 2001*

Paraganglioma, metastatic *JAAD 44:321–323, 2001*

Proliferating trichilemmal tumor *AD 124:936, 938–939, 1988*

Spiradenoma *JAAD 2:59–62, 1980*

Squamous cell carcinoma of the scalp *JAAPA 13:125–126, 2000;* painful scar *Br J Plast Surg 41:197–199, 1988*

### PRIMARY CUTANEOUS DISEASES

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas *JAAD 44:132–136, 2001*

### SYNDROMES

Blue rubber bleb nevus syndrome – vascular malformation *AD 116:924–929, 1996*

Incontinentia pigmenti – painful subungual dyskeratotic tumors *Ann Dermatol Syphiligr (Paris) 100:159–168, 1973*

### VASCULAR TUMORS

Glomus tumors *AD 132:704–705, 707–708, 1996*

Intravascular papillary endothelial hyperplasia

Thrombosed vein – plantar *Clin Podiatr Med Surg 13:85–89, 1996*

Tufted angioma *Ped Derm 19:388–393, 2002; JAAD 31:307–311, 1994; Int J Dermatol 33:675–676, 1994; Clin Exp Dermatol 17:344–345, 1992*

Venous aneurysm – painful blue nodule of hand *AD 140:1393–1398, 2004*

### PRURITIC TUMORS

***The Clinical Management of Itching; Parthenon; p.150, 2000***

Alveolar soft part sarcoma of the glabella *Int J Ped Otorhinolaryngol 68:569–571, 2004*

Angiokeratomas *J Dermatol 20:247–251, 1993*

Dermatofibroma *Int J Derm 30:507–508, 1991*

Eccrine poromas; malignant eccrine poroma *Dermatologica 167:243–249, 1983*

Epidermal nevi

Eruptive xanthomas

Follicular basal cell nevus with comedo-like lesions *Acta DV 63:77–79, 1983*

Granular cell tumor *AD 136:1165–1170, 2000*

Inflammatory linear verrucous epidermal nevus (ILVEN) *Ann Plast Surg 28:292–296, 1992*

Keloids *Clin Plast Surg 14:253–260, 1987*

Lymphomatoid papulosis – in HIV positive man *AIDS Patient Care STDS 18:563–567, 2004*

Melanocytic nevi

Melanoma *Clin Exp Dermatol 16:344–347, 1991*

Metastasis – uterine papillary serous carcinoma *Am J Dermatopathol 27:436–438, 2005*

Paget's disease of the vulva *Am J Obstet Gynecol 187:281–284, 2002*

Seborrheic keratoses

## PALATAL NECROSIS

Aphthous stomatitis *Emedicine, March 28, 2002*

Aspergillosis *Cutis 66:15–18, 2000;* rhinocerebral aspergillosis with palatal necrosis *Rook p.3093, 1998, Sixth Edition*

Behçet's disease *Emedicine, September 24, 2004*

Cocaine – nasal cocaine abuse *Eur Arch Otorhinolaryngol 255:446–447, 1998*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Herpes zoster *Cutis 66:15–18, 2000*

Idiopathic midline destructive disease *Am J Clin Pathol 77:162–167, 1982*

Kaposi's sarcoma *Cutis 66:15–18, 2000*

Lymphoma – HIV-associated *Cutis 66:15–18, 2000;* midline malignant B-cell lymphoma *Cancer 70:2958–2962, 1992;* NK-cell lymphoma *Kulak Burun Bogaz Ihtis Derg 9:376–379, 2002*

Mucoepidermoid carcinoma

Mucormycosis *Cutis 66:15–18, 2000*

Mycobacteria, atypical *Cutis 66:15–18, 2000*

*Mycobacterium tuberculosis Emedicine, March 28, 2002*

Necrotizing sialometaplasia – reactive condition of minor or occasionally major salivary glands; probably due to ischemia or vasculitis *Med Oral 9:304–308, 2004; J Am Dent Assoc 101:823–824, 1980*

Necrotizing stomatitis *Cutis 66:15–18, 2000*

Noma (cancrum oris) – non-hemolytic streptococci, *Staphylococcus aureus*, *Bacteroides saccharolyticus*, *Fusobacterium necrophorum*, *Prevotella intermedia Cutis 66:15–18, 2000*

*Paecilomyces* sinusitis – eroded hard palate *Clin Inf Dis 23:391–393, 1996*

*Penicillium marneffei Oral Dis 5:286–293, 1999*

Radiation therapy

Sarcoid *Rook p.2694, 1998, Sixth Edition*

Squamous cell carcinoma *Emedicine, March 28, 2002*

Syphilis *Emedicine, March 28, 2002*

Trauma – bottle feeding in a child *Int J Paediatr Dent 5:109–111, 1995*

Wegener's granulomatosis *Emedicine, March 28, 2002*

# PALMAR ERYTHEMA

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Angioedema

Dermatitis herpetiformis – red palmoplantar plaques *Cutis 37:184–187, 1986*

Dermatomyositis

Graft vs. host disease – red palms and soles *JAAD 38:369–392, 1998; AD 134:602–612, 1998; Int J Derm 20:249, 1981; Cutis 46:397–404, 1990*

Linear IgA disease – annular psoriasiform, serpiginous red plaques of palms *JAAD 51:S112–117, 2004*

Lupus erythematosus – systemic-reticulated telangiectatic erythema of thenar and hypothenar eminences, finger pulps, toes, lateral feet, and heels; bluish red with small white scars *Rook p.2473, 1998, Sixth Edition; Br J Derm 135:355–362, 1996;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Mixed connective tissue disease

Rheumatoid arthritis (Dawson's palms) *Clin Rheumatol 4:449–451, 1985*; rheumatoid neutrophilic dermatitis

Scleroderma *Rook p.2529, 1998, Sixth Edition*

Urticaria

## CONGENITAL LESIONS

Syringomyelia

## DEGENERATIVE

Neurotrophic erythema – neuropathy-associated acral paresthesia and vasodilatation

## DRUGS

Allopurinol hypersensitivity syndrome

Bromocriptine ingestion – mimics erythromelalgia *Neurology 31:1368–1370, 1981*

Chemotherapy-induced acral dysesthesia syndrome (palmoplantar erythrodysesthesia syndrome) *JAAD 24:457–461, 1991; Cutis 46:397–404, 1990; AD 122:1023–1027, 1986; Ann Intern Med 101:12, 1984*
- Capecytabine (Xeloda)
- Cytosine arabinoside
- Docetaxil
- Doxorubicin
- Fluorouracil
- Vinblastine

Chemotherapy-induced Raynaud's phenomenon

Chemotherapy-induced eccrine squamous syringometaplasia – cytarabine, mitoxantrone, fluorouracil, cisplatin, doxorubicin, cyclophosphamide, etoposide, methotrexate, busulfan, melphalan, carmustine, thiotepa *AD 133:873–878, 1997;* acral edematous erythema of palm – docataxel *BJD 146:524–525, 2002*

Corticosteroids – systemic or topical

Dilantin hypersensitivity

Drug eruption, morbilliform – many agents

Hydroxyurea – dermatomyositis-like lesions *JAAD 21:797–799, 1989*

Nifedipine – mimics erythromelalgia *Neurology 31:1368–1370, 1981*

Oral contraceptives (estrogens)

Roquinimex (cytokine inducer) *AD 133:873–878, 1997*

Salbutamol *Ann DV 119:293–294, 1992*

Sympathomimetics in pregnancy *BJD 124:210, 1991*

Thalidomide *JAAD 35:976, 1996*

## EXOGENOUS AGENTS

Irritant contact dermatitis

## INFECTIONS

Cellulitis

Clostridial sepsis

Endocarditis, including acute and subacute bacterial endocarditis

Erysipelas

Erysipeloid

HIV – acute HIV infection – acral erythema *Cutis 40:171–175, 1987*

Leprosy

Measles – atypical measles

Meningococcemia

*Mycobacterium tuberculosis* – pulmonary tuberculosis

Parvovirus B19 (erythema infectiosum) *Hum Pathol 31:488–497, 2000;* including papular pruritic petechial glove and sock syndrome *Tyring p.300–301, 2002; Cutis 54:335–340, 1994*

Rat bite fever

Rocky Mountain spotted fever

Scabies

Scarlet fever and scarlatiniform *Rook p.2081, 1998, Sixth Edition*

Septic emboli

Syphilis – secondary

Tinea manuum

Toxic shock syndrome, either staphylococcal or streptococcal – erythema and edema of the palms and soles *JAAD 39:383–398, 1998*

Viral exanthem

## INFILTRATIVE DISORDERS

Mastocytosis

## INFLAMMATORY DISEASES

Crohn's disease *JAAD 36:697–704, 1997*

Erythema multiforme

Erythema nodosum – palmar *JAAD 29:284, 1993; AD 129:1064–1065, 1993*

Recurrent palmoplantar hidradenitis in children (neutrophilic eccrine hidradenitis) *AD 131:817–20, 1995*

Sarcoid *Clin Exp Dermatol 23:123–124, 1998; AD 133:882–888, 1997*

Toxic epidermal necrolysis

## METABOLIC DISEASES

Acrodermatitis enteropathica

Chronic febrile disease *Ghatan p.96, 2002, Second Edition*

Cold agglutinins

Cryofibrinogenemia

Cryoglobulinemia

Diabetes mellitus

Hemochromatosis *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hyperthyroidism *JAAD 26:885–902, 1992*

Liver disease, chronic – hyperestrogenic state *Rook p.2081,2724, 1998, Sixth Edition*

Lung disease, chronic

Polycythemia vera

Pregnancy – hyperestrogenic state *Ann DV 121:227–231, 1994; Cutis 3:120–125, 1967*

Pseudoglucagonoma syndrome due to malnutrition *AD 141:914–916, 2005*

Thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Leuk Lymphoma 22 Suppl 1:47–56, 1996; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

## NEOPLASTIC DISEASES

Angioimmunoblastic lymphadenopathy

Atrial myxoma *Br Heart J 36:839–840, 1974*

Eccrine angiomatous hamartoma – painful erythema *AD 125:1489–1490, 1989*

Kaposi's sarcoma *BJD 148:1061–1063, 2003;* plantar erythema

Leukemia – hyperleukocytosis – acral lividosis; chronic myelogenous leukemia with leukostasis – livedo *AD 123:921–924, 1987*

Lymphoma – Woringer–Kolopp disease *AD 131:325–329, 1995*

Plantar fibromatosis *JAAD 12:212–214, 1985*

Waldenström's macroglobulinemia

## PARANEOPLASTIC DISEASES

Bazex syndrome

Lymphoma – red papules and plaques on palmar aspects of fingers *JAAD 51:600–605, 2004*

Paraneoplastic autoimmune multiorgan syndrome (paraneoplastic pemphigus) – arciform and polycyclic lesions *AD 137:193–206, 2001*

Paraneoplastic palmar erythema *Med Cutan Ibero Lat Am 13:487–490, 1985;* Hodgkin's disease *Ann DV 105:349, 1978*

## PRIMARY CUTANEOUS DISEASES

Acral localized acquired cutis laxa *JAAD 21:33–40, 1989*

Atopic hand and/or foot dermatitis *Rook p.2081, 1998, Sixth Edition*

Circumscribed palmar or plantar hypokeratosis – red atrophic patch *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Ectodermal dysplasia

Epidermolytic hyperkeratosis

Erythema palmare hereditarium – Lane disease *Arch Dermatol Syphilol 20:445–448, 1929*

Erythroderma, multiple causes

Erythrokeratoderma variabilis

Erythrokeratolysis hiemalis (Oudtshoorn disease) (keratolytic winter erythema) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Follicular mucinosis, erythrodermic

Granuloma annulare, generalized *JAAD 20:39–47, 1989*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – red hands and feet; hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *Ped Derm 20:272–275, 2003; Cutis 65:141–145, 2000*

Hand dermatitis, including hand dermatitis treated with topical steroids

Healthy female *Ghatan p.96, 2002, Second Edition*

Hereditary palmar erythema *Hautarzt 51:264–265, 2000*

Idiopathic *Rook p.2081, 1998, Sixth Edition*

Juvenile plantar dermatosis

Lamellar ichthyosis

Lichen planus

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Pityriasis rubra pilaris *Rook p.2081, 1998, Sixth Edition*

Progressive symmetric erythrokeratoderma

Psoriasis *Rook p.2081, 1998, Sixth Edition*

Stasis dermatitis with id reaction

## SYNDROMES

Antiphospholipid antibody syndrome

Familial erythromelalgia *AD 118:953, 1982*

Familial Mediterranean fever – erysipelas-like lesions

Goodpasture's syndrome – annular erythematous macule *AD 121:1442–1444, 1985*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – palmoplantar erythema; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Kawasaki's disease

Mal de Meleda – in infancy *AD 136:1247–1252, 2000*

Netherton's syndrome

Papillon–Lefevre syndrome – palmar erythema precedes development of palmoplantar keratoderma *JAAD 49:S240–243, 2003*

Reflex sympathetic dystrophy (causalgia) *JAAD 22:513–520, 1990*

## TOXINS

Acrodynia, infantile (pink disease) – mercury poisoning; erythema with or without exfoliation *Ped Derm 21:254–259, 2004; Ann DV 121:309–314, 1994; AD 124:107–109, 1988*

Alcoholic liver disease

Chronic radiation dermatitis

Eosinophilia myalgia syndrome *JAAD 23:1063–1069, 1990*

### TRAUMA

Arterial puncture – acral livedo

Chilblains *JAAD 23:257–262, 1990*

Chronic radiation dermatitis

Cold erythema *JAMA 180:639–42, 1962*

Delayed pressure urticaria

Frostbite – recovery phase *JAAD 23:166, 1990*

Heat exposure

Urticaria – traumatic plantar urticaria *JAAD 18:144–146, 1988*

Vibratory urticaria

### VASCULAR DISORDERS

Acrocyanosis

Acrocyanosis with atrophy *AD 124:263–268, 1988*

Arteriosclerotic peripheral vascular disease *JAAD 50:456–460, 2004*

Arteriovenous fistula *Clin Nephrol 36:158, 1991*

Cholesterol emboli

Cutis marmorata telangiectatica congenita (plantar erythema)

Erythrocyanosis

Erythromelalgia – associations include essential thrombocythemia, polycythermia vera, diabetes mellitus, peripheral neuropathy, systemic lupus erythematosus, rheumatoid arthritis, hypertension, frostbite, colon cancer, gout, calcium channel blockers, bromocriptine *BJD 153:174–177, 2005; JAAD 50:456–460, 2004;* all types exacerbated by warmth; may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130, 1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000*; following influenza vaccine *Clin Exp Rheumatol 15:111–113, 1997;* erythromelalgia with thrombocythemia *JAAD 24:59–63, 1991*

Fat emboli

Hemangioma

Henoch–Schönlein purpura

Klippel–Trenaunay–Weber syndrome

Pigmented purpuric eruption

Polyarteritis

Polycythemia vera or essential thrombocythemia – acral ischemia

Port wine stain

Raynaud's disease – hyperperfusion phase

Recurrent cutaneous eosinophilic vasculitis *BJD 149:901–902, 2003*

Thromboangiitis obliterans

Urticarial vasculitis

Vascular malformation

Vasculitis – leukocytoclastic, other

Venous gangrene – plantar erythema *AD 123:933–936, 1987*

Venous stasis

## PALMAR OR PLANTAR NODULES

Blue rubber bleb nevus syndrome – plantar blue nodules

Callosities – occupational (carpenters, live chicken hangers, frictional) *Contact Derm 17:13–16, 1987*

Cellulitis – plantar nodule *Ped Derm 15:97–102, 1998*

Cutaneous fibroma

Delayed pressure urticaria – nodules of soles *Rook p.2130, 1998, Sixth Edition; JAAD 29:954–958, 1993*

Dupuytren's contracture (palmar fibromatosis) – starts as palmar nodule *Am J Surg Pathol 1:255–270, 1977*

Eccrine angiomatous hamartoma – toes, fingers, palms and soles – skin-colored to blue *Cutis 71:449–455, 2003; JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 18:117–119, 2001; Ped Derm 14:401–402, 1997;* skin-colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine poroma – plantar red nodule *Caputo p.72–73, 2000; Rook p.1706–1707, 1998, Sixth Edition; AD 74:511–521, 1956;* digital papule *AD 74:511–512, 1956*

Epithelioid hemangioendothelioma

Epithelioid neurofibroma

Epithelioid sarcoma – nodule of flexor finger or palm *JAAD 14:893–898, 1986; AD 121:389–393, 1985;* of sole *Caputo p.103, 2000*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* plantar nodules *Ped Derm 15:97–102, 1998*

Erythema nodosum *JAAD 26:259–260, 1992; JAAD 20:701–702, 1989*

Fibroma of tendon sheath

Fibrous hamartoma of infancy – congenital plantar nodule *Ped Derm 21:506–507, 2004*

Late fibrosing stage of tenosynovial giant cell tumor

Foreign body granuloma – digital papule; cactus spine (Opuntia cactus) granulomas *Cutis 65:290–292, 2000;* sea urchin granulomas

Granuloma annulare *JAAD 3:217–230, 1980*

Hypertrophic scar – plantar giant nodule *BJD 145:1005–1007, 2001*

Ledderhose's nodules (plantar fibromatosis) *JAAD 41:106–108, 1999*

Lipoma – adipose plantar nodules (congenital) *BJD 142:1262–1264, 2000;* palmar subcutaneous lipoma *Cutis 40:29–32, 1987*

Maffucci's syndrome – enchondromas, angiomas, cartilaginous nodules *Rook p.2847, 1998, Sixth Edition; Dermatologic Clinics 13:73–78, 1995; JAAD 29:894–899, 1993*

Migratory angioedema – plantar nodule *Ped Derm 15:97–102, 1998*

*Mycobacterium scrofulaceum* – palmar nodule *AD 138:689–694, 2002*

Palmoplantar eccrine neutrophilic hidradenitis (idiopathic recurrent palmoplantar hidradenitis) (idiopathic plantar hidradenitis) *Ped Derm 21:30–32, 2004; JAAD 47:S263–265, 2002; J Pediatr 160:189–191, 2001; J Pediatr 160:189–191, 2001; AD 134:76–79, 1998; Ped Derm 15:97–102, 1998; J Eur Acad Dermatovenereol 10:257–261, 1998; AD 131:817–820, 1995*

Panniculitis – plantar nodule *Ped Derm 15:97–102, 1998*

Precalcaneal congenital fibrolipomatous hamartoma (pedal papules of the newborn) – plantar nodule over medial plantar

heel *Ped Derm 21:655–656, 2004; Med Cut Ibero Lat Am 18:9–12, 1990*

Regressing glomus tumor

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Rheumatoid arthritis – rheumatoid nodule (digital papule) *JAAD 11:713–723, 1984;* rheumatoid papules (rheumatoid neutrophilic dermatitis) *JAAD 20:348–352, 1988;* rheumatoid neutrophilic dermatitis – nodules over joints *AD 133:757–760, 1997; AD 125:1105–1108, 1989*

Scabies *Rook p.1460, 1998, Sixth Edition;* crusted (Norwegian) scabies presenting with hyperkeratotic nodules of the soles *AD 134:1019–1024, 1998*

Scleroatrophic syndrome of Huriez – palmar nodule, scleroatrophy of the hands *BJD 137:114–118, 1997*

Sclerosing perineuroma – palmar nodule, digital nodule *Ped Derm 21:606–607, 2004; BJD 146:129–133, 2002*

Sea urchin spine – plantar nodule

Sclerotic adnexal tumor

Spindle cell hemangioendothelioma – hyperkeratotic nodules of soles *BJD 142:1238–1239, 2000*

Traumatic neuroma

Vasculitis – plantar nodule *JAAD 47:S263–265, 2002; Ped Derm 15:97–102, 1998*

Venous aneurysm – painful blue nodule of hand *AD 140:1393–1398, 2004*

# PALMAR PITS AND PUNCTATE KERATOSES/DYSHIDROSIS-LIKE LESIONS

***JAAD 22:468–476, 1990***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Discoid lupus erythematosus

Mixed connective tissue disease

Scleroderma – acrokeratoelastoidosis-like lesions *JAAD 46:767–770, 2002;* CREST syndrome – acral pits

## DRUG-INDUCED

PUVA – punctate keratoses *JAAD 42:476–479, 2000*

## INFECTIONS

Epidermodysplasia verruciformis

*Mycobacterium tuberculosis* – miliary tuberculosis in AIDS *JAAD 23:381–385, 1990;* punctate palmoplantar keratoses acuminata (papulonecrotic tuberculid) *Int J Derm 8:470–471, 1982*

Paracoccidioidomycosis – punctate palmoplantar keratoderma *J Clin Inf Dis 23:1026–1032, 1996*

Pitted keratolysis – *Corynebacterium* species; white hyperkeratosis with circular erosions in malodorous feet *JAAD 7:787–791, 1982; Dermatophilus congolensis* – due to contact with infected animals *BJD 145:170–171, 2001; BJD 137:282, 1997; JAAD 7:752–757, 1982*

Scabies

Syphilis – secondary; minute craters surrounded by hyperkeratotic papules *Rook p.1270, 1998, Sixth Edition*

Warts *Cutis 74:173–179, 2004*

Yaws – minute craters surrounded by hyperkeratotic papules (hormoguillo) *Rook p.1270, 1998, Sixth Edition; JAAD 29:519–535, 1993;* palmoplantar keratoderma*;* primary mother yaw; papule enlarging with satellite nodules, ulcerates to form crusted lesion; secondary yaws has disseminated lesions (daughter yaws) which expand, ulcerate and weep; healing in circinate and annular patterns; painful osteoperiostitis and polydactylitis; all lesions non-scarring; tertiary yaws – destructive hyperkeratotic, nodular, plaque-like, and ulcerated lesions with deforming bone and joint lesions with prominent palmoplantar keratoderma

## INFILTRATIVE DISEASES

Nodular amyloid

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis

Prurigo nodularis – increased numbers of calcitonin gene-related peptide and substance P-containing nerve fibers.

Sarcoid – erythroderma with keratotic spines and palmar pits *BJD 95:93–97, 1976*

## METABOLIC DISEASES

Cystic fibrosis – transient papulotranslucent acrokeratoderma *Australas J Dermatol 41:172–174, 2000*

Gouty tophi *Challenges in Derm 13:6–7, 1988*

Tyrosinemia type II (Richner–Hanhart syndrome) *Arch Int Med 145:1697–1700, 1985*

Xanthoma – punctate xanthoma *JAAD 22:468–476, 1990*; *Cutis 43:169–171, 1988*

## NEOPLASTIC DISEASES

Bowen's disease

Eccrine poromas *JAAD 3:43–49, 1980; AD 101:606, 1970*

Eccrine syringofibroadenomatosis – dyshidrosiform lesions *AD 130:933–934, 1994*

Epidermal nevus, linear

Keratoma plantare sulcatum

Lymphoma, including cutaneous T-cell lymphoma *JAAD 7:792–796, 1982*

Lymphomatoid papulosis *JAAD 27:627–628, 1992*

Nevus comedonicus *BJD 145:682–684, 2001; JAAD 12:185–188, 1985*

Porokeratosis of Mantoux – crateriform lesions of palms *Rook P.1575, 1998, Sixth Edition*

Porokeratosis of Mibelli

Porokeratosis palmaris et plantaris et disseminata *JAAD 21:415–418, 1989; JAAD 11:454–460, 1984*

Porokeratosis punctata plantaris or palmaris – music box spicules *AD 125:1715, 1989; AD 120:263–264, 1984; J Cutan Pathol 4:338–341, 1977*

Porokeratotic eccrine ostial and dermal duct nevus – linear punctate pits of sole or palmoplantar papules *AD 138:1309–1314, 2002; Ped Derm 15:140–142, 1998; JAAD 20:924–927, 1989; BJD 101:717–722, 1979*

Proliferating trichilemmal cysts and cicatricial alopecia *AD 107:435–8, 1973*

Squamous cell carcinoma with arsenical keratoses

Trichoepitheliomas – multiple trichoepitheliomas *JAAD 22:1109–1110, 1990*

## PARANEOPLASTIC DISEASES

Hereditary punctate keratoderma and internal malignancy (punctate keratoses of the palms and soles) – associated with lung and bladder carcinomas *JAAD 22:468–476, 1990;* colon cancer *JAAD 10:587–591, 1984*

Punctate palmoplantar keratoderma *BJD 134:720–726, 1996*

Punctate porokeratotic keratoderma *Clin Exp Dermatol 19:139–141, 1994*

## PHOTODERMATOSES

Degenerative collagenous plaques of the hands

## PRIMARY CUTANEOUS DISEASES

Acrokeratoelastoidosis of Costa *Cutis 74:173–179, 2004; Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*

Acrokeratosis verruciformis of Hopf

Benign familial pemphigus (Hailey–Hailey disease) – autosomal dominant; photo- and/or heat exacerbated; erosive intertriginous dermatitis; may have oral, esophageal or vaginal erosions *AD 96:254–258, 1967*; *BJD 81:77, 1969*

Buschke–Fischer–Brauer keratoderma (punctate palmoplantar keratoderma) (keratodermia palmo-plantaris papulosa) (keratodermia palmoplantare papuloverrucoides progressiva) (keratoma dissipatum hereditarium palmare et plantare (Brauer)) – autosomal dominant; clinical subtypes include pinhead papules, spiky filiform lesions, dense round 1–2-mm papules, clavus-like lesions, hard warty masses, cupuliform lesions, and focal translucent lesions *BJD 152:874–878, 2005; JAAD 49:1166–1169, 2003; Curr Prob Derm 14:71–116, 2002; BJD 128:104–105, 1993; JAAD 8:700–702, 1983; Hum Genet 60:14–19, 1982; JAAD 3:43–49, 1980* with ainhum *Actas Dermosifiliogr 73:105–110, 1982*

Colley–Davies PPK (punctate palmoplantar keratoderma) (palmoplantar papular keratoderma of Davies–Colley) – keratosis palmoplantaris maculosa seu papulosa *Hautarzt 48:577–580, 1997; Trans Pathol Soc Lond 30:451, 1879*

Darier's disease (keratosis follicularis) – punctate or filiform palmar keratoses or pits *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992*

Dupuytren's contracture – presenting as palmar pits *J Med 9:347–350, 1978*

Dyshidrosis

Epidermolysis bullosa simplex with mottled pigmentation of neck, upper trunk, arms and leg with or without keratoderma (punctate palmoplantar keratoses); cutaneous atrophy, nail dystrophy; wart-like hyperkeratotic papules of axillae, wrists, dorsae of hands, palms and soles; P25L mutation of keratin 5 *JAAD 52:172–173, 2005; BJD 150:609–611, 2004; Clin Genet 15:228–238, 1979*

Epidermolysis bullosa simplex with mottled pigmentation with keratoderma (Dowling–Meara type) – focal punctate palmoplantar keratoderma; acral blistering, hemorrhagic bullae, dystrophic thick nails *BJD 144:40–45, 2001; JID 111:893–895, 1998; Ped Derm 13:306–309, 1996;* punctate keratoderma *AD 122:900–908, 1986*

Erythrokeratoderma variabilis

Familial dyskeratotic comedones *JAAD 17:808–814, 1987*

Focal acral hyperkeratosis (acrokeratoelastoidosis without elastorrhexis) – autosomal dominant; crateriform papules of the sides of the hands and feet *JAAD 47:448–451, 2002; AD 120:263–264, 1984; BJD 109:97–103, 1983*

Hereditary painful calluses *AD 114:591–592, 1978*

Hyperkeratosis lenticularis perstans (Flegel's disease) – smaller lesions than Kyrle's disease

Hyperkeratotic dermatitis of the palms *BJD 107:195–202, 1982*

Hypopigmentation with punctate keratoderma

Keratoelastoidosis marginalis of the hands – hyperkeratotic papules of hands in elderly *Dermatologica 131:169–175, 1954*

Keratodermia maculosa disseminata symmetrica palmaris et plantaris (punctate keratoderma)

Keratosis palmoplantaris papulosa seu maculosa (punctate keratoderma)

Keratoma plantare sulcatum

Keratosis punctata et plantaris *Acta DV 56:105–110, 1976*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Kyrle's disease

Lichen nitidus – palmar hyperkeratosis *Clin Exp Dermatol 18:381–383, 1993;* minute papules *AD 104:538–540, 1971*

Lichen planus *AD 140:1275–1280, 2004; Int J Dermatol 25:592–593, 1986*

Mal de Meleda – pits within PPK *Cutis 56:235–238, 1995*

Marginal papular keratodermas *Ped Derm 19:320–322, 2002*
- Acrokeratoelastoidosis of Costa *Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*
- Focal acral hyperkeratosis
- Degenerative collagenous plaques of the hands
- Keratoelastoidosis marginalis of the hands
- Palmar xanthomas
- Flat warts
- Porokeratosis
- Mosaic acral keratosis

Multiple minute digitate hyperkeratosis (music box spicules) *BJD 121:239–242, 1989; JAAD 18:431–436, 1988*; spiny keratoderma *Cutis 74:173–179, 2004; JAAD 26:879–881, 1992*

Palmoplantar keratoderma – circumscriptum

Palmoplantar keratoderma of the punctate type (keratosis palmoplantaris varians et punctata) (familial punctate keratoderma) *BJD 145:682–684, 2001; Hautarzt 47:858–859, 1996; JAAD 18:75–86, 1988*

Pitted palmoplantar keratoderma in palmar creases (keratosis punctata of palmar creases of black patients) – racial variant *Cutis 74:173–179, 2004; JAAD 22:468–70, 1990; Cutis 33:394–396, 1984*

Prurigo nodularis

Psoriasis

Punctate porokeratotic keratoderma (punctate porokeratosis of the palms and soles) – punctate pits and keratotic papules of hands *Acta DV 70:478–482, 1990; AD 125:816–819, 1989;*

*AD 124:1678–1682, 1988; JAAD 13:908–912, 1985; AD 120:263–264, 1984; AD 104:682–683, 1971*

Reticulate acropigmentation of Kitamura (milia-like keratotic papules) – palmar pits *AD 139:657–662, 2003; JAAD 37:884–886, 1997; J Dermatol 27:745–747, 2000; JAAD 40:462–467, 1999; BJD 109:105–110, 1983*

### SYNDROMES

Alopecia–onychodysplasia–hypohidrosis–deafness syndrome (ectodermal dysplasia)

Basaloid follicular hamartoma syndrome (generalized basaloid follicular hamartoma syndrome) – autosomal dominant; multiple skin-colored, red, and hyperpigmented papules of the face, neck, chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts (trichilemmal cysts), comedone-like lesions, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes), dermatosis papulosa nigra, skin tag-like lesions, hypotrichosis *JAAD 49:698–705, 2003; BJD 146:1068–1070, 2002; JAAD 45:644–645, 2001; BJD 143:1103–1105, 2000; AD 107:435–438, 1973; JAAD 43:189–206, 2000*

Cole's disease – hypopigmentation with punctate keratoses of the palms and soles *Ped Derm 19:302–306, 2002; JID 67:72–89, 1976*

Congenital poikiloderma with traumatic bullae, anhidrosis, and pitted PPK

Conradi–Hünermann syndrome – X-linked dominant chondrodysplasia punctata

Cowden's syndrome – punctate translucent keratoses *Cutis 74:173–179, 2004; Nat Genet 13:114–116, 1996; J Med Genet 32:117–119, 1995*; *Dermatol Clin 13:27–31, 1995; AD 122:821, 824–825, 1986*

Dermatopathia pigmentosa retularis – autosomal dominant, reticulate hyperpigmentation of trunk, onychodystrophy, alopecia, oral hyperpigmentation, punctate hyperkeratosis of palms and soles, hypohidrosis; atrophic macules over joints with hypertrophic scarring *Semin Cut Med Surg 16:72–80, 1997; AD 126:935–939, 1990; Hautarzt 6:262, 1960*

Epidermodysplasia verruciformis *Cutis 52:53–55, 1993*

Focal dermal hypoplasia, morning glory anomaly, and polymicrogyria – swirling pattern of hypopigmentation, papular hypopigmented and herniated skin lesions of face, head, hands, and feet, basaloid follicular hamartomas, mild mental retardation, macrocephaly, microphthalmia, unilateral morning glory optic disc anomaly, palmar and lip pits, and polysyndactyly *Am J Med Genet 124A:202–208, 2004*

Greither's ectodermal dysplasia

Hereditary acral keratotic poikiloderma of Weary *Ped Derm 13:427–429, 1996*

Hereditary papulotranslucent acrokeratoderma (punctate keratoderma) *Cutis 61:29–30, 1998; AD 34:686–688, 1996*

Hidrotic ectodermal dysplasia

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Keratoderma with mental retardation and spastic paraplegia

Lipoid proteinosis

Naegeli–Franceschetti–Jadassohn syndrome – autosomal dominant, reticulate gray to brown pigmentation of neck, upper trunk and flexures, punctate or diffuse palmoplantar keratoderma, onycholysis, subungual hyperkeratosis, yellow tooth enamel *JAAD 28:942–950, 1993*

Nevoid basal cell carcinoma syndrome – punctate hyperkeratosis of palms *Summer Meeting, American Academy of Dermatology, July 31, 2004; Int J Oral Maxillofac Surg 33:117–124, 2004; Clin Genet 55:34–40, 1999; Am J Med Genet 69:299–308, 1997; Am J Med Genet 69:299–308, 1997; Dermatol Clin 13:113–1125, 1995; Medicine 66:98–113, 1987*

Pachyonychia congenita

Palmoplantar keratoderma with leukoplakia

Palmoplantar keratoderma with scleroatrophy of the extremities (Huriez syndrome)

Papillon–Lefevre syndrome – punctate hyperkeratosis of palms and soles *JAAD 48:345–351, 2003*

Punctate acrokeratoderma with pigmentary disorder *BJD 128:693–695, 1993*

Reiter's syndrome

Schopf–Schulze–Passarge syndrome – hidrocystomas, hyperkeratoses of palms and soles, hypoplastic teeth, hypotrichosis

Soto's syndrome

Speckled hyperpigmentation palmoplantar punctate keratoses, childhood blistering *BJD 105:579–585, 1981*

### TOXIC AGENTS

Arsenical keratoses *Postgrad Med J 79:391–396, 2003; Rook p.2713, 1998, Sixth Edition; Int J Derm 36:241–250, 1997; Derm Surg 22:301–304, 1996; JID 4:365–383, 1941*

Chloracne due to dioxin – punctate keratoderma-like lesions on the palms and soles *BJD 143:1067–1071, 2000*

### TRAUMA

Calluses

Clavi

Mechanical

## PALMOPLANTAR KERATODERMAS

***Int J Derm 32:493–498, 1993***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Rook p.1310, 1998, Sixth Edition*

Dermatitis herpetiformis – acquired palmoplantar keratoderma *BJD 149:1300–1302, 2003*

Dermatomyositis – presenting as a pityriasis pilaris-like eruption *BJD 136:768–771, 1997;* juvenile dermatomyositis *BJD 36:917–919, 1997;* mechanic's hands *Ann Intern Med 91:577–578, 1979*

Graft vs. host disease *Ped Derm 12:311–313, 1995*

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigus – striate palmoplantar keratoderma of endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

## DEGENERATIVE DISEASES

Disuse hyperkeratosis

Keratoderma climactericum of Haxthausen *Can Fam Physician 42:629, 631, 1996; Dermatologica 172:258–262, 1986; J Am Podiatry Assoc 68:595–597, 1978; BJD 46:161–167, 1934*

## DRUG-INDUCED

Acral dysesthesia syndrome – capecitabine; hyperpigmentation and hyperkeratosis of the dorsal and palmar surfaces of the hands and feet of black patients *Cutis 73:101–106, 2004*

α-methyldopa *Semin Derm 14:152–161, 1995*

Glucan-induced keratoderma *AD 123:751–756,1987*

Gold salts *Ghatan p.230, 2002, Second Edition; Semin Derm 14:152–161, 1995*

Hydroxyurea – long-term therapy *JAAD 49:339–341, 2003; Rook p.3481, 1998, Sixth Edition; Semin Derm 14:152–161, 1995*

Lithium *J Clin Psychopharmacol 11:149–150, 1991*

Mepacrine *Semin Derm 14:152–161, 1995*

Mexiletine *Semin Derm 14:152–161, 1995*

Practolol *Semin Derm 14:152–161, 1995*

Proguanil *Semin Derm 14:152–161, 1995*

Retinoids *Semin Derm 14:152–161, 1995*

Tegafur – chronic acral erythema leading to palmoplantar keratoderma *AD 131:364–365, 1995*

## EXOGENOUS AGENTS

Aquagenic palmoplantar keratoderma *JAAD 44:696–699, 2001*

Aquagenic syringeal acrokeratoderma *Dermatology 204:8, 2002; JAAD 45:124–126, 2001*

Chloracne with punctate keratoderma *BJD 143:1067–1071, 2000*

Crack cocaine smoking – hyperkeratotic palms *Cutis 50:193–194, 1992*

Pesticides – weed sprayer with sclerodactyly of fingers and toes with hyperkeratosis of palms and chloracne *Clin Exp Dermatol 19:264–267, 1994*

## INFECTIONS AND/OR INFESTATIONS

AIDS – may be with or without associated pustules; seen with T-cell count under 100 cells/$mm^3$; may have concomitant *Trichophyton rubrum* infection or may be seen with AIDS-associated Reiter's syndrome *JAAD 22:1270–1277, 1990*

Chronic mucocutaneous candidiasis – sporadic, autosomal dominant, or autosomal recessive; associated with other immunodeficiencies, endocrinopathies, abnormalities of iron metabolism; keratotic candidal granulomas with skin and scalp involvement, paronychia, mucous membrane involvement; may be seen with multiple carboxylase deficiencies or ectodermal dysplasia *Annu Rev Med 32:491, 1981*

Cutaneous larva migrans, generalized

Leprosy – symmetric palmoplantar keratoderma *Hansenol Int 10:32–37, 1985 (Italian)*

*Mycobacterium tuberculosis* – papulonecrotic tuberculid – punctate palmoplantar lesions *Int J Derm 21:470–471, 1982*

Paracoccidioidomycosis – punctate palmoplantar keratoderma *J Clin Inf Dis 23:1026–1032, 1996*

Pinta – tertiary (late phase) – hyperkeratoses of palms and soles *Rook p.1274, 1998, Sixth Edition*

Pitted keratolysis *AD 117:609, 1981*

Scabies, crusted *Can Fam Physician 45:1455, 1462, 1999*

Syphilis, secondary – syphilitic keratoderma resembles Reiter's disease, psoriasis, lichen planus, Bazex, Unna–Thost and Howell–Evans syndromes *Caputo p.146, 2000*

Tinea manuum *Acta DV (Stockh) 36:272–278, 1956*

Tinea pedis (*Trichophyton rubrum*) *Rook p.1300–1301,1309, 1998, Sixth Edition*

Tungiasis – focal plantar keratoderma *BJD 144:118–124, 2001*

Verrucae *Tyring p.260, 2002;* in AIDS; papilloma virus-infected cells may have small eosinophilic granules and dense clumps of basophilic keratohaline granules composed of E4 (E1–4) protein, a viral protein which collapses the cytoplasmic keratin filament network enabling release of other virions *JAAD 19:401–405, 1988*

Yaws – secondary – hyperkeratotic plantar lesions fissure and can cause crablike gait, hence 'crab yaws' *Clin Dermatol 18:687–700, 2000; JAAD 29:519–535, 1993;* tertiary – keratoderma of palms and soles *Rook p.1270, 1998, Sixth Edition*

## METABOLIC

Hypothyroidism – keratoderma of myxedema *Aust Fam Physician 28:1217–1222, 1999; BJD 139:741–742, 1998; Clin Exp Derm 13:339–41, 1988; Acta DV 66:354–357, 1986*

Keratoderma, ichthyosis, and increased β-glucuronidase

Menopause *Ghatan p.220, 2002, Second Edition*

Mitochondrial respiratory chain disorders *Bolognia p.873, 2003*

Pheochromoctyoma

Tyrosinemia type II (Richner–Hanhart syndrome) – autosomal recessive; photophobia, herpetiform corneal erosions, mental retardation *Curr Prob Derm 14:71–116, 2002; Ped Derm 14:110–112, 1997; JAAD 35:857–859, 1996*

Zinc deficiency

## NEOPLASTIC

Eccrine syringofibroadenomatosis (psoriasiform keratoderma) – papules, plaques, or palmoplantar keratoderma, red papules and nodules, solitary vegetating nodule, pyogenic granuloma-like papule, crusted papules, flat red lesions, opalescent papules and plaques, keratotic papules, tapioca pudding pattern on palms and soles *JAAD 26:805–813, 1992;* diffuse unilateral plantar hyperkeratosis *BJD 149:885–886, 2003*

Epidermal nevus

Epithelioma cuniculatum (verrucous carcinoma) – slowly enlarging cauliflower-like mass; distinctive foul smell

Kaposi's sarcoma

Leukemia cutis – macules, papules, plaques, chloroma, nodules, ecchymoses, palpable purpura, ulcers, erythroderma, bullae, gingival hyperplasia (AML or AMML); associated with a grave prognosis *JAAD 11:121–128, 1984*

Lymphoma – cutaneous T-cell lymphoma *AD 134:1019–1024, 1998; AD 136:971, 1996; AD 131:1052–1056, 1995; JAAD 13:897–899, 1985; Ann Intern Med 83:534–552, 1975;* non-cutaneous T-cell lymphoma *Int J Dermatol 30:871–872, 1991;* Sezary syndrome; CTCL with focal palmoplantar keratoderma

Punctate palmoplantar porokeratosis

Porokeratosis of Mantoux – crateriform lesions of palms *Rook P.1575, 1998, Sixth Edition*

Porokeratosis plantaris, palmaris, et disseminata – autosomal dominant; painful papules on soles, porokeratosis lesions on both sun and non-sun exposed skin *Curr Prob Derm 14:71–116, 2002; JAAD 13:598–603, 1985;* may be circumscribed PPK

Porokeratotic eccrine ostial and dermal duct nevus – linear or band-like plantar or palmar area with multiple punctate pits and comedo-like plugs; almost always present at birth *AD 127:1219–1224, 1991; JAAD 20:924–927, 1989*

## PARANEOPLASTIC

Acanthosis nigricans

Acquired diffuse palmoplantar keratoderma with bronchial carcinoma *AD 124:497–498, 1988; Acta DV 62:313–316, 1982;* gastric adenocarcinoma *Dermatologica 165:660–663, 1982*

Acquired palmoplantar keratoderma with diffuse plane xanthomatosis associated with myeloma *BJD 132:286–289, 1995*

Bazex syndrome (acrokeratosis paraneoplastica) – violaceous keratoderma; scaling of fingertips, nailfolds, nose, ears; psoriasiform; upper aerodigestive malignancies *AD 141:389–394, 2005; Cutis 49:265–268, 1992; AD 119:820–826, 1983; BJD 102:301–306, 1980*

Epidermolytic palmoplantar keratoderma – breast and ovarian carcinoma *BJD 117:363–370, 1987*

Florid cutaneous papillomatosis *Rook p.1555, 1998 Sixth Edition*

Howell–Evans syndrome (tylosis (smooth pattern)) – autosomal dominant; focal PPK; oral leukokeratosis, carcinoma of the esophagus; esophageal strictures, oral leukoplakia, squamous cell carcinoma of the tylotic skin, carcinoma of larynx and stomach *Curr Prob Derm 14:71–116, 2002; Dis Esophagus 12:173–176, 1999; Eur J Cancer B Oral Oncol 30B:102–112, 1994; JAAD 28:295–297, 1993; Q J Med 155:317–333, 1970;* envoplakin on TOCG (tylosis oesophageal gene) chromosome 17q25 *Genomics 37:381–385, 1996*

Non-familial PPK (cobblestone pattern) – carcinoma of esophagus and bronchus *JAAD 28:295–297, 1993;* breast, urinary bladder, stomach

Palmoplantar keratoderma and malignancy (palmoplantar ectodermal dysplasia type III) – 17q24 *AD 132:640–651, 1996*

Porokeratosis plantaris

Punctate keratoderma – carcinoma of breast, uterus, lung, bladder, colon *BJD 134:720–726, 1996; J Clin Oncol 7:669–678, 1989; JAAD 10:587–591, 1984; AD 92:553–556, 1965*

Punctate porokeratotic keratoderma *Clin Exp Dermatol 19:139–141, 1994*

Tripe palms – tripe is the rugose surface of bovine foregut; gastric, pulmonary, bladder, breast, cervix, ovary, kidney, colon, gallbladder, sarcoma, tongue, uterus, brain, melanoma, lymphoma, pancreas, prostate; occurs alone in 25% or with acanthosis nigricans in 75%; differential diagnosis includes acromegaly, hypertrophic pulmonary osteoarthropathy, pachydermoperiostosis, thyroid acropachy, Bazex syndrome, hereditary (tylosis or Howel–Evans syndrome) or acquired malignancy associated keratosis of the palms and soles *BJD 138:698–703, 1998; J Dermatol 22:492–495, 1995; Clin Dermatol 11:165–173, 1993; JAAD 27:271–272, 1992; Dermatology 185:151–153, 1992; J Clin Oncol 7:669–678, 1989; Clin Exp Dermatol 5:181–189, 1980*

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans – hereditary benign *Int J Dermatol 35:126–127, 1996;* benign *Am J Public Health 84:1839–1842, 1994;* pseudo-acanthosis nigricans *Am J Med 87:269–272, 1989;* drug-induced (nicotinic acid *Dermatology 189:203–206, 1994;* fusidic acud *JAAD 28:501–502, 1993;* stilbestrol *AD 109:545–546, 1974;* triazinate *AD 121:232–236, 1985*); malignant acanthosis nigricans; nevoid acanthosis nigricans – unilateral and localized *Int J Dermatol 30:452–453, 1991*

Acquired plantar keratoderma

Acrokeratoelastoidosis of Costa

Adolescent onset ichthyosiform erythroderma *BJD 144:1063–1066, 2001*

Atopic dermatitis

Atypical epidermolytic hyperkeratosis with palmoplantar keratoderma with keratin 1 mutation – palmoplantar keratoderma with psoriasiform plaques of elbows and antecubital fossae *BJD 150:1129–1135, 2004*

Darier's disease (keratosis follicularis) – autosomal dominant with variable penetrance; skin-colored to yellow–brown papules in seborrheic distribution; associated with acrokeratosis verruciformis of Hopf; palmar punctate keratoses and/or pits; hemorrhagic macules on hands and feet; cobblestoning of mucous membranes; nail changes of red and white longitudinal bands with distal V-shaped nicks; photosensitive; characteristic odor *Caputo p.125, 2000*

Degenerative collagenous plaques of the hands (linear bands around thumb and index fingers) (keratoelastoidosis marginalis *Ghatan p.220, 2002, Second Edition; AD 93:202–203, 1966*

Dermatitis repens

Dowling–Meara epidermolysis bullosa herpetiformis – autosomal dominant; with mottled pigmentation and palmoplantar keratoderma *AD 122:900–908, 1986; Bull Soc Fr Dermatol Syph 45:26–29, 1938*

Ectodermal dysplasia – apocrine hidrocystomas of the eyelids, hypodontia, palmoplantar hyperkeratosis, and onychodystrophy *Arch Ophthalmol 104:1811–1813, 1986*

Epidermolysis bullosa progressiva (Ogna Gedde-Dahl) – autosomal recessive; delayed onset; bullae with surrounding atrophic (cigarette paper) wrinkled skin, absent nail plates, palmoplantar keratoderma, absent dermal finger ridges, tooth and enamel defects *JAAD 16:195–200, 1987*

Epidermolysis bullosa simplex with punctate keratoderma *JAAD 15:1040–1044, 1985; Derm Clinics 11:549–563, 1993*
- EBS – clumped tonofilaments and basal layer blisters. Keratin 5 or 14, chromosome 12q or 17q
- EB junctional – hemidesmosomal proteins
- EB dystrophic – scarce or absent anchoring fibrils. Collagen type VII A abnormal; chromosome 3p21.1
- Epidermolytic hyperkeratosis – clumping of tonofilaments. Keratin 1 or 10; chromosome 12q or 17q
- Epidermolytic epidermolysis bullosa – Koblner, Weber–Cockayne, Ogna Gedde-Dahl, Fischer and Gedde-Dahl (with mottled pigmentation), herpetiformis with mottled pigmentation, and herpetiformis
- Dominant dystrophic epidermolysis bullosa with punctate keratoderma *JAAD 15:1289–1291, 1986*
- Epidermolysis bullosa, mottled pigmentation, and punctate keratoses *BJD 105:579–585, 1981*
- Epidermolysis bullosa simplex with muscular dystrophy – plectin mutation (premature termination codon) *JAAD 41:950–956, 1999*

Epidermolytic palmoplantar keratoderma, woolly hair, and dilated cardiomyopathy – striated palmoplantar keratoderma,

follicular keratosis, clubbing, vesicles and bullae on trunk, psoriasiform keratoses on knees, legs, and feet *JAAD 39:418–421, 1998*

Erythema elevatum diutinum – hyperkeratotic palmar papules

Erythema gyratum repens with ichthyosis and palmoplantar hyperkeratosis *Clin Exp Dermatol 14:223–226, 1989*

Erythrokeratoderma variabilis *AD 101:68–73, 1970*

Focal palmoplantar keratodermas

Focal non-epidermolytic palmoplantar keratoderma with oral, genital (leukokeratosis of glans penis), and follicular lesions *JAAD 52:403–409, 2005*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) (hereditary painful callosities) – palmoplantar keratoderma, leukoplakia (gingival keratosis), and cutaneous horn of the lips *JAAD 52:403–409, 2005; BJD 146:680–683, 2002; Oral Surg 50:250, 1980; Birth Defects 12:239–242, 1976; Arch Int Med 113:866–871, 1964*

Howell–Evans syndrome *JAAD 52:403–409, 2005*

*Pachyonychia congenita JAAD 52:403–409, 2005*

Focal acral hyperkeratosis – yellow papules on lateral aspect of palms *AD 132:1365, 1368, 1996*

Hand or foot dermatitis

Hereditary callosities with blisters (circumscribed keratoderma)

## HEREDITARY KERATODERMAS

***Caputo p.109–116, 2000***

Acral keratoderma – autosomal recessive *AD 111:763–768, 1975*

Acrokeratoelastoidosis of Costa (punctate keratoderma) – marginated umbilicated papules; either autosomal dominant or sporadic; small round or oval smooth shiny or umbilicated papules on dorsal aspects of hands, knuckles, in first interdigital space, and along lateral margins of hands and wrist; also on anterior surfaces of legs and margins of soles; first appears in second decade of life *Semin Derm 14:152–161, 1995; JAAD 17:881–882, 1987;*
*BJD 106:337–344, 1982*

Acro-osteolysis with keratoderma (Breau–Barriere syndrome) – diffuse keratoderma *Hautarzt 44:5–13, 1993; Acta DV (Stockh) 52:278–280, 1972*

Alopecia congenita with palmoplantar keratoderma *Acta Genet Statist Med 9:127–132, 1959*

Alopecia–onychodysplasia–hypohidrosis–deafness syndrome – small teeth, thick dystrophic toenails, hypohidrosis, hyperkeratosis of palms and soles, elbows and knees, sensorineural deafness *Human Hered 27:127–337, 1977*

Ankylosing vertebral hyperostosis with tylosis

Autosomal recessive epidermolytic palmoplantar keratoderma *J Med Genet 27:519–522, 1990*

Baird syndrome – absence of dermatoglyphics

Bart–Pumphrey syndrome – autosomal dominant; diffuse palmoplantar keratoderma, sensorineural deafness, knuckle pads, leukonychia *Curr Prob Derm 14:71–116, 2002; NEJM 276:202–207, 1967*

Bullous congenital ichthyosiform erythroderma – epidermolytic hyperkeratosis

Buschke–Fischer–Brauer keratoderma (punctate palmoplantar keratoderma) (keratodermia palmo-plantaris papulosa) (keratodermia palmoplantare papuloverrucoides progressiva) – autosomal dominant; clinical subtypes include pinhead papules, spiky filiform lesions, dense round 1–2-mm papules, clavus-like lesions, hard warty masses, cupuliform lesions, and focal translucent lesions *BJD 152:874–878, 2005; JAAD 49:1166–1169, 2003; Curr Prob Derm 14:71–116, 2002; BJD 128:104–105, 1993; JAAD 8:700–702, 1983; Hum Genet 60:14–19, 1982; JAAD 3:43–49, 1980* with ainhum *Actas Dermosifiliogr 73:105–110, 1982*

Cantu's syndrome – autosomal dominant; hyperpigmented macules of face, forearms, and feet, hyperkeratotic palms and soles *Clin Genet 14:165–168, 1978*

Cardiac abnormalities in familial PPK

Carvajal syndrome – striate palmoplantar keratoderma with woolly hair and cardiomyopathy *Bolognia p.757, 2004*

Charcot–Marie–Tooth disease *TIG 13:229, 1997*

Clouston syndrome (hidrotic ectodermal dysplasia) – autosomal dominant, first described in French Canadians; characterized by hair defects, nail dystrophy, and verruciform palmoplantar hyperkeratosis *BJD 142:248–252, 2000; Hautarzt 46:272–275, 1995; Dermatologica 176:205–211, 1988; Can Med Ass J 40:1–7, 1939*

Collie–Davies PPK (punctate keratoderma) – keratosis palmoplantaris maculosa seu papulosa *Hautarzt 48:577–580, 1997*

Congenital atrichia, palmoplantar keratoderma (Bazex-like), mental retardation, early loss of teeth *JAAD 30:893–898, 1994*

Congenital ichthyosiform dermatosis with linear flexural papules and sclerosing PPK *AD 125:103–106, 1989*

Corneodermato-osseous syndrome – corneal dystrophy, hyperkeratosis, short stature, brachydactyly, premature birth – autosomal dominant *Am J Hum Genet 18:67–77, 1984*

Diffuse PPK associated with acrocyanosis

Diffuse palmoplantar keratoderma with recurrent nonsense mutation of *DSG1 AD 141:625–628, 2005*

Ectodermal dysplasia/skin fragility syndrome – autosomal recessive; skin fragility, keratotic plaques on limbs, palmoplantar keratoderma *Curr Prob Derm 14:71–116, 2002*

Ectodermal dysplasias with inconstant PPK – autosomal recessive

Ellis–van Creveld syndrome (chondroplastic dwarf with defective teeth and nails, and polydactyly) – autosomal recessive; chondrodysplasia, polydactyly, peg-shaped teeth or hypodontia, short upper lip bound down by multiple frenulae; nail dystrophy, hair may be normal or sparse and brittle; cardiac defects; ichthyosis, palmoplantar keratoderma *Ped Derm 18:485–489, 2001; J Med Genet 17:349–356, 1980; Arch Dis Child 15:65–84, 1940*

Epidermal nevus – systematized, linear (ichthyosis hystrix) – may also be acquired

Epidermolysis bullosa, dominant dystrophic hyperplastique – Cockayne–Touraine

Epidermolysis bullosa, progressive junctional type – palmoplantar hyperkeratosis (non-lethal localized junctional EB) – legs and feet only; hyperkeratosis with erosions of soles *J R Soc Med 78 (Suppl 11): 32–33, 1985*

Epidermolysis bullosa; non-Herlitz junctional epidermolysis bullosa with collagen XVII mutation – palmoplantar callosities *JAAD 52:371–373, 2005; AD 122:704–710, 1986; Dermatologica 152:72–86, 1976*

Epidermolysis bullosa, epidermolytic type – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolysis bullosa simplex – palmoplantar callosities *JAAD 42:1051–1066, 2000*

Epidermolysis bullosa simplex with mottled pigmentation with keratoderma (Dowling–Meara type) – focal punctate palmoplantar keratoderma; acral blistering, hemorrhagic bullae, dystrophic thick nails *BJD 144:40–45, 2001; JID 111:893–895, 1998; Ped Derm 13:306–309, 1996;* punctate keratoderma *AD 122:900–908, 1986*

Epidermolytic hyperkeratosis (bullous congenital ichthyosiform erythroderma) *Rook p.1505–1507, 1998, Sixth Edition*

Erythrokeratoderma variabilis *BJD 152:1143–1148, 2005; Ped Derm 19:285–292, 2002; AD 122:441–445, 1986*

Familial dyskeratotic comedones *JAAD 17:808–814, 1987*

Fine scaling, keratosis pilaris, periorificial crusting, palmoplantar hyperkeratosis, blistering *JAAD 34:379–385, 1996*

Fitzsimmons syndrome *Clin Genet 23:329–335, 1983*

Focal acral hyperkeratosis (acrokeratoelastoidosis with elastorrhexis) (punctate keratoderma) – autosomal dominant; Afro-Caribbeans; umbilicated punctae at margins of palms and soles *Hautarzt 50:586–589, 1999; BJD 109:97–103, 1983*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) (hereditary painful callosities) – palmoplantar keratoderma, leukoplakia (gingival keratosis), and cutaneous horn of the lips *JAAD 52:403–409, 2005; BJD 146:680–683, 2002; Oral Surg 50:250, 1980; Birth Defects 12:239–242, 1976; Arch Int Med 113:866–871, 1964*

Focal palmoplantar keratoderma and sensorineural deafness *BJD 143:876–883, 2000*

Gamborg–Nielsen (Norbotten type) palmoplantar keratoderma – autosomal dominant; diffuse with papular border *Clin Genet 28:361–366, 1985;* autosomal recessive *Dermatology 188:194–199, 1994; Arch Dermatol Res 282:363–370, 1990*

Greither's syndrome – poikiloderma of face and extremities; warty keratoses over hands, feet, and legs; plantar keratoderma; normal nails and hair *Hautarzt 9:364–369, 1958*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *JAAD 53:S225–230, 2005; Ped Derm 20:272–275, 2003; Cutis 65:141–145, 2000*

Haim–Munk syndrome (same as Papillon–Lefevre syndrome plus acro-osteolysis, acrachnodactyly, and pes planus) – congenital palmoplantar keratoderma, progressive periodontal destruction, recurrent skin infections (bacterial), arachnodactyly, claw-like deformity of terminal phalanges *BJD 152:353–356, 2005; BJD 147:575–581, 2002; Eur J Hum Genet 5:156–160, 1997*

Hereditary acrokeratotic poikiloderma – papular keratotic lesions of dorsae of hands *AD 103:405–422, 1971*

Hereditary callosities with blisters *JAAD 11:409–415, 1984*

Hereditary diffuse PPK with progressive neurosensory deafness *AD 118:605–607, 1982; J Laryngol Otol 89:1143–1146, 1975*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Hereditary PPK, type papulosa *JAAD 29:435–437, 1993*

Hereditary palmoplantar keratoderma, congenital alopecia, onychodystrophy, enamel dysplasia *Hautarzt 25:8–16, 1970*

Hereditary PPK with leukoencephalopathy *Neurology 45:331–337, 1995*

Hereditary keratoderma, nail dystrophy, and hereditary motor and sensory neuropathy – autosomal dominant *J Med Genet 25:754–757, 1988*

Hereditary reactive papulotranslucent acrokeratoderma (punctate keratoderma) *Australas J Dermatol 41:172–174, 2000; Cutis 61:29–30, 1998; JAAD 34:686–687, 1996*

Hereditary punctate keratoderma and internal malignancy *JAAD 10:587–591, 1984*

Hidrotic ectodermal dysplasia (Fischer–Jacobson–Clouston syndrome) *TIG 13:229, 1997*

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Howell–Evans syndrome (tylosis) – autosomal dominant; focal PPK; follicular prominence, oral leukokeratosis, carcinoma of the esophagus *Curr Prob Derm 14:71–116, 2002; Eur J Cancer Oral Oncol 30:102–112, 1994; Q J Med 155:317–333, 1970; QJMed 27:413–429, 1958; QJ Med 27:415–429, 1950*

Huriez syndrome – palmoplantar keratoderma with sclerodactyly *TIG 13:229, 1997*

Hyperkeratosis-hyperpigmentation syndrome *TIG 13:229, 1997*

Hypopigmentation with punctate keratoderma

Ichthyosis hystrix, Curth-Macklin type *AD 141:779–784, 2005; Am J Hum Genet 6:371–382, 1954*

Ichthyosis vulgaris palmaris et plantaris dominans – form of ichthyosis vulgaris *Dermatologica 165:627–635, 1982*

Keratoderma with scleroatrophy of the extremities (Huriez syndrome) – autosomal dominant; diffuse keratoderma; atrophic parchment-like skin over dorsal surface of hands; pseudosclerodermatous appearance of hands *JAAD 26:855–857, 1992; Sem Hop Paris 44:481–488, 1968*

Keratoderma with mental retardation and spastic paraplegia – striate keratoderma of palms, diffuse keratoderma of the soles, pes cavus, X-linked *Clin Genet 23:329–335, 1983*

Keratoderma with skeletal deformity (circumscribed) – autosomal recessive

Keratoderma, woolly hair, follicular keratoses, blistering *Retinoids Today Tomorrow 37:15–19, 1994*

Keratodermia maculosa disseminata symmetrica palmaris et plantaris (punctate keratoderma)

Keratoma dissipatum hereditarium palmare et plantare (Brauer) (punctate keratoderma)

Keratosis follicularis spinulosa decalvans *JAAD 47:S275–278, 2002*

Keratosis lichenoides chronica *AD 131:609–614, 1995; AD 105:739–743, 1972; JAAD 37:263–264, 1997; JAAD 38:306–309, 1998; Presse Med 46:1000, 1938*

Keratosis linearis with ichthyosis and sclerosing keratoderma (KLICK syndrome) – autosomal recessive; erythroderma, palmoplantar keratoderma, ainhum, red elbows and knees *BJD 153:461, 2005; Acta DV 77:225–227, 1997; Am J Hum Genet 61:581–589, 1997*

Keratosis multiformis – warty palmoplantar keratoderma; atrophic skin over dorsal hands and feet, follicular keratoses, punctate pigmentation of neck, forearms, buttocks; skeletal abnormalities *Arch Klin Exp Dermatol 209:243–257, 1959*

Keratosis palmoplantaris nummularis (hereditary painful callosities) (punctate keratoderma) – autosomal dominant; form of epidermolytic hyperkeratosis; nummular keratoses on plantar pressure points; painful; appears when child starts to walk *Dermatology 193:47–49, 1996; Acta DV 75:405–406, 1995; JAAD 9:204–209, 1983; JAAD 25:113–114, 1991; AD 114:591–592, 1978*

Keratosis palmoplantaris with periodontitis, pes planus, and onychogryphosis, arachnodactyly, and acro-osteolysis *BJD 115:243–248, 1986*

Keratosis palmoplantaris papulosa seu maculosa (punctate keratoderma)

Keratosis punctata of the palmar creases – autosomal dominant disorder of African–Americans *Rook p.3248, 1998, Sixth Edition; Cutis 32:75–76, 1983; AD 116:669–671, 1980*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Lamellar ichthyosis – autosomal dominant, autosomal recessive

Leukokeratoderma estrovale digitorum inversa *JAAD 34:1074–1076, 1996*

Loricrin keratoderma – congenital ichthyosiform erythroderma and collodion baby; honeycombed palmoplantar keratoderma with pseudoainhum; no deafness (as opposed to Vohwinkel syndrome) *Ped Derm 19:285–292, 2002; BJD 145:657–660, 2001*

Mal de Meleda – autosomal dominant, autosomal recessive; diffuse PPK; transgrediens with acral erythema in glove-like distribution; perioral erythema and hyperkeratosis; hyperhidrosis; knuckle pads; pseudo-ainhum; lingua plicata, syndactyly, hairy palms and soles, high arched palate, lefthandedness *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Marginal papular acrokeratodermas *Dermatology 203:63–65, 2001*

Marginal papular keratodermas *Ped Derm 19:320–322, 2002*
- Acrokeratoelastoidosis of Costa *Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*
- Focal acral hyperkeratosis
- Degenerative collagenous plaques of the hands
- Keratoelastoidosis marginalis of the hands
- Mosaic acral keratosis
- Flat warts
- Palmar xanthomas
- Porokeratosis

Multifocal palmoplantar hyperkeratosis with spastic paraplegia – autosomal dominant *Rev Neurol (Paris) 144:421–424, 1988; Clin Genet 23:329–335, 1983*

Multiple congenital malformation syndrome

Netherton's syndrome *Ped Derm 19:285–292, 2002*

Non-bullous congenital ichthyosiform erythroderma *Ped Derm 19:285–292, 2002*

Overlap PPK – Mal de Meleda and Greither's *JAAD 18:75–86, 1988*

Pachydermoperiostosis

Palmoplantar hyperkeratosis, short stature, facial dysmorphism, and hypodontia

Palmoplantar keratoderma varians type (Wachter's keratoderma) – autosomal dominant; focal islands of hyperkeratosis, striate palmar lesions; central sole spared *J Eur Acad DV 12:33–37, 1999; Rook p.1563, 1998, Sixth Edition*

Palmoplantar keratoderma with cutaneous horns *Int J Dermatol 31:369–370, 1992*

Palmoplantar keratoderma with amyotrophy *Dermatologica 176:251–256, 1988*

Palmoplantar keratoderma with clinodactyly – autosomal dominant *Birth Defects Orig Qrtic Ser 18 (3B):207–210, 1982; Dermatologica 162:209–212, 1981; Dermatologica 162:300–303, 1981*

Palmoplantar keratoderma with partial or total alopecia, hyperhidrosis, tongue-shaped corneal opacities

Palmoplantar keratoderma with deafness *BJD 134:939–942, 1996; Dermatologica 175:148–151, 1987;* A7445G point mutation in mitochondrial genome *BJD 143:876–883, 2000;* connexin mutations *J Med Genet 37:50–51, 2000; Eur J Hum Genet 8:469–472, 2000*

Palmoplantar keratoderma with transepidermal elimination with oral florid papillomatosis and leukoplakia of the esophagus *J Dermatol 21:974–978, 1994*

Palmoplantar keratoderma, large ears, sparse hypopigmented scalp hair, frontal bossing *Ped Derm 19:224–228, 2002*

Palmoplantar keratoderma with mental retardation and spastic paraplegia – X-linked recessive *BJD 109:589–596, 1983*

Palmoplantar keratoderma with leukoplakia *Dermatol Wochenschr 151:231–239, 1965*

Palmoplantar keratoderma, nail dystrophy, hereditary motor and sensory neuropathy

Palmoplantar keratoderma with periorificial keratoderma and corneal dysplasia *BJD 125:186–188, 1991*

Palmoplantar keratoderma with tonotubular keratin *JAAD 24:638–642, 1991*

Palmoplantar keratoderma with woolly hair *AD 130:522–524, 1994;* rolled and spiraled hairs *Acta DV 65:250–254, 1985*; PPK, woolly hair, endomyocardial fibrodysplasia *TIG 13:229, 1997*

Palmoplantar keratosis acuminata (punctate keratoderma)

Papillon–Lefevre syndrome – autosomal recessive; diffuse transgradiens palmoplantar keratoderma; red scaly palms and soles; punctate hyperkeratosis of palms and soles; ichthyosis; hypotrichosis, nail fragility, periodontal disease with shedding of primary and permanent dentition; recurrent cutaneous and systemic pyodermas; psoriasiform plaques of elbows and knees; generalized psoriasiform dermatitis; hyperhidrosis, calcification of dura mater eyelid cysts; mutations and polymorphisms in cathepsin C gene defect *JAAD 52:551–553, 2005; JAAD 49:S240–243, 2003; JAAD 48:345–351, 2003; Curr Prob Derm 14:71–116, 2002; JAAD 46:S8–10, 2002; JID 116:339–343, 2001; J Med Genet 36:881–887, 1999; JID 116:339–343, 2001; J Med Genet 36:881–887, 1999; J Periodontol 66:413–420, 1995; Ped Derm 11:354–357, 1994;* chromosome 11q14 *Eur J Hum Genet 5:156–160, 1997;* variant with arachnodactyly and acro-osteolysis *BJD 115:243–248, 1986; BJD 77:42–54, 1965;* late onset Papillon–Lefevre syndrome *JAAD 49:S240–243, 2003; J Periodontol 64:379–386, 1993*

Papuloverrucous (papillomatoverrucous) palmoplantar keratoderma (JAKAC–WOLF) (polykeratosis of Touraine) – autosomal recessive – disseminated follicular keratoses; dysplastic teeth *Dermatologica 165:30–38, 1982*

Porokeratosis of Mantoux – punctate keratoderma

Porokeratosis palmaris et plantaris; music box spicules *AD 125:1715, 1989*

Porokeratosis palmaris et plantaris et disseminata *JAAD 11:454–460, 1984*

Progressive symmetric erythrokeratoderma (Gottron syndrome) *Ped Derm 19:285–292, 2002; AD 136:665, 668, 2000; AD 122:434–440, 1986;* PSEK variant – honeycomb palmoplantar keratoderma with pseudoainhum *Am J Med Genet 61:581–589, 1997*

Punctate porokeratotic keratoderma *AD 124:1678–1682, 1988; JAAD 13:908–912, 1985; Dermatologica 147:206–213, 1973*

Richner–Hanhart syndrome (tyrosinemia type II) – autosomal recessive; tyrosine aminotransferase deficiency; chromosome 16q22–q24; painful palmoplantar keratoderma with circumscribed keratoses, bullae may occur; dendritic corneal ulcers, mental retardation; palmoplantar hyperhidrosis; signs include tearing, redness, pain and photophobia progressing to superficial and deep dendritic ulcers; mental retardation; aggregated tonofibril bundles on electron microscopy; crystal structures *J Pediatr 126:266–269, 1995; AD 130:507–511, 1994; AD 126:1342–1346, 1990*

Schopf syndrome (Schopf–Schulz–Passarge syndrome) – eyelid hidrocystoma, hypodontia, hypotrichosis, hypoplastic eyelids *BJD 120:131–132, 1989; Birth Defects 7:219–221, 1971*

Sclerodactyly, non-epidermolytic palmoplantar keratoderma, multiple cutaneous squamous cell carcinomas, periodontal disease with loss of teeth, hypogenitalism with hypospadius, altered sex hormone levels, hypertriglyceridemia, 46XX *JAAD 53:S234–239, 2005*

Siemens syndrome (keratosis palmoplantaris areata/striata) (Siemen–Wachter) (focal palmoplantar keratoderma varians Wachter) *Caputo p.114–115, 2000;* – striate on palms, islands on feet – autosomal dominant; islands or linear, nummular, striate hyperkeratosis of hands and feet; some with diffuse *BJD 147:575–581, 2002; Ann DV 120:894–895, 1993;* some focal on palms; Brunauer–Fuhs – punctate variant *Rook p.1566, 1998, Sixth Edition*

Sjögren–Larsson syndrome

Spanglang–Tappeiner syndrome (palmoplantar keratoderma with keratitis) – lipid infiltration of cornea.

Spiny keratoderma (multiple minute palmar–plantar digitate hyperkeratoses) (music box keratoderma) (punctuate/spiny keratoderma) – spiny, filiform, spiked, minute aggregate *Cutis 54:389–394, 1994; BJD 121:239–242, 1989; JAAD 18:431–436, 1988;* autosomal dominant; may remit with topical 5–fluorouracil; may be associated with autosomal dominant polycystic kidney disease *JAAD 34:935–936, 1996; JAAD 26:879–881, 1992;* questionable paraneoplastic associations *Dermatology 201:379–380, 2000;* digestive adenocarcinoma *Ann DV 124:707–709, 1997;* breast cancer *Ann DV 117:834–836, 1990*

Striate palmoplantar keratoderma (Brunauer–Fuhs–Siemens type) (keratosis palmoplantar striata) – autosomal dominant; focal striate PPK *Curr Prob Derm 14:71–116, 2002; Cutis 61:18–20, 1998; Acta DV 63:273–275, 1983;* mutatation in desmosomal cadherin desmoglein 1 *Eur J Hum Genet 9:197–203, 2001;* desmoplakin haploinsufficiency *JID 113:940–946, 1999*

Striate PPK with dilated cardiomyopathy and woolly hair – autosomal recessive; focal striate PPK *Curr Prob Derm 14:71–116, 2002;* epidermolytic palmoplantar keratoderma with woolly hair and dilated cardiomyopathy *JAAD 39:418–421, 1998*

Sybert keratoderma – autosomal dominant; diffuse palmoplantar erythema with transgrediens distribution, intertriginous hyperkeratosis, pseudo-ainhum with spontaneous amputations *Curr Prob Derm 14:71–116, 2002; JAAD 18:75–86, 1988*

Symmetrical interdigital keratoderma of the hands *Clin Exp Dermatol 20:240–241, 1995; Acta DV 73:459–460, 1993*

Unna–Thost palmoplantar keratoderma – diffuse non-epidermolytic palmoplantar keratoderma – autosomal dominant *Ped Derm 20:195–198, 2003*; with oral keratosis or periodontosis *Rook p.3055, 1998, Sixth Edition;* mutations in keratin 16 *Hum Mol Genet 4:1875–1881, 1995;* mutation in keratin 1 *JID 103:764–769, 1994*

Vohwinkel's syndrome (keratoderma hereditaria mutilans) – autosomal dominant; honeycomb palmoplantar keratoderma, knuckle papules with starfish keratoses; ichthyosis, pseudoainhum; *JAAD 44:376–378, 2001;* with sensorineural deafness – mutation in connexin26, D66H *Curr Prob Derm 14:71–116, 2002; JAAD 44:376–378, 2001; BJD 145:657–660, 2001; Hum Mol Genet 8:1237–1243, 1999;* loricrin mutation *JID 111:702–704, 1998; Nat Genet 13:70–77, 1996*

Vorner's syndrome (epidermolytic palmoplantar keratoderma) autosomal dominant – diffuse; *Clin Exp Dermatol 16:383–388, 1991;* mutation in keratin 9 gene *Clin Exp Dermatol 25:244–246, 2000; Ped Derm 16:430–435, 1999; BJD 140:486–490, 1999; Nat Genet 6:174–179, 1994; JAAD 17:414–422, 1987;* mild variant mutations in keratin 1 gene *JID 116:606–609, 2001; AD 132:1509, 1512, 1996; AD 124:555–559, 1988;* familial association with internal malignancies (breast, ovarian) *BJD 117:363–370, 1987; Ann DV 112:841–844, 1985*

X-linked familial cutaneous amyloidosis

Zunich neuroectodermal syndrome (CHIME syndrome) *Ped Derm 13:363–371, 1996*

Hyperkeratotic dermatosis of the palms *BJD 107:195–201, 1982*

Hypomelanosis of Ito – autosomal dominant; Blaschko-esque depigmentation; unilateral or bilateral; no prior inflammatory stages; 75% present at birth; CNS, musculoskeletal, ophthalmologic abnormalities, diffuse alopecia, nail and dental anomalies; decrease in pigmented melanosomes *JAAD 19:217–255, 1988*

Hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, periodontitis, lingua plicata, ventricular arrhythmias *BJD 147:575–581, 2002*

Ichthyosis hystrix – epidermolytic hyperkeratosis with diffuse or striate PPK *Rook p.1510, 1998, Sixth Edition*

Keratosis follicularis spinulosa decalvans – X-linked dominant, X-linked recessive or autosomal dominant; one of a spectrum of keratosis pilaris atrophicans (others are KP atrophicans facei, atrophoderma vermiculatum); diffuse KP and scarring alopecia of scalp; atopy, palmoplantar keratoderma, photophobia, corneal abnormalities *AD 128:397–402, 1992; Dermatol Monatsschr 174:736–740, 1988; AD 119:22–26, 1983; Acta DV 51:146,1971; AD 114:761,1978*

Keratosis lichenoides chronica *JAAD 49:511–513, 2003*

Nekam's disease (keratosis lichenoides chronica) – isolated palmoplantar hyperkeratosis; violaceous papular and nodular lesions in linear and reticular arrays, especially on hands and feet with seborrheic dermatitis-like rash on face *Eur J Dermatol 9:497–499, 1999*; *AD 105:739–743, 1972*

Keratosis palmoplantaris maculosa, papulosa – circumscribed PPK

Keratosis palmoplantaris striata (circumscribed PPK)

Keratosis plantaris discreta *Ghatan p.220, 2002, Second Edition*

Keratosis punctata of the palmar creases *JAAD 13:381–382, 1985*

Keratosis punctata palmaris et plantaris – focal acantholytic dyskeratosis *Am J Dermatopathol 11:574–576, 1989*

Lamellar ichthyosis *Rook p.1500, 1998, Sixth Edition*

Lichen nitidus – palmoplantar hyperkeratosis and nail dystrophy *Clin Exp Dermatol 18:381–383, 1993*

Lichen planus *AD 140:1275–1280, 2004; BJD 142:310–314, 2000;* may be yellowish papules or plaques; may mimic tylosis *Caputo p.16, 2000; Rook p.1904–1912, 1998, Sixth Edition*

Lichen simplex chronicus

Neutral lipid storage disease (Dorfman–Chanarin syndrome) – autosomal recessive; at birth collodion baby or ichthyosiform erythroderma; thereafter pattern resembles non-bullous ichthyosiform erythroderma; hypohidrosis; ectropion; palmoplantar hyperkeratosis, WBC vacuoles, myopathy, fatty liver, CNS disease, deafness *JAAD 17:801–808, 1987; AD 121:1000–1008, 1985*

Non-bullous CIE (congenital ichthyosiform erythroderma) (erythrodermic lamellar ichthyosis) – autosomal recessive; hyperkeratosis of palms and soles *AD 121:477–488, 1985*

Pachydermoperiostosis (Touraine–Solente–Gole syndrome) – primary pachydermoperiostosis; autosomal dominant; skin of face, forehead, scalp folded and thickened; weary expression; cutis verticis gyrata of scalp; skin of hands and feet thickened; hyperhidrosis; spade-like hands; clubbing, mental retardation common *NEJM 272:923–931, 1956*

PPK with ankylosing spondylitis *Acta DV (Stockh) 68:346–350, 1988*

PPK with anogenital leukokeratosis *Dermatology 197:300–302, 1998*

PPK with arachnodactyly *BJD 77:42–54, 1965*

PPK, diffuse with acrocyanosis and livedo reticularis *Acta DV 75:331, 1995; Acta DV 69:156–161, 1989*

PPK with craniofacial anomalies *Am J Med Genet 50:201–203, 1994*

PPK with drumstick fingers, hypotrichosis, hypohidrosis, dental dysplasia

PPK with gingival hyperkeratosis *Arch Int Med 113:866–871, 1974*

PPK with hyperostotic spondylosis *Z Rheumatol 52:398–402, 1993*

PPK, hypotrichosis, leukonychia totalis *BJD 133:636–638, 1995*

PPK with hypotrichosis, alopecia totalis, steel hair, curly hair, rolled hair, woolly hair, heliotrichosis, congenital atrichia, canities *Rook p.1579, 1998, Sixth Edition*

PPK with onychogryphosis, leukonychia, onychodystrophy, nail psoriasis *Rook p.1579, 1998, Sixth Edition*

PPK with Charcot–Marie Tooth disease *AD 116:789–790, 1980*

PPK with erythrokeratoderma variabilis

PPK with pes planus *Clin Genet 23:329–335, 1983*

PPK with anomalies of teeth – hypodontia, dysplasia, natal teeth, periodontosis, anodontia *Rook p.1579, 1998, Sixth Edition*

Peeling skin syndrome *JAAD 31:291–292, 1994*

Pityriasis rubra pilaris *J Dermatol 27:174–177, 2000; JAAD 31:997–999, 1994*

Porokeratotic palmoplantar keratoderma discreta *Clin Exp Dermatol 21:451–453, 1996*

Psoriasis *Caputo p.11, 2000; Rook p.1602, 1998, Sixth Edition*

Punctate keratoses of the palms and soles – 1–3-mm round to oval yellow to flesh colored papules scattered on palms and soles *JAAD 22:468–476, 1990*

Punctate hyperkeratosis of palmar creases *Ann DV 125:898–901, 1998*

Punctate acrokeratoderma with freckles

Severe ectodermal dysplasia with inconstant PPK

Transient reactive papulotranslucent acrokeratoderma *Australas J Dermatol 41:172–174, 2000; JAAD 34:686–687, 1996*

## SYNDROMES

Alagille's syndrome (arteriohepatic dysplasia) with keratoderma *J R Soc Med 82:297–298, 1989*

Albers–Schonberg – PPK with cirrhosis *Rook p.1579, 1998, Sixth Edition*

Apert's syndrome – plantar hyperkeratoses *Cutis 52:205–208, 1993*

Cardio-facio-cutaneous syndrome – abnormal hair, sparse eyebrows and lashes, ichthyosiform hyperkeratosis, widespread keratosis pilaris-like papules, seborrheic dermatitis, hemangiomas, nail dystrophy, bromhidrosis, lymphedema; characteristic facies with large head, high forehead, bitemporal constriction, antimongoloid slant of palpebral fissures, depressed nasal bridge, low-set ears with thick helices psychomotor and growth retardation; pulmonic stenosis and atrial septal defects *JAAD 28:815–819, 1993*

Collodion baby with palmoplantar keratoderma *J Med Assoc Thai 76:17–22, 1993*

Congenital ichthyosiform dermatosis with linear keratotic papules and sclerosing PPK *AD 125:103–106, 1989*

Conradi–Hünermann syndrome – X-linked dominant chondrodysplasia punctata; cataracts, whorled ichthyosiform eruption, palmoplantar keratoderma, Blaschko-distributed pigmentation; follicular atrophoderma and patchy cicatricial alopecia *AD 121:1064–1065, 1985*

Corneodermatoosseous syndrome – autosomal dominant; diffuse PPK; photophobia, corneal dystrophy, distal onycholysis, brachydactyly, short stature, medullary narrowing of digits, dental decay *Curr Prob Derm 14:71–116, 2002*

Costello syndrome – palmar hyperkeratosis *JAAD 32:904–907, 1995;* palmoplantar keratoderma, hyperpigmentation, warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick, redundant palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 11:453–457, 2001; Am J Med Genet 82:187–193, 1999; Clin Genet 50:244–257, 1996; JAAD 32:904–907, 1995*; *Am J Med Genet 47:176–183, 1993; Aust Paediat J 13:114–118, 1977*

Cowden's syndrome (multiple hamartoma syndrome) – punctate palmar papules with central depressions; autosomal dominant with variable penetrance; facial trichilemmomas with cobblestone appearance around eyes and mouth; acrokeratosis verruciformis; punctate palmoplantar keratoderma; multiple angiomas and lipomas; mucous membrane papillomas; craniomegaly; fibrocystic breast disease with associated breast cancer; goiter with thyroid carcinoma; other adenocarcinomas and melanoma *JAAD 17:342–346, 1987; JAAD 11:1127–1141, 1984*

Dermatopathia pigmentosa reticularis – autosomal dominant; reticulate pigmentation, alopecia, nail changes, palmoplantar punctate hyperkeratosis, loss of dermatoglyphics *Int J Dermatol 34:645–646, 1995; JAAD 26:298–301, 1992; AD 126:935–939, 1990*

Dorfman–Chanarin syndrome (neutral lipid storage disease) *BJD 144:430–432, 2001*

Down's syndrome – keratosis palmaris et plantaris *Ghatan p.130, 2002, Second Edition*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Dyskeratosis congenita – X-linked recessive or autosomal dominant; reticulate gray–brown pigmentation, poikiloderatous appearance; leukoplakia, periodontal disease and premature caries; canities and cicatricial alopecia; nail dystrophy; associated malignancies include lymphomas and adenocarcinomas; Fanconi's anemia *J Med Genet 12:339–354, 1975*

Ectodermal dysplasia – autosomal recessive ectodermal dysplasia with corkscrew hairs *JAAD 27:917–921, 1992*

Hereditary acrokeratotic poikiloderma *AD 114:1207–1210, 1978*

Hidrotic ectodermal dysplasia of Clouston type – autosomal dominant; nail thickening, thinning, persistent paronychia, diffuse palmoplantar keratoderma; skin thickened over finger joints and knuckles; sparse fine hair; normal teeth; normal facies *Curr Prob Derm 14:71–116, 2002*; *Am J Med Genet 171:80–86, 1997; Can Med Assoc J 21:18–31, 1929*

Hidrotic ectodermal dysplasia with diffuse eccrine syringofibroadenomatosis *AD 125:1715, 1989*

Hyperkeratosis–hyperpigmentation syndrome *Clin Genet 43:73–75, 1993*

Hyperkeratosis palmoplantaris and attached gingival hyperkeratosis *Arch Int Med 113:866–871, 1974*

Incontinentia pigmenti – plantar hyperkeratosis *JAAD 47:169–187, 2002*

Jakac–Wolf syndrome – palmoplantar keratoderma with squamous cell carcinoma, gingival dental anomalies, hyperhidrosis *JAAD 53:S234–239, 2005*

Keratolytic winter keratoderma (Oudtshoorn syndrome) – autosomal dominant; diffuse PPK, centrifugal pelling of palms, soles, buttocks, trunk *Curr Prob Derm 14:71–116, 2002*

Keratosis follicularis spinulosa decalvans – X-linked dominant and autosomal dominant; alopecia, xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, palmoplantar keratoderma *Ped Derm 22:170–174, 2005; JAAD 47:S275–278, 2002*

Keratosis–ichthyosis–deafness (KID) syndrome – autosomal recessive; dotted waxy, fine granular or reticulated surface pattern of severe diffuse hyperkeratosis of palms and soles (palmoplantar keratoderma), ichthyosis with well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness, hypotrichosis, dystrophic nails *JAAD 51:377–382, 2004; BJD 148:649–653, 2003; Cutis 72:229–230, 2003; Ped Derm 19:285–292, 2002; Ped Derm 15:219–221, 1998; Ped Derm 13:105–113, 1996; JAAD 19:1124–1126, 1988; AD 123:777–782, 1987; AD 117:285–289, 1981*

Keratosis linearis with ichthyosis congenita and sclerosing keratoderma (KLICK syndrome) – autosomal recessive *Acta DV 77:225–227, 1997*

Kindler's syndrome *AD 140:939–944, 2004; AD 132:1487–1490, 1996*

Lipoid proteinosis

Naegeli–Francescetti–Jadassohn syndrome (diffuse and punctate PPK) – autosomal dominant; subtype of ectodermal dysplasia; reticulate pigmentation which fades after puberty, bullae of hands and feet, palmoplantar keratoderma, hypohidrosis, nail dystrophy, dental enamel defects, hypoplasia or aplasia of dermatoglyphs, malaligned great toe nails, blistering in first week of life; differential diagnosis includes dermatopathia pigmentosa reticularis, hereditary bullous acrokeratotic poikiloderma (Weary–Kindler), and pachyonychia congenita *Curr Prob Derm 14:71–116, 2002; JAAD 28:942–950, 1994; JAAD 28:942–950, 1993*

Naxos syndrome (mal de Naxos) – palmoplantar keratoderma with cardiomegaly and ventricular tachycardia

Naxos disease (mal de Naxos) – autosomal recessive – focal palmoplantar keratoderma, arrhythmogenic right ventricular dysplasia; cardiomegaly and ventricular tachycardia due to focal myocarditis or cardiomyopathy, woolly hair *Curr Prob Derm 14:71–116, 2002; BJD 147:575–581, 2002; JAAD 44:309–311, 2001; AD 136:1247–1252, 2000; Br Heart J 56:321–326, 1986; JAAD 134:1021, 1024, 1998;* recessive mutation in desmoplakin *Hum Molec Genet 9:2761–2766, 2000*

Nevoid basal cell carcinoma syndrome (Gorlin's syndrome) – autosomal dominant; smooth surfaced rounded papules 1–15-mm; epidermoid cysts and milia; diffuse palmoplantar hyperkeratosis; palmoplantar punctate hyperkeratosis with pits; odontogenic keratocysts; bifid ribs; spina bifida occulta, kyphoscoliosis; broad nasal root, hypertelorism, frontal bossing, syndactyly, calcification of falx cerebri, defective dentition, neurologic and eye abnormalities; abnormal renal resorption of phosphate *Am J Med Genet 50:282–290, 1994; Medicine 66:98–113, 1987*

Noonan's syndrome – short stature, webbed neck, hypertelorism, blepharoptosis, epicanthal folds, small chin; skeletal defects, pulmonary stenosis; lymphedema of legs and feet; undescended testes; coarse hair with low posterior hairline; ulerythema oophyrogenes is a cutaneous marker *Am J Med Genet 21:493–506, 1985*

Odonto-onycho-dermal dysplasia – telangiectatic atrophic patches of face, sparse hair, conical teeth, hyperkeratosis of palms and soles, dystrophic nails *Am J Med Genet 14:335–346, 1983*

Olmsted syndrome – autosomal dominant; mutilating palmoplantar focal or diffuse palmoplantar keratoderma, hypotrichosis, perioral periorificial, nasal, and anal keratotic papules and plaques; abnormal connexin 26; follicular hyperkeratosis of buttocks and knees; follicular papules; intertrigo, linear streaky hyperkeratosis, leukokeratosis of the tongue, sparse hair anteriorly *JAAD 53:S266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; Eur J Derm 13:524–528, 2003; J Dermatol 27: 557–568, 2000; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; Semin Derm 14:145–151, 1995; JAAD 31:508–510, 1994; Ped Derm 10:376–381, 1993; BJD 122:245–252, 1990;JAAD 10:600–610, 1984; Am J Dis Child 33:757–764, 1927;* follicular hyperkeratosis of buttocks and knees *BJD 136:935–938, 1997*

Pachyonychia congenita – autosomal dominant. Type 1 (Jadassohn–Lewandosky syndrome) (56%)- autosomal dominant; thick hyperkeratoses of pressure areas of soles, thickened finger and toenails, keratosis pilaris, follicular keratoses of elbows and knees, oral leukokeratosis, symmetric subungual hyperkeratosis; occasional hyperhidrosis *J Dermatol 26:677–681, 1999; Ped Derm 14:491–493, 1997; Semin Dermatol 14:129–134, 1995; Ped Derm 7:33–38, 1990; type 1 – keratin 16 mutations Exp Dermatol 9:170–177, 2000; Prenat Diagn 19:941–946, 1999;* mutation in keratin 6a *Nat Genet 10:363–365, 1995;* with steatocystoma multiplex *J Dermatol 25:479–491, 1998;* pachyonychia congenita tarda *Clin Exp Dermatol 20:226–229, 1995; AD 127:701–703, 1991;* Type 2 (Jackson–Lawlor syndrome) (24%)-Type 1 plus bullae of palms and soles, palmoplantar hyperhidrosis, natal or neonatal teeth and steatocystoma multiplex or epidermoid cysts. Type 3 (11%) – types 1 and 2 plus angular cheilosis, corneal dyskeratosis, (leukokeratosis) and cataracts. Type 4 (7%) – types 1, 2, and 3 plus laryngeal lesions, hoarseness, mental retardation, hair anomalies, and alopecia *BJD 152:800–802, 2005; Clin Exp Dermatol 28:434–436, 2003; JID 117:1391–1396, 2001; JAAD 19:705–711, 1988*

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Palmoplantar and perioroficial keratoderma with corneal epithelial dysplasia *BJD 125:186–188, 1991*

Progressive symmetric erythrokeratoderma – autosomal dominant with variable penetrance; erythematokeratotic plaques on extremities, medial buttocks, sparing chest and abdomen; palmoplantar keratoderma *Dermatologica 1982; AD 122:434–440, 1986*

Rapp–Hodgkin ectodermal dysplasia – autosomal dominant; palmoplantar keratoderma; ectodermal dysplasia, cleft lip/palate and distinct facies (mild frontal prominence, midfacial hypoplasia, small mouth), glossy tongue, congenital absence of lingual frenum and of sublingual caruncles; scalp ulcers, scalp dermatitis, hair abnormalities *Am J Med Genet 79:343–346, 1998*

Ectodermal dysplasias in association with cleft lip and/or palate include: 1) Rapp–Hodgkin syndrome 2) EEC syndrome (ectodermal dysplasia, ectrodactyly, cleft lip/palate) 3) Hay–Wells (AEC) syndrome (ankyloblepharon, ectodermal defects, cleft lip and palate, with extensive scalp dermatitis) *JAAD 27:249–256, 1992*

Refsum's disease – heredopathia atactica polyneuritiformis

Reiter's syndrome

Rothmund–Thomson syndrome (poikiloiderma congenitale) – autosomal recessive; poikiloderma of face and extremities, alopecia, dystrophic teeth and nails, juvenile cataracts, retarded physical development, hypogonadism, bony malformations, cutaneous and non-cutaneous malignancies; erythematous patches and plaques with or without blistering on cheeks, forehead, ears and neck, extensor extremities, buttocks; flexural sparing; these progress to photodistributed poikiloderma; hyperkeratotic lesions and calcinosis may occur; Differential diagnosis includes: acrogeria (Gottron's syndrome), pangeria (Werner's syndrome), Kindler's syndrome, acrokeratotic poikiloderma, Mendes de Costa's syndrome, sclerosing poikiloderma, cachectic dwarfism (Cockayne's syndrome), xeroderma pigmentosum, dyskeratosis congenita (Zinsser–Cole–Engman/Cole–Rauschkolb–Toomey syndrome) *Ped Derm 18:422–425, 2001; JAAD 27:750–762, 1992*

Schopf–Schulz–Passarge syndrome – autosomal recessive; hidrocystomas of eyelid margins, facial telangiectasia, hypodontia with conical teeth, alopecia (thin scalp hair), diffuse fissured palmoplantar keratoderma, brittle and furrowed nails, multiple squamous cell carcinomas *AD 140:231–236, 2004; Dermatology 196:463–466, 1998; JAAD 36:569–576, 1997; BJD 127:33–35, 1992; Birth Defects XII:219–221, 1971;* eccrine syringofibroadenoma of palms and soles – rough palms and soles *BJD 143:591–594, 2000*

Schwachman syndrome – autosomal recessive; malabsorption, failure to thrive, neutropenia; dry face with perioral dermatitis, palmoplantar hyperkeratosis; generalized xerosis, follicular hyperkeratosis, widespread dermatitis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Scleroatrophic and keratotic dermatosis of limbs (scleroatrophic syndrome of Huriez) – autosomal dominant; focal palmoplantar keratoderma; scleroatrophy of hands, sclerodactyly, lamellar palmoplantar keratoderma, xerosis, hypoplastic nails; possible malignant degeneration affected skin, hypohidrosis; chromosome 4q23 *BJD 143:1091–1096, 2000; Am J Hum Genet 66:326–330, 2000; Ped Derm 15:207–209, 1998; BJD 137:114–118, 1997; BJD 134:512–518, 1996; JAAD 26:855–857, 1992; Ann Derm Syphilogr 96:135–146, 1969; Bull Soc Fr Dermatol Syphiligr 70:24–28, 1963*

Tay's syndrome – IBIDS

Tricho-oculo-dermo-vertebral syndrome (Alves syndrome) – plantar keratoderma *Am J Med Genet 46:313–315, 1993*

Tricho-oculo-dermo-vertebral syndrome (Alves syndrome) – dry, sparse, brittle hair, dystrophic nails, plantar keratoderma, short stature, cataracts *Am J Med Genet 46:313–315, 1993*

Tricho-odonto-onychodysplasia syndrome – autosomal recessive; alopecia of vertex; hair dry, brittle, and sparse, enamel hypoplasia of teeth, nail dystrophy, supernumery nipples, palmoplantar hyperkeratosis, melanocytic nevi *Am J Med Genet 15:67–70, 1983*

### TOXINS

Arsenical papular punctate palmoplantar hyperkeratosis *Acta DV 80:292–293, 2000; J Am Podiatry Assoc 66:91–94, 1976;* multiple palmoplantar keratoses *Hautarzt 46:198–201, 1995*

### TRAUMATIC

Callosities – occupational, recreational *JID 85:394–397, 1985*

Hyperkeratosis of the heel secondary to a foreign body *AD 74:469–470, 1956*

Pool palms *JAAD 27:111, 1992*

### VASCULAR DISEASES

Lymphedema and keratoderma *Hautarzt 42:518–522, 1991*

Polyarteritis nodosa *Rev Clin Esp 149:379–381, 1978*

## PALMOPLANTAR KERATODERMAS – ALTERNATIVE CLASSIFICATION

***AD 132:640–651, 1996***

### DIFFUSE PALMOPLANTAR KERATODERMAS

***ACQUIRED DIFFUSE***

Type I – epidermolytic PPK – Vorner – PPK with tonotubular keratin

Type II – non-epidermolytic PPK – Unna–Thost–Greither

Type III – erythrokeratoderma variabilis, progressive symmitric erythrokeratoderma, Greither's PPK, keratosis palmoplantaris transgradiens et progrediens, keratosis extremitatum progrediens

### FOCAL PALMOPLANTAR KERATODERMAS

***ACQUIRED FOCAL***

Type I – striate keratoderma, Brunauer–Fuhs–Siemens type, keratosis palmoplantaris varians, Wachter's PPK, acral keratoderma

### PUNCTATE PALMOPLANTAR KERATODERMAS

Arsenical keratoses *JAAD 38:179–185, 1998*

Idiopathic punctate PPK

Idiopathic filiform porokeratotic PPK

Punctate PPK of palmar creases

Type I – Buschke–Fischer–Brauer disease; punctata; keratosis papulosa; papulotranslucent acrokeratoderma; keratoderma punctata and maculosa disseminata; Davis–Colley disease

Type II – porokeratosis punctata palmaris et plantaris, punctate keratoderma; punctate porokeratois of palms and soles; spiny keratoderma

Type III – focal acral hyperkeratosis, acrokeratoelastoidosis lichenoides, degenerative collagenous plaques of the hands

### PALMOPLANTAR ECTODERMAL DYSPLASIAS

Type I – focal palmoplantar keratoderma with oral hyperkeratosis; keratosis palmoplantaris nummularis, hereditary painful callosities, keratosis follicularis, Jadassohn–Lewandowsky syndrome, pachyonychia congenita type I

Type II – pachyonychia congenita type II, Jackson–Sertoli syndrome, Jackson–Lawler pachyonychia congenita

Type III – tylosis

Type IV – Papillon–Lefevre syndrome

Type V – tyrosinemia type II

Type VI – Olmsted syndrome

Type VII – Vohwinkel syndrome

Type VIII – mutilating PPK of Gamborg–Nielsen type, Mal de Meleda, acral keratoderma

Type IX – PPK with sclerodactyly, Huriez syndrome, scleroatrophy and keratotic dermatosis of the limbs, sclertylosis

Type X – hidrotic ectodermal dysplasia, Fischer–Jacobsen – Closton syndrome, alopecia congenita with keratosis palmoplantaris, keratosis palmaris with drumstick fingers, PPK and clubbing

Type XI – Naegeli–Franschetti–Jadassohn, congenital poikiloderma with traumatic bulla formation, anhidrosis, and keratoderma

Type XII – hyperkeratosis–hyperpigmentation syndrome

Type XIII – dermatopathia pigmentosa reticularis

Type XIV – PPK, woolly hair and endomyocardial fibrodysplasia

Type XV – PPK and sensorineural deafness, Bart–Humphrey syndrome

Type XVI – ichthyosiform erythroderma, corneal involvement, and deafness; KID syndrome, Desmons syndrome

Type XVII – corneodermatoosseous (CDO) syndrome

Type XVIII – PPK and spastic paraplegia, Charco–Marie–Tooth disease with PPK and nail dystrophy

Type XIX – eyelid cysts, palmoplantar keratosis, hypodontia, hypotrichosis, Schopf–Schultz–Passarge syndrome

# PALMOPLANTAR PUSTULES

Acrodermatitis continua of Hallopeau – osteolysis of tuft of distal phalanx *AD 118:434–437, 1982;* tapered sclerodermoid changes *Rook p.1636, 1998, Sixth Edition*

Acropustulosis of infancy

Acute palmoplantar pustulosis

Adult Still's disease – palmoplantar vesiculopustular eruption with fixed facial papules *J Korean Med Sci 17:852–855, 2002*

Blistering distal dactylitis

Candidiasis, congenital cutaneous *Clin Inf Dis 32:1579, 1637–1638, 2001*

Chronic recalcitrant pustular eruptions of the palms and soles

Contact dermatitis Contact *Derm 39:108–111, 1998*

Drug eruption

Dyshidrotic eczema *The Clinical Management of Itching; Parthenon; p.xv, 2000*

Eosinophilic pustular folliculitis *Cutis 74:107–110, 2004; Dermatology 185:276–280, 1992; Dermatologica 149:1240–1247, 1974*

Hereditary acrokeratotic poikiloderma – vesicopustules of hands and feet at 1–3 months of age; widespread dermatitis; keratotic papules of hands, feet, elbows, and knees *AD 103:409–422, 1971*

Hypothyroidism – palmoplantar pustulosis *BJD 121:487–491, 1989*

Impetigo herpetiformis (pustular psoriasis of pregnancy)

Incontinentia pigmenti

Langerhans cell histiocytosis – plantar papulopustules *BJD 142:1234–1235, 2000*

Lymphoma – cutaneous T-cell lymphoma mimicking palmoplantar pustulosis *JAAD 51:139–141, 2004; JAAD 47:914–918, 2002*

Milker's nodule *Ghatan p.97, 2002, Second Edition*

Monkeypox *Ghatan p.97, 2002, Second Edition*

Orf *Ghatan p.97, 2002, Second Edition*

Pustular bacterid of Andrews *Arch Dermatol Syphilol 32:837–847, 1935*

Pustular idiopathic recurrent palmoplantar hidradenitis *JAAD 47:S263–265, 2002*

Pustular psoriasis of palms and soles *Tyring p.350, 2002; Eur J Dermatol 2:311–314, 1992; Dermatol Clin 2:455–470, 1984*

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

Reiter's syndrome

SAPHO syndrome – palmoplantar pustulosis with sternoclavicular hyperostosis; acne fulminans, acne conglobata, hidradenitis suppurativa, psoriasis, multifocal osteitis *Cutis 71:63–67, 2003; Cutis 62:75–76, 1998; Rev Rheum Mol Osteoarthritic 54:187–196, 1987; Ann Rev Rheum Dis 40:547–553, 1981*

Scabies *Am J Dis Child 133:1031–1034, 1979*

Secondarily infected hand or foot dermatitis

Sweet's syndrome *JAAD 42:332–334, 2000*

Syphilis, secondary Sex Transm *Dis 5:115–118, 1978*

Terbinafine *Ann DV 127:279–281, 2000*

Tularemia *Tyring p.104, 2002*

# PAPULES AND NODULES, HYPERPIGMENTED (WITH OR WITHOUT HYPERKERATOSIS)

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – pigmented poison ivy allergic contact dermatitis

Graft vs. host disease – chronic; hyperpigmented nodules which soften and atrophy *Rook p.2517, 1998, Sixth Edition*

Morphea *AD 122:76–79, 1986*

Pemphigus foliaceus resembling seborrheic keratoses *AD 126:543–544, 1990*

Scleroderma, nodular *JAAD 32:343–5, 1995*

Still's disease in the adult – brown coalescent scaly papules *JAAD 52:1003–1008, 2005*

## CONGENITAL

Accessory tragi

Congenital self-healing Langerhans cell histiocytosis – multiple congenital red–brown nodules *Ped Derm 17:322–324, 2000*

Supernumery nipple *Cutis 71:344–346, 2003*

## DRUG-INDUCED

Chemotherapy – epidermal dysmaturation; brown papules *JAAD 43:358–360, 2000*

Lichenoid drug eruption

Minocycline pigmentation of scar *Cutis 74:293–298, 2004*

Nadroparin-calcium injections – calcifying panniculitis *BJD 153:657–660, 2005*

## EXOGENOUS

Foreign body granuloma

Mudi-chood – due to oils applied to hair; papulosquamous eruption of nape of neck and upper back; begin as follicular pustules then brown–black papules with keratinous rim *Int J Dermatol 31:396–397, 1992*

Stockings mimicking nevi

## INFECTIONS AND INFESTATIONS

AIDS – photo-induced lichen planus or lichenoid eruption; pruritic papular eruption with HIV in Uganda *JAMA 292:2614–2621, 2004*

Aspergillosis – primary cutaneous – purple or brown papulonodules *AD 129:1189–1194, 1993; AD 124:121–126, 1988; BJD 85 (suppl 17) 95–97, 1971*

Botryomycosis in AIDS *JAAD 16:238–242, 1987*

Cat scratch fever *Ghatan p.9, Second Edition*

Condyloma acuminatum

Epidermodysplasia verruciformis

Hepatitis C infection – necrolytic acral erythema; red to hyperpigmented psoriasiform plaques with variable scale or erosions *JAAD 53:247–251, 2005; Int J Derm 35:252–256, 1996*

Herpes zoster, chronic in AIDS *AD 126:1048–1050, 1990; JAAD 20:637–642, 1989*

Histoplasmosis, disseminated in AIDS *Tyring p.341, 2002;* brown papule *AD 132:341–346, 1996; AD 125:689–694, 1989*

Leeches – hyperpigmented papules and nodules due to application of *Hirudo medicinalis* (leeches) *JAAD 43:867–869, 2000*

Leishmaniasis – disseminated leishmaniasis with dermatofibroma-like lesions *BJD 148:185–187, 2003; Ghatan p.9, Second Edition;* hyperpigmented scar *Arch Dermatol Res 256:127–136, 1976*

Lepromatous leprosy

Malacoplakia – violaceous nodules *AD 134:244–245, 1998; Am J Dermatopathol 20:185–188, 1998; JAAD 34:325–332, 1996; JAAD 30:834–836, 1994*

*Mycobacterium tuberculosis* – miliary *JAAD 23:381–385, 1990;* lichen scrofulosorum; lupus vulgaris; nodular tuberculid *JAAD 53:S154–156, 2005*

Onchocerciasis (*Onchocerca volvulus*) – transmitted by Simuliidae (humpbacked black fly) localized acute dermatitis or chronic generalized dermatitis; papules, crusted papules, lichenified plaques; often with hyperpigmented nodules *JAAD 45:435–437, 2001; Cutis 65:293–297, 2000; BJD 121:187–198, 1989*

Papular urticaria – red–brown nodules *Ped Derm 19:409–411, 2002*

*Penicillium marneffei* – brown papules and nodules *JAAD 49:344–346, 2003*

Syphilis, secondary

Scabies – red–brown nodules *Ped Derm 19:409–411, 2002;* Norwegian scabies *AD 124:121–126, 1988*

Varicella – hyperpigmented scar *Ped Derm 18:378–380, 2001*

Verrucae – pigmented wart – HPV 4,60,65 *BJD 148:187–188, 2003;* verruca vulgaris; flat warts

Yaws *Ghatan p.9, Second Edition*

## INFILTRATIVE

Amyloidosis – amyloid elastosis *AD 121:498–502, 1985*; lichen amyloidosis

Benign cephalic histiocytosis – red–brown nodules *Ped Derm 19:409–411, 2002*

Congenital self-healing histiocytosis – red–brown nodules *Ped Derm 19:409–411, 2002*

Langerhans cell histiocytosis – red–brown nodules *Ped Derm 19:409–411, 2002*

Urticaria pigmentosa (mastocytosis) – red–brown nodules *Ped Derm 19:409–411, 2002*

Xanthogranuloma – red–brown nodules *Ped Derm 19:409–411, 2002*

Xanthoma disseminatum – nevi-like red–brownish–yellow papulonodules *AD 128:1207–1212, 1992*

## INFLAMMATORY DISEASES

Neutrophilic eccrine hidradenitis – hyperpigmented plaques *Cancer 62:2532–2536, 1988*

Pseudolymphoma – red–brown nodules *Ped Derm 19:409–411, 2002*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) *Ped Derm 17:377–380, 2000*

Sarcoid

## METABOLIC

Addison's disease – scarring *Cutis 66:72–74, 2000*

Calcinosis cutis

Endometriosis – in Cesarean section scar *Z Hautkr 61:940–942, 1986*; brown nodule *JAAD 21:155, 1989*

## NEOPLASTIC

Acantholytic acanthoma *JAAD 19:783–786, 1988*

Acrochordon (skin tag)

Actinic keratosis

Aneurysmal fibrous histiocytomas (variant of dermatofibroma) *BJD 153:664–665, 2005*

Angiosarcoma

Apocrine hidrocystoma *AD 127:571–576, 1991*

Apocrine nevus *JAAD 18:579–581, 1988*

Basal cell carcinoma

Blue nevus *Rook p.1731, 1998, Sixth Edition;* cellular blue nevus – light brown papule

Bowen's disease, pigmented *BJD 138:515–518, 1998; AD 129:1043–1048, 1993; J Derm Surg Oncol 14:765–769, 1988;* mimicking malignant melanoma *Derm Surg 27:673–674, 2001;* of scrotum *J Derm Surg Oncol 12:1114–1115, 1986*

Bowenoid papulosis

Chordoma, metastatic *J Eur Acad DV 11:85–86, 1998*

Clear cell eccrine porocarcinoma *BJD 149:1059–1063, 2003*

Connective tissue nevus

Dermal dendrocyte hamartoma (dermal dendrocytoma) – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004; AD 126:689–690, 1990*

Dermatofibroma – brown–yellow papules, nodules *Rook p.2350, 1998, Sixth Edition*

Dermatofibrosarcoma protuberans

Dermatosis papulosa nigra *Cutis 32:385–392, 1983; AD 89:655–658, 1964*

Desmoid fibromatosis *Textbook of Neonatal Dermatology, p.399, 2001*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin–colored *Ped Derm 22:175–176, 2005; JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 13:139–142, 1996*

Eccrine nevus – brown papule *JAAD 51:301–304, 2004*

Eccrine poroma – mimicking melanoma *Cutis 59:43–46, 1997*

Eccrine porocarcinoma *AD 131:211–216, 1995*

Eccrine sweat gland carcinoma

Eccrine syringofibroadenoma *JAAD 13:433–436, 1985*

Epidermal nevus

Eruptive vellus hair cysts *Ped Derm 5:94–96, 1988; BJD 116:465–466, 1987*

Fibroepithelioma of Pinkus (variant of basal cell carcinoma) *BJD 150:1208–1209, 2004;* gray–brown papule *JAAD 52:168–169, 2005*

Fibrokeratoma

Fibrous hamartoma of infancy *Ped Pathol 14:39–52, 1994*

Generalized eruptive histiocytoma (progressive eruptive histiocytomas) – hundreds of skin-colored, brown, blue–red papules; resolve with macular pigmentation; face, trunk, proximal extremities; brown scaly papules *AD 139:933–938, 2003; JAAD 35:323–325, 1996; JAAD 31:322–326, 1994; JAAD 20:958–964, 1989; JAAD 17:499–454, 1987; AD 117:216–221, 1981; AD 116:565–567, 1980; AD 96:11–17, 1967; AD 88:586–593, 1963*; progressive nodular histiocytoma – red-brown nodules *Ped Derm 19:409–411, 2002*

Granular cell myoblastoma – red, hyperpigmented *Cutis 75:21,23–24, 2005; Ped Derm 14:489–490, 1997; AD 126:1051–1056, 1990*

Kaposi's sarcoma

Keloid *JAAD 46:S63, 2002; Dermatol Surg 25:631–638, 1999*

Leiomyomas – red–brown *AD 88:510–520, 1963*

Leiomyosarcoma – brown nodule *AD 135:341–346, 1999*

Leukemia – granulocytic sarcoma (chloroma)

Lymphoma – red–brown nodules *Ped Derm 19:409–411, 2002;* cutaneous T-cell lymphoma *Ped Derm 21:558–560, 2004;* immunocytoma (low grade B-cell lymphoma) – blue or reddish–brown papules *JAAD 44:324–329, 2001*

Melanoacanthoma

Melanocytic nevus, including congenital melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*; congenital dermal melanocytic nevus – widespread hyperpigmented nodules *JAAD 49:732–735, 2003;* atypical nevi; eruptive atypical nevi in AIDS *AD 125:397–401, 1989*

Melanoma – primary *JAMA 292:2771–2776, 2004; Semin Oncol 2:5–118, 1975;* metastatic

Metastases – metastatic breast carcinoma as pigmented papule *JAAD 31:1058–1060, 1994*; *AD 125:536–539, 1989*

Mucinous nevus *BJD 148:1064–1066, 2003;* congenital mucinous nevus – brown, skin-colored plaques *Ped Derm 20:229–231, 2003*

Mucinous eccrine nevus *Ped Derm 20:137–139, 2003*

Multinucleate cell angiohistiocytoma – multiple dark brown papules and nodules of extremities *JAAD 35:320–322, 1996; AD 132:703–708, 1996; JAAD 30:417–422, 1994*

Neurilemmomatosis *JAAD 10:344–354, 1984*

Neurocutaneous melanosis *JAAD 24:747–755, 1991*

Neurofibroma resembling congenital melanocytic nevus *JAAD 20:358–362, 1989*

Neurothekeoma *Bolognia p.1845, 2003*

Nevus spilus

Ossifying fibromyxoid tumor of the skin – tan-brown, dark brown nodule *JAAD 52:644–647, 2005*

Pigmented hamartomatous lesions including: *JAAD 10:1–16, 1984*
- Acanthosis nigricans
- Epidermal nevus
- Melanoacanthoma
- Nevus verrucosus
- Nevus sebaceus

Pinkus tumor – flesh, pink, or brown; sessile or pedunculated *Cutis 54:85–92, 1994*

Poikiloderma vasculare atrophicans with CTCL

Scars, pigmented
- Spontaneously regressing melanoma *Pathology 7:91–99, 1975*
- Hemorrhage within scar *Cutis 74:293–298, 2004*

Seborrheic keratoses

Seborrheic keratosis with trichilemmomas masquerading as melanoma *Cutis 54:351–353, 1994*

Self-healing reticulohistiocytosis *JAAD 13:383–404, 1985*

Spitz nevi *JAAD 27:901–913, 1992;* agminated Spitz nevi *BJD 117:511–512, 1987;* eruptive Spitz nevi *JAAD 15:1155–1159, 1986;* congenital Spitz nevus mimicking melanoma *JAAD 47:441–444, 2002;* combined Spitz nevus – pink, red, tan, or dark brown *AD 125:1703–1708, 1989; AD 82:325–335, 1960*

Smooth muscle hamartoma

Pigmented spindle cell nevus

Squamous cell carcinoma *BJD 149:1292–1308, 2003; J Cutan Pathol 27:381–386, 2000*

Steatocystoma multiplex

Syringoacanthoma – seborrheic keratosis-like *AD 120:751–756, 1984*

Syringomas, including eruptive syringomas *Cutis 76:267–269, 2005; AD 140:1161–1166, 2004; J Eur Acad Dermatol Venereol 15:242–246, 2001; AD 125:1119–1120, 1989;* generalized eruptive clear cell syringomas – brown *AD 125:1716–1717, 1989*

Trichoblastoma – arising in a nevus sebaceus *BJD 149:1067–1070, 2003*

Vellus hair cysts, eruptive

Waldenström's macroglobulinemia – neoplastic B-cell infiltrates; red–brown or violaceous papulonodules *Ann DV 129:53–55, 2002; JAAD 45:S202–206, 2001; Ann DV 112:509–516, 1985*

## PARANEOPLASTIC DISORDERS

Necrobiotic xanthogranuloma with paraproteinemia

Sign of Leser–Trelat

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, including generalized acanthosis nigricans

Axillary granular parakeratosis – brownish red keratotic papules *AD 140:1161–1166, 2004*

Confluent and reticulated papillomatosis

Darier's disease

Dowling–Degos disease (reticulated pigmented anomaly of the flexures)

Endosalpingosis – ectopic Fallopian tube epithelium; umbilical nodule *BJD 151:924–925, 2004*

Erythema elevatum diutinum *JAAD 49:764–767, 2003*

Flegel's disease (hyperkeratosis lenticularis) *JAAD 16:190–195, 1987; Cutis 48:201–204, 1991*

Granuloma faciale

Kyrle's disease

Lichen nitidus

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition;* lichen planus pigmentosus *JAAD 21:815, 1989; Dermatologica 149:43–50, 1974*

Lichen planus tropicus

Lichen sclerosus et atrophicus

Lichen simplex chronicus – in blacks *Rook p.3247, 1998, Sixth Edition*

Lupus miliaris disseminata faciei

Periumbilical perforating pseudoxanthoma elasticum *JAAD 39:338–344, 1998; JAAD 26:642–644, 1992; AD 115:300–303, 1979*

Pityriasis rubra pilaris

Pseudoacanthosis nigricans

Reactive perforating collagenosis

### SYNDROMES

Bannayan–Riley–Ruvalcaba–Zonana syndrome – supernumerary nipples, hemangiomas, genital hyperpigmentation *AD 132:1214–1218, 1996; Am J Med Genet 44:307–314, 1992*

Basaloid follicular hamartoma syndrome – multiple skin-colored, red and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 43:189–206, 2000*

Blue rubber bleb nevus syndrome

Dyskeratosis congenita

Epidermodysplasia verruciformis

Greither's syndrome – warty keratoses on the hands and feet with poikiloderma

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; Am J Med 60:447–456, 1976; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973; Proc R Soc Med 55:959–960, 1962*

Multicentric reticulohistiocytosis *AD 140:919–921, 2004*

Neurofibromatosis – type I, type II, or segmental *Rook p.379, 1998, Sixth Edition*

Phacomatosis pigmentovascularis – nevus spilus in phacomatosis pigmentovascularis type IIIb *AD 125:1284–1285, 1989*

POEMS syndrome – cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, morphea-like changes, maculopapular brown-violaceous lesions, purple nodules *JAAD 44:324–329, 2001; JAAD 40:808–812, 1999; Cutis 61:329–334, 1998; JAAD 21:1061–1068, 1989; AD 124:695–698, 1988; JAAD 12:961–964, 1985*

Steatocystoma multiplex

### TRAUMA

Burn scar *Surgery 121:654–661, 1997*

Scar

### VASCULAR DISEASES

Acquired progressive lymphangioma *AD 131:341–346, 1995*

Benign (reactive) angioendotheliomatosis (benign lymphangioendothelioma, acquired progressive lymphangioma, multifocal lymphangioendotheliomatosis) – present at birth; red brown or violaceous nodules or plaques on face, arms, legs with petechiae, ecchymoses, and small areas of necrosis *AD 140:599–606, 2004; JAAD 38:143–175, 1998; AD 114:1512, 1978*

Glomus tumors – plaque type glomus tumors

Targetoid hemosiderotic hemangioma – brown to violaceous nodule with ecchymotic halo *AD 138:117–122, 2002; AD 136:1571–1572, 2000; JAAD 41:215–224, 1999; J Cutan Pathol 26:279–286, 1999; JAAD 32:282–284, 1995*

## PAPULES, CRUSTED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bowel-associated dermatosis–arthritis syndrome *JAAD 14:792–796, 1986*

Dermatitis herpetiformis *Caputo p.24, 2000*

IgA pemphigus foliaceus *JAAD 20:89–97, 1989*

Pemphigoid (herpes) gestationes

Pemphigoid nodularis – crusted papules and nodules *BJD 147:343–349, 2002*

Pemphigus erythematosus *JAAD 10:215–222, 1984*

Pemphigus foliaceus – starts in seborrheic distribution (scalp, face, chest, upper back) *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961*

Rheumatoid arthritis – vasculitis – papulonecrotic lesions *JAAD 48:311–340, 2003;* rheumatoid neutrophilic dermatitis *JAAD 45:596–600, 2001*; *Cutis 60:203–205, 1997*

Systemic lupus erythematosus

### DRUG ERUPTION

Lichenoid drug eruption

Syringosquamous metaplasia – red, blanching, crusted papules; due to cancer chemotherapy *AD 126:73–77, 1990; Am J Dermatopathol 12:1–6, 1990*

### EXOGENOUS AGENTS

Bindii (Jo–Jo) dermatitis *JAAD 10:768–773, 1984*

Blasting cap explosion

Fiberglass dermatitis *The Clinical Management of Itching; Parthenon; p.xv, 2000*

### INFECTIONS AND INFESTATIONS

Adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white–yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

African histoplasmosis

AIDS – papular dermatitis of AIDS

Alternariosis *J Formos Med Assoc 91:462–466, 1992; AD 124:1421–1426, 1988*

Amebiasis – *Acanthamoeba*; crusted nodules in HIV disease *AD 139:1647–1652, 2003*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Am J Dermatopathol 19:79–82, 1997; J Clin Inf Dis 19:1009–1014, 1994; Br J Opthalmol 76:753–754, 1992;*

*J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Aspergillosis, primary cutaneous

Botryomycosis – Staphylococcus aureus

*Campylobacter jejuni* – in X-linked agammaglobulinemia *J Clin Inf Dis 23:526–531, 1996*

Candidal sepsis

Cat scratch disease *Cutis 49:318–320, 1992*

Coccidioidomycosis *JAAD 26:79–85, 1992*

Cowpox *Clin Exp Dermatol 12:286–287, 1987*

Coxsackie virus A9, B13 – purpuric exanthem

Crytococcosis

Cutaneous larva migrans

Cytomegalovirus infection *Dermatology 200:189–195, 2000*

*Demodex folliculorum* – papulonodular demodicidosis in AIDS *JAAD 20:197–201, 1989*

Dental sinus

Echo virus 4, 9, 11

Ecthyma *Caputo p.139, 2000*

Eczema herpeticum – atopic dermatitis, Hailey–Hailey disease, congenital ichthyosiform erythroderma, Darier's disease, CTCL, pemphigus foliaceus, burn, Wiskott–Aldrich syndrome *Ghatan p.130, 2002, Second Edition*

Epidemic typhus

Fire ant bites

*Fusarium* sepsis *Ped Derm 9:255–258, 1992; Fusarium solanae JAAD 32:346–351, 1995*

Gianotti–Crosti syndrome

Gonococcemia

Herpes simplex – herpetic folliculitis *BJD 142:555–559, 2000*

Histoplasmosis

Insect bite reactions *The Clinical Management of Itching; Parthenon Publishing p.xiii, 2000*

Leishmaniasis – hands, face, neck, arms *JAAD 51:S125–128, 2004; Clin Inf Dis 33:815,897–898, 2001; AD 125:1540–1542, 1989; JAAD 12:985–992, 1985;* chronic lupoid leishmaniasis *AD 132:198–202, 1996*

Leprosy – tuberculoid leprosy

Meningococcemia *J Clin Inf Dis 21:1023–1025, 1995*

Milker's nodule

Mite bites – grocer's itch, coolie itch, copra mite, wheat-pollard mite, baker's itch, dried fruit itch, *Cheyletiella*

Molluscum contagiosum

*Mycobacterium kansasii Ped Derm 18:131–134, 2001*

*Mycobacterium tuberculosis* – miliary tuberculosis; large crops of blue papules, crusted papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505; AD 99:64–69, 1969;* congenital tuberculosis – red papule with central necrosis *AD 117:460–464, 1981;* papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops on elbows, hands, feet, knees, legs; also ears, face, buttock, and penis *Int J Dermatol 30:487–490, 1991; JAAD 14:815–826, 1986;* lupus vulgaris; lichen scrofulosorum *Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976*

Myiasis – tumbu fly myiasis *AD 131:951–956, 1995*

North American blastomycosis – disseminated blastomycosis *Am Rev Resp Dis 120:911–938, 1979; Medicine 47:169–200, 1968*

Onchocerciasis (*Onchocerca volvulus*) – transmitted by Simuliidae (humpbacked black fly) localized acute dermatitis or chronic generalized dermatitis; papules, crusted papules, lichenified plaques; often with hyperpigmented nodules *JAAD 45:435–437, 2001; Cutis 65:293–297, 2000; BJD 121:187–198, 1989*

Ornithodoriasis – tick bites

*Paecilomyces lilacinus JAAD 37:270–271, 1997*

Papular urticaria

Paracoccidioidomycosis – near mouth, anus, or genitalia *J Clin Inf Dis 23:1026–1032, 1996*

Pediculosis

*Penicillium marneffei* – necrotic papules *JAAD 37:450–472, 1997*

Portuguese man-of-war sting

Protothecosis *BJD 146:688–693, 2002*

Rat bite fever (*Streptobacillus moniliformis* (pleomorphic facultative anaerobic bacillus) or *Spirillium minor* (Soduku)) – macular, petechial, or morbilliform widespread exanthem; palmoplantar rash; arthralgia and chronic arthritis; Haverhill fever (raw milk) – papules, crusted papules, vesicles, pustules; chronic abscesses *Cleveland Clin Q 52 (2):203–205, 1985; Pediatr Clin North Am 26:377–411, 1979*

*Rickettsia slovaca* (Hungary) – *Dermacentor marginatus* or *D. reticulatus* tick bite; erythema marginatum-like lesions; scalp papules, crusted scalp papules and subsequent alopecia; tick-borne lymphadenopathy *Clin Inf Dis 34:1331–1336, 2002*

Ricketsial pox (*Rickettsia akari*) (house mouse mite bite) – generalized papules, vesicles, papulovesicles, crusts *NEJM 331:1612–1617, 1994; Clin Inf Dis 18:624–626, 1994*

Rocky Mountain spotted fever

Sandfly bites *Rook p.1425–1426, 1998, Sixth Edition*

Scabies *Rook p.1460, 1998, Sixth Edition;* crusted *S Med J 87:352–356, 1994; Semin Dermatol 12:15–21, 1993*

Schistosomiasis – ectopic cutaneous schistosomiasis

Septic emboli

Sporotrichosis

Staphylococcal sepsis

Syphilis, palisading granuloma *JAAD 12:957–60, 1985*; nodular syphilis *AD 126:1666–9, 1989;* lues maligna *JAAD 22:1061–1067, 1990*

Tinea capitis – favus; yellowish cup-shaped crusts (scutula) *Dermatologica 125:369–381, 1962*

Tinea corporis,invasive

Trench fever

Tularemia – necrotic papule *Cutis 54:276–286, 1994*

Varicella *The Clinical Management of Itching; Parthenon Publishing, 2000; p.xi*

Viral exanthem

Yaws – primary (mother yaw) – crusted papule; secondary (daughter yaws, pianomas, framboesiomas)) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws); hyperkeratotic plantar plaques (crab yaws); periungual*Rook p.1268–1271, 1998, Sixth Edition*

Zygomycosis *JAAD 23:346–351, 1995*

## INFILTRATIVE

Eosinophilic histiocytosis *JAAD 13:952–958, 1985*

Juvenile xanthogranuloma, congenital *Ped Derm 13:65–68, 1996*

Langerhans cell histiocytosis – in adults or children *JAAD 13:383–404, 1985;* congenital self-healing variant *Textbook of Neonatal Dermatology, p.438, 2001*

## INFLAMMATORY

Erythema multiforme with epidermal necrosis

Kikuchi's histiocytic necrotizing lymphadenitis *JAAD 36:342–346, 1997*

Pyoderma gangrenosum – mimicking transient acantholytic dermatosis *Acta DV (Stockh) 61:77–79, 1981*

Sarcoid – resembling papulonecrotic tuberculid *Arch Dermatol Syphilol 13:675–676, 1926*

## METABOLIC

Hepatoerythropoietic porphyria *Ped Derm 4:229–233, 1987*

Prurigo of pregnancy (Besnier's prurigo) – multiple excoriated papules of abdomena and extensor extremities *Australas J Dermatol 9:258–267, 1968*

Waldenström's macroglobulinemia *AD 128:372–376, 1992*

## NEOPLASTIC

Angioimmunoblastic lymphadenopathy

Aneurysmal fibrous histiocytomas (variant of dermatofibroma) *BJD 153:664–665, 2005*

Basal cell carcinoma

Bowen's disease *Rook p.1674–1675, 1998, Sixth Edition*

Epstein–Barr virus associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Eruptive keratoacanthomas of Grzybowski

Infantile choriocarcinoma *JAAD 14:918–927, 1986*

Leukemia

Lymphoma – cutaneous T-cell lymphoma; pityriasis lichenoides chronica-like lesions in CTCL *BJD 142:347–352, 2000;* $CD8^+$ CTCL *AD 126:801–804, 1990*; lymphomatoid granulomatosis *AD 127:1693–1698, 1991; AD 126:801–804, 1990;* pemphigus foliaceus-like disorder in chronic T-cell leukemia *JAAD 18:1197–1202, 1988;* Epstein–Barr virus-associated T-cell lymphoma – necrotic, crusted papules; eyelid edema and intramuscular infiltration mimicking dermatomyositis *BJD 147:1244–1248, 2002*

Lymphomatoid papulosis – papules or nodules with central necrosis *Am J Dermatopathol 18:221–235, 1996; JAAD 17:632–636, 1987; JAAD 13:736–743, 1985*

Melanocytic nevi – inflammatory nevi evolving into halo nevi in children *BJD 152:357–360, 2005*

Melanoma, verrucous – crusted pigmented papule *AD 124:1534–1538, 1988*

Metastatic breast cancer

Poroma *JAAD 44:48–52, 2001*

Spitz nevus *JAAD 27:901–913, 1992*

Squamous cell carcinoma

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003;* in trisomy 21 or normal patients; periorbital vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

Waldenström's IgM storage papules – skin-colored translucent papules on extensor extremities, buttocks, trunk; may be hemorrhagic, crusted, or umbilicated *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISORDERS

Reactive perforating collagenosis *BJD 142:190–191, 2000*

Sterile suppurative folliculitis associated with acute myelogenous leukemia *BJD 146:904–907, 2002*

## PHOTODERMATOSES

Actinic prurigo *JAAD 44:952–956, 2001; Australas J Dermatol 42:192–195, 2001; Photodermatol Photoimmunol Photomed 15:183–187, 1999; Int J Dermatol 34:380–384, 1995; JAAD 26:683–692, 1992; JAAD 5:183–190, 1981; Clin Exp Dermatol 2:365–372, 1977;* familial, in Native Americans of North America *Int J Dermatol 10:107–114, 1971;* in Caucasians *BJD 144:194–196, 2001;* occurrence in others besides Native Americans *JAAD 34:612–617, 1996;* Southeast Asians *Photodermatol Photoimmunol Photomed 9:225–228, 1992*

Disseminated superficial actinic porokeratosis *Rook p.1672–1673, 1998, Sixth Edition; JAAD 40:479–480, 1999; Int J Derm 38:204–206, 1999*

Hydroa aestivale

## PRIMARY CUTANEOUS DISEASE

Acne excoriée

Acne keloidalis *JAAD 53:1–37, 2005*

Acne necrotica miliaris *Rook p.1122, 1998, Sixth Edition*

Acne necrotica varioliformis

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*; acute febrile ulceronecrotic Mucha–Habermann disease *JAAD 29:903–906, 1993*

Darier's disease *Clin Inf Dis 32:1643–1647, 2001*

Dermatofibrosis lenticularis disseminata

Erythema elevatum diutinum – red nodules, crusted papules *Cutis 68:41–42,55, 2001*

Granuloma annulare, perforating *Int J Derm 36:340–348, 1997;* generalized perforating granuloma annulare *JAAD 27:319–322, 1992*

Grover's disease (transient or persistent acantholytic dermatosis) *JAAD 35:653–666, 1996; AD 101:426–434, 1970*; folliculitis *JAAD 11:253–256, 1984;* precipitating factors include ribavirin, irritation, occlusion, sunlight, heat and sweating, xerosis, malignancy, pregnancy, ionizing radiation, interleukin-4, membranous glomerulonephritis *BJD 142:1257–1258, 2000*

Guttate parapsoriasis

Hailey–Hailey disease *BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Hyperkeratosis lenticularis perstans (Flegel's disease) *JAAD 27:812–816, 1992*

Keratosis lichenoides chronica *BJD 144:422–424, 2001*

Kyrle's disease

Lichen planus

Pityriasis lichenoides chronica *Caputo p.20, 2000*

Pityriasis rosea

Pityriasis rubra pilaris

Prurigo nodularis *Rook p.671–672, 1998, Sixth Edition*

Psoriasis

Reactive perforating collagenosis and other perforating disorders *Dermatologica 171:255–258, 1985;* acquired perforating dermatosis *BJD 135:671–677, 1996; BJD 129:211, 1993*

Relapsing linear acantholytic dermatosis *JAAD 33:920–922, 1995; BJD 112:349–355, 1985*

### PSYCHOCUTANEOUS

Factitial dermatitis

Neurotic excoriations *The Clinical Management of Itching; Parthenon Publishing p.ix, 2000*

### SYNDROMES

Behçet's disease

Congenital self-healing histiocytosis (Hashimoto–Pritzker disease) – congenital crusted red or blue nodules *Skin and Allergy News, p.31, Feb 2001*

Degos's disease

Lipoid proteinosis – crusted red papules of face heal with scarring *Ped Derm 22:266–267, 2005; BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998; Arch Pathol Anat 273:286–319, 1929*

Prader–Willi syndrome – picker's papules *AD 128:1623–1625, 1992*

Reflex sympathetic dystrophy – ulcerating papules *Cutis 68:179–182, 2001*

### TOXIC

Dioxin exposure – late manifestation *JAAD 19:812–819, 1988*

### TRAUMA

Chondrodermatitis nodularis chronicus helicis – papule of helix or antihelix *JAAD 2:148–154, 1980*

Walkman dermatosis – crusted papules on arm and trunk *AD 123:1225–1226, 1228–1229, 1987*

### VASCULAR

Churg–Strauss disease – papulonecrotic lesions *JAAD 48:311–340, 2003*

Leukocytoclastic vasculitis

Polyarteritis nodosa

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition*

Takayasu's arteritis – papulonecrotic tuberculid-like lesions *AD 123:796–800, 1987*

Wegener's granulomatosis – papulonecrotic lesions *JAAD 48:311–340, 2003; JAAD 28:710–718, 1993*

## PAPULES, DIGITAL

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – chilblains *JAAD 36:899–907, 1997;* X-linked chronic granulomatous disease – photosensitivity, chilblain lupus of fingertips and toes *Ped Derm 3:376–379, 1986*

Lupus erythematosus – acral papulonodular dermal mucinosis *JAAD 27:312–315, 1992;* chilblain lupus – fingers, toes, elbows, knees, calves, knuckles, nose, ears *BJD 143:1050–1054, 2000; BJD 98:497–506, 1978;* systemic lupus – recurrent Osler's nodes *Angiology 20:33–37, 1969*

Rheumatoid arthitis – rheumatoid nodules *JAAD 11:713–723, 1984;* rheumatoid vasculitis – Bywater's lesions; purpuric papules *Cutis 71:462, 464, 2003; Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965*

Scleroderma – CREST syndrome with calcinosis cutis – digital papule

### CONGENITAL ANOMALY

Congenital infantile digital fibromatosis *Ped Derm 19:370–371, 2002*

Supernumerary digit – digital papule *Ped Derm 20:108–112, 2003*

### DEGENERATIVE

Carpal tunnel syndrome – chilblain-like lesions with necrosis

Heberden's nodes of knuckles – degenerative joint disease *JAAD 43:892, 2000*

### DRUGS

Acral dysesthesia syndrome

### EXOGENOUS AGENTS

Foreign body granulomas, including cactus spine (*Opuntia* cactus) granulomas *Cutis 65:290–292, 2000;* sea urchin granulomas

Phenytoin reaction – keratotic finger papules *Cutis 61:101–102, 1998*

### INFECTIONS

AIDS – erythema elevatum diutinum in AIDS *JAAD 28:919–922, 1993, JAAD 26:38–44, 1992*

Cat scratch disease, inoculation papule *Ped Derm 5:1–9, 1988*

Endocarditis, acute bacterial

Gonococcemia

Leishmaniasis – post-kala-azar dermal leishmaniasis

Leprosy, lepromatous *JAAD 11:713–723, 1984*

Milker's nodules *JAAD 49:910–911, 2003; Tyring p.57, 2002;* digital papule *Rook p.998, 1998, Sixth Edition*

*Mycobacterium marinum Clin Inf Dis 31:439–443, 2000*

Orf – Parapoxvirus (genus); Family Poxviridae *Cutis 71:288–290, 2003; AD 126:235–240, 1990*

Osler's node (subacute bacterial endocarditis) – small, red papules on distal finger and toe pads *Clin Inf Dis 32:63,149, 2001; NEJM 295:1500–1505, 1976*

Parvovirus B19 – dermatomyositis-like Gottron's papules *Hum Pathol 31:488–497, 2000*

*Penicillium marneffei* – brown papules of fingers *JAAD 49:344–346, 2003*

Rat bite fever

Septic emboli *JAAD 47:S263–265, 2002*

Sporotrichosis

Staphylococcal sepsis *JAAD 47:S263–265, 2002*

Syphilis – primary chancre; secondary *Caputo p.146, 2000*; condyloma lata of toe webs *Cutis 57:38–40, 1996*

*Trichophyton rubrum* – invasive *T. rubrum* in immunosuppressed patients

Tularemia

Tungiasis (*Tunga penetrans*) (toe-tip or subungual nodule) – crusted or ulcerated *Acta Dermatovenerol* (*Stockh*) *76:495, 1996; JAAD 20:941–944, 1989; AD 124:429–434, 1988*

Verruca vulgaris – digital papule, knuckle pads *Derm Surg 27:591–593, 2001;* flat warts

## INFILTRATIVE DISEASES

Acral persistent papular mucinosis *JAAD 51:982–988, 2004; AD 122:1237–1239, 1986;* mimicking knuckle pads *AD 140:121–126, 2004; JAAD 27:1026–1029, 1992*

Amyloidosis – nodular amyloidoisis of the toe *AD 139:1157–1159, 2003*

Lichen myxedematosis (scleromyxedema) – resembling acral persistent papular mucinosis *BJD 144:594–596, 2001; Dermatology 185:81, 1992;* mimicking knuckle pads

Recurrent self-healing cutaneous mucinosis – red papules of palms and fingertips with pustules and vesicles *BJD 143:650–652, 2000*

Self-healing juvenile cutaneous mucinosis – knuckle nodules *JAAD 11:327–332, 1984; JAAD 31:815–816, 1994; Dermatology 189:93–94, 1994*

## INFLAMMATORY DISEASES

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* plantar nodules *Ped Derm 15:97–102, 1998*

Palmoplantar eccrine neutrophilic hidradenitis *Ped Derm 15:97–102, 1998; AD 131:817–820, 1995*

Sarcoid – fingertip nodules *JAAD 44:725–743, 2001; JAAD 11:713–723, 1984*

Verruciform xanthoma of toes in patient with Milroy's disease due to persistent leg edema *Ped Derm 20:44–47, 2003; JAAD 20:313–317, 1989*

## METABOLIC DISEASES

Calcinosis cutis – digital papules *Cutis 66:465–467, 2000;* plate-like calcinosis cutis; digital papular calcific elastosis *J Cutan Pathol 17:358–370, 1990*

Gout – tophus – digital papule (s) *Cutis 64:233–236, 1999; AD 134:499–504, 1998*

Oxalosis – calcium oxalate *Am J Kid Dis 25:492–497, 1995;* secondary oxalosis – papules on palmar skin of fingers *JAAD 31:368–372, 1994*

Xanthomas – type II hypercholesterolemia

## NEOPLASTIC DISEASES

Acquired digital fibrokeratoma – digital papule *AD 124:1559–1564, 1988; JAAD 12:816–821, 1985*

Acquired subungual exostoses *JAAD 26:295–298, 1992*

Actinic keratoses *Rook p.1671, 1998, Sixth Edition;* in transplant patients *JAAD 47:1–17, 2002*

Aggressive digital papillary adenocarcinoma – occur on fingers and toes *Cutis 72:145–147, 2003; Dermatol Surg 26:580–583, 2000; JAAD 23:331–334, 1990*

Aggressive digital papillary adenoma *Cutis 69:179–182, 2002; AD 120:1612, 1984*

Aggressive infantile fibromatosis *AD 107:574–579, 1973*

Angiokeratoma of Mibelli – autosomal dominant; associated with chilblains; on dorsum of fingers, toes, hands, feet *AD 106:726–728, 1972*

Atrial myxoma – tender red fingertip papule *JAAD 21:1080–1084, 1989*

Basal cell carcinoma – periungual – basal cell carcinoma of toenail unit *JAAD 48:277–278, 2003*

Blue nevus – of nail fold *Ghatan p.115, 2002, Second Edition*

Bowen's disease

Chondroblastoma, subungual – toe tip *Ped Derm 21:452–453, 2004*

Clear cell syringofibroadenoma of Mascaro – subungual papule *BJD 144:625–627, 2001*

Dermatofibroma – digital papule; papule of foot *Caputo p.57, 2000;* fibrous dermatofibroma – periungual fibroma *Rook p.2846, 1998, Sixth Edition*

Digital fibrous tumor of childhood – toe nodule *AD 131:1195, 1198, 1995*

Digital myxoid cyst *Derm Surg 27:591–593, 2001*

Eccrine angiomatous hamartoma – toes, fingers, palms and soles – skin-colored to blue *JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997; Ped Derm 14:401–402, 1997; Ped Derm 18:117–119, 2001; Ped Derm 14:401–402, 1997;* skin–colored nodule with blue papules *JAAD 41:109–111, 1999*

Eccrine poroma – digital papule *AD 74:511–512, 1956*

Eccrine spiradenoma – papule of proximal nail fold *AD 140:1003–1008, 2004*

Enchondroma *Derm Surg 27:591–593, 2001;* may be subungual

Epidermal nevus – digital papule

Epidermoid cyst – digital papule *JAAD 43:892, 2000*

Epithelioid sarcoma – nodule of flexor finger or palm *AD 121:389–393, 1985; JAAD 14:893–898, 1986*

Erythema elevatum diutinum

Exostosis, subungual (bony exostosis) (variant of osteochondroma) *JAAD 45:S200–201, 2001; Derm Surg 27:591–593, 2001;* subungual exostosis *Cutis 68:57–58, 2001; Rook p.2846, 1998, Sixth Edition; AD 128:847–852, 1992;* differentiate from carcinoma of the nailbed, Koenen's tumor, pyogenic granuloma, verruca, glomus tumor, melanoma

Fibroma – digital papule or subungual fibroma *Derm Surg 27:591–593, 2001*

Fibroma of the tendon sheath *JAAD 11:625–628, 1984*

Fibromatosis

Garlic clove tumor (fibroma) (acquired periungual fibrokeratoma) *Rook p.2846, 1998, Sixth Edition; AD 97:120–129, 1968*

Giant cell tumor of the tendon sheath – single or multiple *BJD 147:403–405, 2002; JAAD 43:892, 2000;* nodules of the fingers *J Dermatol 23:290–292, 1996;* overlying dorsal digital interphalangeal crease *J Hand Surg 5:39–50, 1980;* subungual giant cell tumor of the tendon sheath *Cutis 58:273–275, 1996* (nail dystrophy and swelling)

Granular cell tumor – digital papule, paronychial nodule *Cutis 62:147–148, 1998; Cutis 35:355–356, 1985*

Infantile digital fibromatosis – multiple soft fibromas on dorsal digits *JAAD 49:974–975, 2003; AD 138:1245–1251, 2002; BJD 143:1107–1108, 2000; Ped Derm 8:137–139, 1991; J Cut Pathol 5:339–346, 1978;* on lateral fifth finger *AD 141:549–550, 2005*

Infantile myofibromatosis – skin-colored to purple–red multiple nodules or papules *Cutis 73:229–231, 2004; Cancer 7:953–978, 1954*

Infundibular follicular cyst

Intraosseous epidermoid cysts *JAAD 27:454–455, 1992*

Kaposi's sarcoma

Keratoacanthoma – digital papule *AD 120:736–740, 1984*

Leukemia cutis – digital papule; preleukemic state of monocytosis and neutropenia – perniotic lesions *BJD 81:327–332, 1969;* chronic myelomonocytic leukemia – chilblain-like lesions *BJD 115:607–609, 1986; AD 121:1048–1052, 1985;* chronic myelomonocytic leukemia – chilblain-like lesions *JAAD 50:S42–44, 2004*

Lipoma – periungual lipoma *JAAD 51:S91–93, 2004;* subungual lipoma *BJD 149:418, 2003*

Malignant proliferating onycholemmal cyst *J Cut Pathol 21:183, 1994*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma

Metastatic tumors – plantar nodule of toe; pancreatic carcinoma *AD 139:1497–1502, 2003;* bronchogenic carcinoma – subungual papule *Cutis 35:121–124, 1985;* squamous cell carcinoma – palmar nodule

Neurofibroma *AD 124:1185–1186, 1988;* myxoid neurofibroma, periungual *Cutis 69:54–56, 2002*

Neurofibrosarcoma *J Pediatr 51:566–70, 1957*

Neurothekoma, subungual *JAAD 52:159–162, 2005*

Osteochondroma, subungual *Derm Surg 27:591–593, 2001*

Osteoma cutis *JAAD 39:527–544, 1998; JAAD 20:973–978, 1989*

Progressive nodular fibrosis of the skin – nodules on fingers *JID 87:210–216, 1986*

Reactive fibrous papule of the fingers (giant-cell fibroma) – fingers and palms *Dermatologica 143:368–375, 1971*

Squamous cell carcinoma *Derm Surg 27:591–593, 2001*

Syringomatous carcinoma – multilobulated digital nodule *BJD 144:438–439, 2001*

Traumatic neuroma

Vascular and myxoid fibromas of the fingers – multiple warty lesions of palms and fingers *JAAD 2:425–431, 1980*

Verrucous acanthoma

## PRIMARY CUTANEOUS DISEASES

Accessory digit

Acrokeratoelastoidosis *Dermatology 188:28–31, 1994*

Congenital hypertrophy of the lateral nail folds of the hallux *Ped Derm 5:243–245, 1989*

Erythema elevatum diutinum (EED) – knuckle pads (juxta-articular nodules), papules *JAAD 49:764–767, 2003; Cutis 67:381–384, 2001; Ped Derm 15:411–412, 1998;* including EED associated with HIV disease – digital papule; of feet *Caputo p.29, 2000;* papules of proximal nail fold *Tyring p.358, 2002*

Focal acral hyperkeratosis *Dermatology 188:28–31, 1994*

Granuloma annulare *JAAD 3:217–230, 1980*

Greither's palmoplantar keratoderma (transgradiens et progradiens palmoplantar keratoderma) *Cutis 65:141–145, 2000*

Knuckle pads (heloderma) *Caputo p.47, 2000; AD 129:1043–1048, 1993*

Lichen nitidus – digital papule, knuckle pads *AD 134:1302–1303, 1998*

Lichen simplex chronicus – knuckle pads

Palmoplantar keratoderma, epidermolytic – papules on knuckles *BJD 125:496, 1991*

Psoriasis *Rook p.1604, 1998, Sixth Edition*

Reactive perforating collagenosis of childhood

## PSYCHOCUTANEOUS DISEASES

Bulimia nervosa – Russell's sign (crusted knuckle nodules) *Clin Orthop 343:107–109, 1997; JAAD 12:725–726, 1985;* perniosis *Clin Sci 61:559–567, 1981;* pseudo knuckle pads (calluses on 2nd 5th MCP joints) *Psychol Med 9;429–48, 1979*

## SYNDROMES

Alport's syndrome – gouty tophi, nephritis, deafness

Bart–Pumphrey syndrome – knuckle pads, leukonychia, deafness and palmoplantar hyperkeratosis

Blue rubber bleb nevus syndrome – nail fold lesions *Ghatan p.115, 2002, Second Edition*

Ehlers–Danlos syndrome (molluscum pseudotumor) – knuckle pads

Ellis van Creveld syndrome – polydactyly *JAAD 46:161–183, 2002; Ped Derm 18:68–70, 2001*

Familial multiple acral mucinous fibrokeratomas – verrucous papules of the fingers *JAAD 38:999–1001, 1998*

Familial histiocytic dermatoarthritis – knuckle pads

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibroblastic rheumatism – symmetrical polyarthritis, nodules over joints and on palms, elbows, knees, ears, neck, Raynaud's phenomenon, sclerodactyly; skin lesions resolve spontaneously *AD 139:657–662, 2003; Ped Derm 19:532–535, 2002; AD 131:710–712, 1995; Clin Exp Dermatol 19:268–270, 1994; JAAD 14:1086–1088, 1986; Rev Rheum Ed Fr 47:345–351, 1980;* periungual papules *Ped Derm 19:532–535, 2002*

François syndrome (dermochondrocorneal dystrophy) – knuckle pads; nodules on hands, nose and ears *Ann DV 104:475–478, 1977; AD 124:424–428, 1988*

Hunter's syndrome – MPS II – knuckle pads *Ped Derm 12:370–372, 1995*

Incontinentia pigmenti – painful subungual keratotic tumor of IP *JAAD 50:S45–52, 2004; JAAD 47:169–187, 2002; J Hand Surg 18B:667–669, 1993; AD 124:29–30, 1988*

Infantile systemic hyalinosis – knuckle pads *Ped Derm 11:52–60, 1994*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, knuckle pads; multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001; Caputo p.54, 2000; AD 121:1062–1063, 1985; AD 107:574–579, 1973*

Knuckle pads, leukonychia and deafness syndrome *Ghatan p.159, 2002, Second Edition*

Knuckle pads with palmoplantar keratoderma and acrokeratoelastoidosis

Ledderhose's nodules (plantar fibromatosis) *JAAD 41:106–108, 1999;* Dupuytren's contracture (palmar fibromatosis) and/or Peyronie's disease – knuckle pads

Lipoid proteinosis – acral papules *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002;* digital papule *AD 132:1239–1244, 1996*

Maffucci's syndrome – enchondromas, angiomas, cartilaginous nodules *Rook p.2847, 1998, Sixth Edition; Dermatologic Clinics 13:73–78, 1995; JAAD 29:894–899, 1993*

Mal de Meleda – knuckle pads *Ped Derm 14:186–191, 1997*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *AD 140:919–921, 2004; JAAD 49:1125–1127, 2003; Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple exostoses syndrome *JAAD 25:333–335, 1991*

Neurofibromatosis – digital papule, knuckle pads

Ollier syndrome – multiple enchondromas *Rook p.2847, 1998, Sixth Edition*

Pachydermodactyly – benign fibromatosis of fingers of young men *AD 129:247–248, 1993; JAAD 27:303–305, 1992; AD 111:524, 1975*

Pachyonychia congenita – papules on the fingers

Palmoplantar keratoderma, Vorner – knuckle pads

Proteus syndrome *Ped Derm 5:14–21, 1988*

Reflex sympathetic dystrophy with chilblain-like lesions

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Stiff skin syndrome – knuckle pads *Ped Derm 3:48–53, 1985*

Trichorhinophalangeal dysplasia syndrome (Laugier–Gideon syndrome) *Ped Derm 13:212–218, 1996*

Tuberous sclerosis – periungual angiofibromas (Koenen's tumors) *JAAD 18:369–372, 1988*; digital papules *J Clin Neurol 7:221–224, 1992*

### TOXINS

Arsenical keratoses – palms and soles; resemble corns; fingers, backs of hands *Rook p.1672, 1998, Sixth Edition; JID 4:365–383, 1941*

### TRAUMA

Chilblains (perniosis) – tender, pruritic red or purple digital papules *JAAD 47:S263–265, 2002; JAAD 45:924–929, 2001; Rook p.960–961, 1998, Sixth Edition*

Dermatophagia ('wolf-biter') *Cutis 59:19–20, 1997*

Garrod's pads – violinist's knuckles – thickened skin over the interphalangeal joints from intense flexion of the tendons of the fingers

Neuroma, traumatic – digital papule; palisaded encapsulated neuroma *AD 140:1003–1008, 2004;* interdigital neuroma *JAAD 38:815–819, 1998;* traumatic neuroma due to treatment of supernumerary digit *Ped Derm 20:108–112, 2003*

Writer's callus

### VASCULAR DISEASES

Acroangiodermatitis of Mali – pseudo-Kaposi's sarcoma; chronic venous insufficiency, arteriovenous malformations, paralysis – tops of first and second toes *Acta DV (Stockh) 75:475–478, 1995; Int J Dermatol 33:179–183, 1994*

Angiofibroma

Angiokeratoma – of nail fold

Angiolipoleiomyoma – ears, fingers, toes *JAAD 38:143–175, 1998*

Cholesterol emboli *AD 122:1194–1198, 1986*

Chylous lymphedema – xanthomas of toes and feet *BJD 146:134–137, 2002*

Digital verrucous fibroangioma *Acta DV 72:303–304, 1992*

Emboli – atrial myxoma – acral papule *BJD 147:379–382, 2002*

Glomus tumors – digital papule, subungual *Derm Surg 27:591–593, 2001*

Hemangioma – of foot or toes *Caputo p.58, 2000;* subungual *Ghatan p.115, 2002, Second Edition*

Neonatal hemangiomatosis

Pyogenic granuloma – digital papule *Derm Surg 27:591–593, 2001; Rook p.2354–2355, 1998, Sixth Edition*

Wegener's granulomatosis *AD 130:861–867, 1994*

## PAPULES, DIRTY BROWN

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigus foliaceus

Rheumatoid neutrophilic dermatitis *JAAD 45:596–600, 2001*

### INFECTIONS AND INFESTATIONS

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Scabies, Norwegian (crusted)

Tinea versicolor

Tinea nigra

Tuberculosis – lupus vulgaris *Int J Dermatol 40:336–339, 2001*

Verrucae planae

### INFILTRATIVE DISEASES

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

### INFLAMMATORY DISEASES

Rosai–Dorfman disease *BJD 134:749–753, 1996*

### METABOLIC DISEASES

Diabetes mellitus – diabetic pretibial pigmented patches

### NEOPLASTIC DISEASES

Actinic keratosis *Rook p.1671, 1998, Sixth Edition*

Bowen's disease, pigmented *Dermatologica 157:229–237, 1978*

Bowenoid papulosis

Clear cell acanthoma – pigmented keratotic papule *Am J Dermatopathol 16:134–139, 1994*

Eccrine porocarcinoma, dark brown *AD 131:211–216, 1995*

Eruptive keratoacanthomas

Syringomas *Cutis 66:259–262, 2000; AD 126:954–955, 957–958, 1990*

Warty dyskeratoma

### PHOTODERMATOSES

Disseminated superficial actinic porokeratosis

### PRIMARY CUTANEOUS DISEASES

Confluent and reticulated papillomatosis

Darier's disease *Ann Dermatol 10:597, 1889; J Cutan Genitourin Dis 7:201, 1889;* linear Darier's disease

Dowling–Degos disease

Erythema elevatum diutinum *JAAD 26:38–44, 1992*

Fox–Fordyce disease

Granular parakeratosis *JAAD 52:863–867, 2005*

Hailey–Hailey disease

Ichthyosis or ichthyosiform eruption, including X-linked ichthyosis

Lichen amyloidosis – familial and non-familial

Lichen planus and lichen planus pigmentosus *J Dermatol 24:193–197, 1997*

Pityriasis rubra pilaris

Terra firme

### SYNDROMES

Congenital self-healing histiocytosis – with hemosiderin deposits *Ann DV 128:238–240, 2001*

Generalized basaloid follicular hamartoma syndrome – autosomal dominant; milia, comedone-like lesions, dermatosis papulosa nigra, skin tag-like lesions, hypotrichosis, palmar pits *JAAD 45:644–645, 2001*

Phakomatosis pigmentokeratotica *Dermatology 197:377–380, 1998*

### VASCULAR DISEASES

Granulomatous pigmented purpuric eruption *J Dermatol 23:551–555, 1996*

## PAPULES, DISTAL, DIGITAL, WHITE

Calcium oxalate

Calcium phosphate

Calcium pyrophosphate

Metastatic calcification – deposition of calcium in the media of blood vessels of the kidneys, myocardium, stomach,lungs and skin
- Etiology of metastatic calcification:
  - Extensive bone destruction
  - Milk–alkali syndrome
  - Primary or secondary hyperparathyroidism
  - Primary hypoparathyroidism
  - Pseudohypoparathyroidism
  - Chronic renal failure
  - Sarcoid
  - Vitamin D intoxication

Monosodium urate

Pustules

## PAPULES, FACIAL, SOLITARY

### CONGENITAL LESIONS

Accessory tragus – facial, glabellar papule – isolated, Treacher Collins syndrome (mandibulofacial dysostosis; autosomal dominant), Goldenhaar syndrome (oculo–auriculo–vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies, Nagers syndrome, Wolf–Hirschhorn syndrome (chromosome 4 deletion syndrome), oculocerebrocutaneous syndrome *Ped Derm 17:391–394, 2000;* Townes–Brocks syndrome *Am J Med Genet 18:147–152, 1984;* VACTERL syndrome *J Pediatr 93:270–273, 1978;* Hurson syndrome
- Differential diagnosis of accessory tragus includes:
  - Acrochordon
  - Adnexal tumor
  - Auricular fistula
  - Branchial cleft cyst and/or fistula
  - Cartilaginous remnants
  - Congenital midline hamartoma
  - Epidermoid cyst
  - Hair follicle nevus
  - Lipoma
  - Skin tags
  - Thyroglossal duct cyst
  - Wattle

Bronchogenic cyst – skin-colored nodule of chin *BJD 143:1353–1355, 2000*

Congenital midline hamartoma – polypoid nodule of chin *Ped Derm 7:199–201, 1990*

Congenital vellus hamartoma (hair follicle nevus) – skin-colored papule of face *Int J Dermatol 31:578–581, 1992*

Dermoid cyst (midline) *Pediatr Rev 11 (9):262–267, 1990*

Lacrimal duct cyst

Meningocoele

Nasal glioma – blue or red nodule *J Neurosurg 64:516–519, 1986; Pediatr Rev 11 (9):262–267, 1990;* papule of nose *AD 137:1095–1100, 2001*

Neuroblastoma

Rhabdomyosarcoma

### EXOGENOUS AGENTS

Silicone – metastatic silicone granuloma *AD 138:537–538, 2002*

### INFECTIONS AND INFESTATIONS

Abscess

Acremonium sepsis *JAAD 37:1006–1008, 1997*

Actinomycosis, cervicofacial *Laryngoscope 94:1198–1217, 1984*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Br J Ophthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981*

Bacillary angiomatosis – *Bartonella henselae AD 131:933–936, 1995*

Botryomycosis

Candidal sepsis

Chromomycosis – *Aureobasidium pullulans AD 133:663–664, 1997*

Dental sinus

*Fusarium* sepsis *JAAD 37:1006–1008, 1997*

Herpes simplex – pseudolymphoma appearance – violaceous nodule *Am J Dermatopathol 13:234–240, 1991*

Insect bite

Kerion

Leishmaniasis

Milker's nodule

Molluscum contagiosum *BJD 115:131–138, 1987*

*Mycobacterium tuberculosis* – scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red–blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *BJD 134:350–352, 1996;* BCG granuloma; lupus vulgaris

Myiasis – cuterebrid myiasis *Ped Derm 21:515–516, 2004*

North American blastomycosis

*Pseudomonas* sepsis *JAAD 32:279–280, 1995; Am J Med 80:528–529, 1986*

Rhinosporidiosis – nasal polyp

Rickettsial pox

Syphilis

Wart

## INFILTRATIVE DISORDERS

Amyloidosis – nodular tumefactive amyloid *Rook p.2628–2630, 1998, Sixth Edition*

Cutaneous focal mucinosis (superficial angiomyxoma) – face, trunk, or extremities *Am J Surg Pathol 12:519–530, 1988; AD 93:13–20, 1966*

Jessner's lymphocytic infiltrate *Rook p.2401, 1998, Sixth Edition; AD 124:1091–1093, 1988*

Papular xanthoma *JAAD 22:1052–1056, 1990; Ped Derm 15:65–67, 1998*

Urticaria pigmentosa

Xanthogranuloma *AD 112:43–44, 1976*

## INFLAMMATORY DISEASES

Erythema nodosum *Rook p.2200, 1998, Sixth Edition*

Idiopathic facial aseptic granuloma – facial papulonodule *AD 137:1253–1255, 2001*

Lymphocytoma cutis *Rook p.2400, 1998, Sixth Edition; Cancer 69:717–724, 1992; Acta DV* (*Stockh*) *62:119–124, 1982; Cancer 24:487–502, 1969*

Nodular fasciitis – subcutaneous facial nodule *AD 137:719–721, 2001*

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

Subcutaneous fat necrosis of the newborn – facial nodule *AD 134:425–426, 1998*

## METABOLIC DISEASES

Cutaneous calculus *BJD 75:1–11, 1963*

Ossifying fasciitis – red nodule of the nose *JAAD 37:357–361, 1997*

## NEOPLASTIC DISORDERS

Acrochordon

Actinic keratosis

Adenoid cystic carcinoma

Angiolipoma

Apocrine carcinoma *Cancer 71:375–381, 1993*

Apocrine hidrocystoma *AD 137:657–662, 2001*

Atypical fibroxanthoma *Cutis 51:47–48, 1993; Cancer 31:1541–1552, 1973;* subcutaneous facial nodule *AD 137:719–721, 2001*

Basal cell carcinoma – single or multiple *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Basaloid follicular hamartoma *JAAD 27:237–240, 1992*

Blue nevus *Rook p.1731, 1998, Sixth Edition*

CD $34^+$ fibrous papule of the nose *JAAD 35:342–345, 1996*

Chondroid syringoma – solitary papule *AD 125:1127–1132, 1989*

Clear cell acanthoma – pink papule *Ann Dermatol Syphilol 89:361–371, 1962*

Clear cell hidradenoma (eccrine acrospiroma)

Cylindroma – red nodule *AD 129:495–500, 1993*

Dermal dendrocytoma *AD 126:689–690, 1990*

Desmoplastic trichoepithelioma *J Cutan Pathol 17:45–52, 1990*

Eccrine hidroadenoma – dermal nodule with or without ulceration; face, scalp, anterior trunk *AD 97:651–661, 1968*

Eccrine poroma

Eccrine sweat gland carcinoma – face, scalp, palm *J Cutan Pathol 14:65–86, 1987*

Embryonal rhabdomyosarcoma *Ped Derm 15:403–405, 1998*

Epidermoid cyst – single or multiple *Rook p.1667, 1998, Sixth Edition*

Epidermolytic acanthoma, solitary – keratotic papule *AD 101:220–223, 1970*

Epithelioid sarcoma – nose *J Cutan Pathol 27:186–190, 2000*

Facial neuroma

Fibrofolliculoma *JAAD 11:361–363, 1984; JAAD 17:493–496, 1987*

Fibrous papule of the face (nose) (angiofibroma) *JAAD 10:670–671, 1984*

Folliculosebaceous cystic hamartoma *JAAD 34:77–81, 1996; JAAD 32:814–816, 1995*

Hidradenoma, benign nodular *AD 140:609–614, 2004*

Hidradenoma papilliferum *JAAD 41:115–118, 1999*

Hidrocystoma

Inverted follicular keratosis *J Clin Pathol 28:465–471, 1975*

Juvenile xanthogranuloma

Kaposi's sarcoma *JAAD 41:860–862, 1999; JAAD 40:312–314, 1999 Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Keloid

Keratoacanthoma

Leiomyoma – angiomyoma *Rook p.2367, 1998, Sixth Edition*

Leukemia cutis *BJD 143:773–779, 2000*

Lichen planus-like keratosis

Lymphoepithelioma-like carcinoma (flesh-colored or red–purple)

Lymphoma

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma, including metastatic melanoma

Merkel cell carcinoma

Metastases

Microcystic adnexal carcinoma *Am J Dermatopathol 19:358–362, 1997*

Milia, including multiple eruptive milia – face, earlobe *Rook p.1669, 1998, Sixth Edition; JAAD 37:353–356, 1997; Cutis 60:183–184, 1997; Clin Exp Dermatol 21:58–60, 1996*

Mixed tumor of the face *J Dermatol 23:369–371, 1996*

Multinucleate cell angiohistiocytoma *BJD 133:308–310, 1995*

Multiple myeloma *AD 139:475–486, 2003*

Neurofibroma

Neuroma, facial

Neurothekoma – red nodule of face, nose *AD 139:531–536, 2003*

Palisaded encapsulated neuroma *AD 125:386–389, 1989*

Parotid tumor – subcutaneous facial nodule *AD 137:719–721, 2001*

Perifollicular fibroma *AD 100:66–69, 1969*

Pilar sheath acanthoma – umbilicated skin-colored papule with central keratinous plug of moustache area *AD 114:1495–1497, 1978*

Pilar tumor of nose *Cutis 36:251–252, 1985*

Pilomatrixoma *Curr Prob Derm 14:41–70, 2002; Pediatr Rev 11 (9):262–267, 1990; Cancer 45:2368–2373, 1980*

Porocarcinoma *AD 136:1409–1414, 2000*

Rhabdomyomatous mesenchymal hamartoma *Am J Dermatopathol 11:58–63, 1989*

Rhabdomyosarcoma *Curr Prob Derm 14:41–70, 2002; JAAD 30:243–249, 1994; AD 124:1687, 1988*

Sebaceous carcinoma *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.40–41, 1999;* morpheic plaque, blepharitis *JAAD 14:668–673, 1986*

Sebaceous hyperplasia

Seborrheic keratosis

Solitary fibrous tumor of the skin – facial nodule *JAAD 46:S37–40, 2002*

Spitz nevus – single or multiple *Pediatr Rev 11 (9):262–267, 1990*

Squamous cell carcinoma

Striated muscle hamartoma *AD 136:1263–1268, 2000; Ped Derm 16:65–67, 1999; Ped Derm 3:153–157, 1986*

Syringocystadenoma papilliferum – solitary papule *Rook p.1704, 1998, Sixth Edition*

Syringoma *Am J Dermatopathol 17:465–470, 1995*

Trichilemmal carcinoma *JAAD 36:1021–1023, 1997*

Trichilemmoma – single or multiple

Trichoblastic fibroma *AD 131:198–201, 1995*

Trichoepithelioma, including desmoplastic trichoepithelioma

Trichofolliculoma

Tumor of follicular infundibulum *JAAD 33:979–984, 1995*

Verrucous acanthoma

### PRIMARY CUTANEOUS DISEASES

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998*

Acne vulgaris

Granuloma faciale

### SYNDROMES

Behçet's syndrome – erythema nodosum; nodule *AD 138:467–471, 2002*

Carney complex – myxoma

Cri du chat syndrome (chromosome 5, short arm deletion syndrome) – premature graying of the hair, pre-auricular skin tag with low-set malformed ears *J Pediatr 102:528–533, 1983*

Muir–Torre syndrome – sebaceous adenomas, sebaceous carcinomas, keratoacanthomas *Curr Prob Derm 14:41–70, 2002; BJD 136:913–917, 1997; JAAD 33:90–104, 1995; JAAD 10:803, 1984*

Proteus syndrome – facial nodule

Sakati syndrome – patchy alopecia with atrophic skin above ears, submental linear scars, acrocephalopolysyndactyly, short limbs, congenital heart disease, abnormally shaped low-set ears, ear tag, short neck with low hairline *J Pediatr 79:104–109, 1971*

Wolf–Hirschhorn syndrome – del (4p) syndrome – preauricular tag or dimple, craniofacial asymmetry, mental and growth retardation, eye lesions, cleft lip and palate, cardiac defects *Eur J Hum Genet 8:519–526, 2000*

### TRAUMA

Cold panniculitis (Haxthausen's disease) *Burns Incl Therm Inj 14:51–52, 1988; AD 94:720–721, 1966; BJD 53:83–89, 1941;* popsicle panniculitis *Pediatr Emerg Care 8:91–93, 1992*

Extruding tooth – white papule *Cutis 54:253–254, 1994*

Granuloma fissuratum

### VASCULAR DISORDERS

Angiofibroma *JAAD 38:143–175, 1998*

Angioleiomyoma *JAAD 38:143–175, 1998*

Angiolymphoid hyperplasia with eosinophilia – papules and/or nodules along hairline *AD 136:837–839, 2000;* angiofibroma like lesions *JAAD 12:781–796, 1985*

Angiomatous nevus

Hemangioma

Hemangiopericytoma

Hobnail hemangioma – vascular papules of the nose *BJD 146:162–164, 2002*

Kimura's disease – periauricular or submandibular subcutaneous nodule *JAAD 38:143–175, 1998*

Pyogenic granuloma

Spindle cell hemangioendothelioma – pink papule of nose *AD 138:259–264, 2002*

Tufted angioma

Wegener's granulomatosis

## PAPULES, FLAT-TOPPED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – lichenoid eruptions due to p-phenylenediamine in color developers *Contact Dermatitis 10:280–285, 1984;* nickel allergic contact dermatitis in children with lichenoid id eruption *Ped Derm 19:106–109, 2002*

Dermatomyositis – Gottron's papules and papules over joints *Rook p.2558–2560, 1998, Sixth Edition*

Graft vs. host disease, acute of adult – macular erythema starts on face, neck and shoulders, becomes generalized; may become lichenoid or bullous *Rook p.2756, 1998, Sixth Edition*; chronic *AD 126:1324–1329, 1990; AD 132:1161–1163, 1996; JAAD 38:369–392, 1998; AD 134:602–612, 1998*

Pemphigus foliaceus presenting as multiple seborrheic keratoses *JAAD 11:299–300, 1984*

Rheumatoid arthritis – velvet hands

Still's disease in the adult – brown coalescent scaly papules; persistent psoriasiform papular lesions *JAAD 52:1003–1008, 2005*

## DRUG-INDUCED

BCG vaccination – lichenoid and red papules and papulopustules *Ped Derm 13:451–454, 1996;* lichenoid eruption after BCG vaccine (lichen scrofulosorum-like) *JAAD 21:1119–1122, 1989*

Lichenoid drug eruption *Rook p.1916–1918, 1998, Sixth Edition* – amiphenazole, captopril, gold *AD 109:372–376, 1974*; isoniazid, levamisole *J R Soc Med 73:208–211, 1980;* levopromazine, methyldopa, metropromazine, propranalol, exprenolol, labetalol (β-blockers), chlorpropamide, enalapril, pyrimethamine *Clin Exp Dermatol 5:253–256, 1980;* antimalarials, quinidine, penicillamine, thiazide diuretics, streptomycin, hydroxyurea, tiopronin, naproxen, carbamazepine, ethambutol, simvastatin, PAS, pravastatin *JAAD 29:249–255, 1993; Cutis 61:98–100, 1998;* glyburide *Cutis 76:41–45, 2005;* photo-induced lichen planus (demeclocycline *AD 109:97–98, 1974*) oral LP, and contact LP; quinacrine – lichenoid dermatitis *JAAD 4:239–248, 1981;* quinine – lichenoid photodermatitis *Clin Exp Dermatol 19:246–248, 1994;* hepatitis-B vaccine *JAAD 45:61–615, 2001;* indomethacin, naproxen, fenclofenac, diflunisal, flurbiprofen, ibuprofen, benoxaprofen, aspirin, salsalate *JAAD 45:616–619, 2001;* amlodipine *BJD 144:920–921, 2001;* hydroxyurea *JAAD 36:178–182, 1997;* arsenicals, dapsone, furosemide, methyldopa, penicillamine, phenytoin, streptomycin, sulfonylurea, thiazides *Ghatan p.230, 2002, Second Edition;* amlodipine *BJD 144:920–921, 2001; p*-aminosalicylic acid, griseofulvin, ketoconazole, tetracyclines, trovofloxacin, labetalol, doxazosin, prazosin, chloroquin, hydroxychloroquin, quinidine, amitryptiline, chlorpromazine, imipramine, laevonepromazine, lorazepam, methopromazine, phenytoin, furosemide, spironolactone, tolazamide, tolbutamide, gold salts, arsenic, bismuth, mercury, palladium, sulindac, allopurinol, amiphenazole, cinnarizine, cyanamide, dapsone, gemfibrozil, hydroxyurea, interferon-α, iodides, lithium, mercaptopropionylglycine, mesalamine, methyracan, nifedipine, omeprazole, penicillamine, procainamide, pyrimethamine, pyrithioxin, simvastatin, quinine, sulfasalazine, trihexyphenid

## EXOGENOUS AGENTS

Fire corals – urticarial lesions followed by vesiculobullous rash, chronic granulomatous and lichenoid lesions *Contact Dermatitis 29:285–286, 1993; Int J Dermatol 30:271–273, 1991*

Hydrocarbon (tar) keratosis – flat-topped papules of face and hands; keratoacanthoma-like lesions on scrotum *JAAD 35:223–242, 1996*

Jellyfish, coral and sea urchin spines – pruritic lichenoid papules and plaques; linear flagellate patterns *Bolognia p.1477, 2003*

## INFECTIONS AND INFESTATIONS

AIDS – pruritic papular eruption of AIDS; firm discrete red, hyperpigmented urticarial papules *JAMA 292:2614–2621, 2004*

Coxsackie A16 – Gianotti–Crosti-like rash *JAAD 6:862–866, 1982*

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985;* lichen planus-like appearance *Summer AAD Meeting, New York, New York*

Gianotti–Crosti syndrome (papular acrodermatitis of childhood) *JAAD 51:606–624, 2004; Cutis 67:291–294, 2001; Am J Dermatopathol 22:162–165, 2000; JAAD 18:239–259, 1988*

HIV-1 dermatitis – lichenoid photodermatitis *JAAD 28:167–173, 1993*

Leprosy

Milker's nodule – starts as flat red papule on fingers or face, progresses to red–blue tender nodule, which crusts; zone of erythema; may resemble pyogenic granulomas *Rook p.1004, 1998, Sixth Edition; AD 111:1307–1311, 1975*

*Mycobacterium tuberculosis* – lichen scrofulosorum – yellow to red–brown flat-topped papules, slightly scaly, surmounted with minute pustule; trunk *Ped Derm 19:122–126, 2002; Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976;* miliary tuberculosis *JAAD 50:S110–113, 2004*

Phaeohyphomycosis – seborrheic keratosis-like lesion *AD 123:1597–1598, 1987*

Syphilis – secondary *Rook p.1248, 1998, Sixth Edition*

Trichophytid – lichenoid eruption

Warts, flat *Tyring p.261, 2002; Rook p.1037, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Amyloidosis – hemodialysis-induced cutaneous amyloid – lichenoid papules *BJD 128:686–689, 1993;* lichen amyloid; $\beta_2$ microglobulin amyloidosis – shoulder pain, carpal tunnel syndrome, flexor tendon deposits of hands, lichenoid papules, hyperpigmentation, subcutaneous nodules (amyloidomas) *Int J Exp Clin Invest 4:187–211, 1997*

Acral papular mucinosis

Benign cephalic histiocytosis – red–brown papules of cheeks, forehead, earlobes, neck *Ped Derm 11:265–267, 1994; Ped Derm 6:198–201, 1989; AD 122:1038–43, 1986; JAAD 13:383–404, 1985*

Focal mucinosis

Juvenile xanthogranuloma (generalized lichenoid juvenile xanthogranuloma) – face, neck, scalp, upper trunk *BJD 126:66–70, 1992*

Langerhans cell histiocytosis – Letterer–Siwe disease *Curr Prob Derm 14:41–70, 2002; JAAD 13:481–496, 1985; Acta DV 61:447–451, 1981*

Scleromyxedema (papular mucinosis, lichen myxedematosis) *JAAD 33:37–43, 1995*

Verruciform xanthoma of scrotum – red or yellow flat-topped papules *J Dermatol 16:397–401, 1989*

## INFLAMMATORY DISEASES

Sarcoidosis *JAAD 51:606–624, 2004; Ped Derm 20:416–418, 2003; Ped Derm 18:384–387, 2001; AD 133:882–888, 1997; Cutis 20:651–658, 1977*

## NEOPLASTIC DISEASES

Basal cell carcinoma – single or multiple *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980*

Bowen's disease, including pigmented Bowen's disease *JAAD 23:440–444, 1990;* vulvar *Ann DV 109:811–812, 1982; Cancer 14:318–329, 1961*

Bowenoid papulosis (penile intraepithelial neoplasia) *Rook p.1046–1047, 1998, Sixth Edition; Cancer 57:823–836, 1986;* vulvar verrucous, lichenoid, dry, brown, whitish papules or plaques *Cancer 57:823–836, 1986*

Clear cell papulosis – white flat-topped papules *Ped Derm 14:380–382, 1997*

Epidermal nevus, including divided epidermal nevi *JAAD 29:281–282, 1993*

Fibroepithelioma of Pinkus – flat-topped, gray–brown or hypopigmented papule *JAAD 52:168–169, 2005*

Giant lymph node hyperplasia – Castleman's disease

HTLV-1 lymphoma/leukemia

Intraepidermal epithelioma of Borst–Jadassohn *AD 131:1329–1334, 1995*

Large cell acanthomas – white to red flat-topped papules *JAAD 53:335–337, 2005; JAAD 8:840–845, 1983*

Lichen planus-like keratosis *AD 116:780–782, 1980; Dermatologica 132:386–392, 1966*

Lymphoma – cutaneous T-cell lymphoma – lichenoid papules *JAAD 23:653–662, 1990;* CTCL resembling keratosis lichenoides chronica *JAAD 47:914–918, 2002; BJD 138:1067–1069, 1998*

Multinucleated atypia of the vulva – white flat-topped papules *Cutis 75:118–120, 2005*

Multinucleate cell angiohistiocytoma *Cutis 59:190–192, 1997*

Nevus anelasticus *JAAD 51:165–185, 2004*

Seborrheic keratoses, including stucco keratoses

Syringomas, including eruptive syringomas *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.53, 1999; Rook p.1712–1713, 1998, Sixth Edition;* vulvar – lichenoid papules *JAAD 48:735–739, 2003*

Trichodiscomas – flat-topped papules of central face *JAAD 15:603–607, 1986*

Verrucous acanthomas

Vulvar intraepithelial neoplasia *Rook p.1046–1047, 1998, Sixth Edition*

## PARANEOPLASTIC DISORDERS

Diffuse plane xanthomatosis – flat yellow plaques of eyelids, neck, trunk, buttocks, flexures *AD 93:639–646, 1966*

Lichenoid vasculitis associated with myeloproliferative disorders *BJD 145:359–360, 2001*

Paraneoplastic pemphigus – lichenoid lesions of non-mucosal surfaces *AD 141:1285–1293, 2005; BJD 150:1018–1024, 2004; BJD 149:1143–1151, 2003;* in children *BJD 147:725–732, 2002*

## PHOTODERMATOSES

Disseminated superficial actinic porokeratosis

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Acrokeratoelastoidosis of Costa *JAAD 12:832–836, 1985*

Acrokeratosis verruciformis of Hopf *AD 141:515–520, 2005; AD 130:508–509, 511–512, 1994; Ann DV 115:1229–1232, 1988; Dermatol Zeitschr 60:227–250, 1931*

Aquagenic syringeal acrokeratoderma *JAAD 45:124–126, 2001*

Asteatotic dermatitis

Atopic dermatitis

Darier's disease

Epidermolysis bullosa – albopapuloid epidermolysis bullosa (Pasini variant) *JAAD 29:785–786, 1993;* simplex, Dowling–Meara; pretibial epidermolysis bullosa – lichenoid papules *JID 104:803–805, 1995;* dominant dystrophic epidermolysis bullosa

Flegel's disease

Granuloma annulare, including generalized granuloma annulare

Keratosis lichenoides chronica *BJD 144:422–424, 2001*

Lichen nitidus *Rook p.1925–1926, 1998, Sixth Edition*

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition;* lichen planus precipitated by radiation therapy *JAAD 46:604–605, 2002*

Lichen ruber moniliformis

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition*

Lichen simplex chronicus *Rook p.668, 1998, Sixth Edition*

Lichen spinulosis

Lichen striatus

Papular acantholytic dyskeratosis of the vulva *Ped Derm 22:237–239, 2005*

Papuloerythroderma of Ofuji *AD 127:96–98, 1991*

Pityriasis lichenoides chronica (chronic guttate parapsoriasis) *Rook p.2222, 1998, Sixth Edition*

Pityriasis rosea – lichenoid papules at the edges of the lesions *S Afr Med J 30:210–218, 1956*

Pityriasis rubra pilaris

Psoriasis – lichenoid variant of flexures *Br Med J ii:823–828, 1954;* keratoses in psoriatics on therapy *JAAD 23:52–55, 1990;* multiple benign eruptive keratoses in psoriatic treated with cyclosporine *JAAD 26:128–129, 1992*

Unilateral laterothoracic exanthem of childhood *AD 138:1371–1376, 2002*

## SYNDROMES

Buschke–Ollendorff syndrome (dermatofibrosis lenticularis disseminata) – uniform, small lichenoid papules resembling pseudoxanthoma elasticum *AD 100:465–470, 1969*

Clouston's syndrome (hidrotic ectodermal dysplasia) – syringofibroadenomas – flat-topped coalescing papules (acral) *JAAD 40:259–262, 1999*

Cowden's syndrome (multiple hamartoma syndrome) – trichilemmomas *JAAD 11:1127–1141, 1984; AD 114:743–746, 1978*

Epidermodysplasia verruciformis *Ped Derm 20:176–178, 2003; Tyring p.275, 2002*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Multicentric reticulohistiocytosis – mimicking dermatomyositis *JAAD 48:S11–14, 2003*

POEMS syndrome – eruptive seborrheic keratoses *JAAD 19:979–982, 1988*

Van den Bosch syndrome – acrokeratosis verruciformis with anhidrosis, skeletal deformities, mental deficiency and choroidermia – X-linked recessive

Wiskott–Aldrich syndrome – flat warts

## TOXINS

Arsenical keratoses *Cancer 21:312–339, 1968*

## TRAUMA

Frictional lichenoid dermatitis (Sutton's summer prurigo) *JAAD 51:606–624, 2004; Ped Derm 7:111–115, 1990; AD 94:592–593, 1966*

### VASCULAR LESIONS

Lymphangioma circumsriptum

Pigmented purpuric eruption – lichenoid

Multifocal lymphangioendotheliomatosis – congenital appearance of hundreds of flat vascular papules and and plaques associated with gastrointestinal bleeding, thrombocytopenia with bone and joint involvement; spontaneous resolution *J Pediatr Orthop 24:87–91, 2004*

Takayasu's arteritis – lichenoid chest papules *AD 123:796–800, 1987*

## PAPULES, FOLLICULAR, INCLUDING FOLLICULITIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease – scalp folliculitis *Dermatol Therapy 18:176–183, 2005; AD 130:105–110, 1994*

Contact dermatitis to nickel, polyoxyethylene lauryl-ether, formaldehyde, chrome, copper, fluoride, homomenthyl salicylate, methyl glucose sesquistearate *JAAD 42:879–880, 2000;* folliculitis *Contact Derm 32:309–310, 1995;* to tocopheryl linoleate *Dermatology 189:225–233, 1994;* to sodium fusidate *Contact Derm 23:186–187, 1990*

Cyclic neutropenia – folliculitis *Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976*

Dermatomyositis – presenting as a pityriasis rubra pilaris- like eruption (type Wong dermatomyositis) – follicular hyperkeratotic papules of face, back of neck, trunk, linear lesions of backs of hands and feet, palms, soles in Chinese patients *JAAD 43:908–912, 2000; BJD 136:768–771, 1997; BJD 81:544–547, 1969;* follicular hyperkeratosis *BJD 81:544, 1969;* juvenile dermatomyositis *Ped Derm 17:37–40, 2000*

Graft vs. host disease, acute – follicular papules *JAAD 38:369–392, 1998; AD 134:602–612, 1998; AD 124:688–691, 1442, 1988;* chronic with follicular involvement *J Derm 20:242–246, 1993;* chronic – follicular keratosis and plugs *AD 138:924–934, 2002*

Linear IgM dermatosis of pregnancy *JAAD 18:412–415, 1988*

Lupus erythematosus – systemic lupus – hyperkeratotic follicular papules of trunk and extremities in Chinese *Rook p.2475, 1998, Sixth Edition;* discoid lupus erythematosus – umbilicated papular eruption of the back with acneform hypertrophic follicular scars *BJD 87:642–649, 1972*; subacute lupus erythematosus *JAAD 35:147–169, 1996;* follicular erythema and petechiae in SLE *BJD 147:157–158, 2002*

Rheumatoid vasculitis – folliculitis *JAAD 53:191–209, 2005*

### DRUG-INDUCED

Antiepidermal growth factor receptor antibody C225 *BJD 144:1169–1176, 2001;* other antiepidermal growth factor receptor antibody *J Clin Oncol 20:2240–2250, 2002*

Anti-epileptic drugs – acne keloidalis-like lesions *Int J Derm 29:559–560, 1990*

Carbamazepine – eosinophilic pustular folliculitis *JAAD 38:641–643, 1998*

Cetuximab – follicular papules and pustules *AD 138:129–131, 2002*

Corticosteroid folliculitis *Int J Derm 37:772–777, 1998*

Cyclosporine – cyclosporine-induced folliculodystrophy; cobblestoned follicular papules *JAAD 50:310–315, 2004;* hyperplastic pseudofolliculitis barbae *BJD 136:132–133, 1997; Dermatologica 172:24–30, 1986;* folliculitis *Hautarzt 44:521–523, 1993;* keratosis pilaris *Dermatologica 172:24–31, 1986*

Doxorubicin – polyethylene glycol-coated liposomal doxorubicin; scaly erythema with follicular accentuation *AD 136:1475–1480, 2000*

DRESS syndrome (drug reaction with eosinophilia and systemic symptoms) – facial edema, exfoliative dermatitis, follicular eruptions; association with HHV-6; lymphadenopathy, circulating atypical lymphocytes, abnormal liver function tests *AD 137:301–304, 2001*

Drug eruption, multiple agents

5-fluorouracil – forehead folliculitis *JAAD 25:905–908, 1991*

Human granulocyte colony stimulating factor – folliculitis *AD 134:111–112, 1998; BJD 127:193–194, 1992*

Isotretinoin – pseudofolliculitis

Lithium – follicular hyperkeratosis *Clin Exp Derm 21:296–298, 1996*

Phenytoin hypersensitivity – follicular accentuation *AD 114:1350–1353, 1978*

Smallpox vaccination – focal and generalized folliculitis *JAMA 289:3290–3294, 2003*

### EXOGENOUS AGENTS

Antimony melting workers – folliculitis *J Occup Med 35:39–44, 1993*

Bone marrow autograft – eosinophilic folliculitis *Cancer 73:2512–2514, 1994*

Chloracne – folliculitis of thighs and forearms *Clin Exp Derm 18:523–525, 1993*

Coal tar products – pitch, asphalt, creosote – diffuse melanosis of exposed skin; evolves to atrophy, telangiectasia, lichenoid papules, follicular keratosis *Rook p.1117,1791, 1998, Sixth Edition*

Contact epilating folliculitis *Cutis 54:12–13, 1994*

Exogenous ochronosis (follicular accentuation) *JAAD 19:942–946, 1988*

Fiberglass dermatitis *Kao Hsiung I Hsueh 12:491–494, 1996*

Irritant folliculitis *Rook p.710, 1998, Sixth Edition*

Localized perifollicular cold urticaria *JAAD 26:306–308, 1992*

Mineral oils – folliculitis *Rook p.1117, 1998, Sixth Edition*

Mudi-chood – due to oils applied to hair; papulosquamous eruption of nape of neck and upper back; begin as follicular pustules then brown–black papules with keratinous rim *Int J Dermatol 31:396–397, 1992*

Oil field mud – calcinosis cutis from percutaneous penetration of oil field drilling mud *JAAD 12:172–175, 1985*

Polycyclic hydrocarbons – folliculitis *G Ital Med Lav Ergon 19:152–163, 1997*

Sugar cane worker folliculitis *Cutis 54:12–13, 1994*

Synthetic sport shorts folliculitis *Arch Ped Adolesc Med 148:1230–1231, 1994*

### INFECTIONS AND INFESTATIONS

AIDS – pruritic follicular papular eruption of HIV disease *Int J Derm 32:784–789, 1993;* AIDS-associated eosinophilic pustular folliculitis *NEJM 318:1183–1186, 1988; Sex Transm Infec 4 (3):229–230, 1987;* necrotizing folliculitis in AIDS *BJD 116:581–584, 1987*

*Ancylostoma caninum* larvae folliculitis *AD 127:247–250, 1991*

Bacterial folliculitis, usually staphylococcal *J Dermatol 25:563–568, 1998*

Brucellosis – contact brucellosis

Candidiasis, disseminated – nodular folliculitis; *Candida* folliculitis mimicking tinea barbae *Int J Derm 36:295–297, 1997*

*Cheyletiella* dermatitis *AD 116:435–437, 1980*

*Clostridium perfringens* – facial folliculitis *Clin Inf Dis 26:501–502, 1998*

Cryptococcosis

Cutaneous larva migrans – folliculitis *BJD 146:314–316, 2002*

*Demodex* folliculitis *Am J Dermatopathol 20:536–537, 1998; J Med Assoc Thai 74:116–119, 1991; JAAD 21:81–84, 1989*

Dermatophytids – associated with kerion; widespread eruption follicular papules sometimes with keratotic spines *J Dermatol 21:31–34, 1994*

*Erysipelothrix rhusiopathiae* – rare systemic form with perifollicular papules *Rook p.1138, 1998, Sixth Edition*

Gram-negative folliculitis complicating acne therapy *Fortschr Med 115:42–44, 1997*

Herpes simplex infection – sycosis, folliculitis *AD 113:983–986, 1997*

Herpes zoster – red plaque with follicular prominence *AD 113:983–986, 1997*

Histoplasmosis *AD 132:341–346, 1996*

Leishmaniasis – post-kala-azar leishmaniasis – nodular *J Cutan Pathol 25:95–99, 1998*

Lupoid sycosis *BJD 138:199–200, 1998*

Molluscum contagiosum *JAAD 51:478–479, 2004; AD 113:983–986, 1997; BJD 113:493–495, 1985*

*Mycobacterium avium* complex – traumatic inoculation folliculitis, *BJD 130:785–790, 1994*

*Mycobacterium chelonae* – folliculitis *Rev Clin Esp 196:606–609, 1996*

Mycobacterial infection, rapid growers (*Mycobacterium fortuitum*, *M. chelonae*, *M. abscessus*) – folliculitis and/or furunculosis *BJD 152:727–734, 2005*

*Mycobacterium tuberculosis* – acne scrofulosorum – follicular papules heal with scarring; domed papulopustular follicular lesions *Clin Exp Dermatol 6:339–344, 1981; BJD 7:341–351, 1895;* lupus vulgaris presenting as granulomatous folliculitis *Int J Derm 28:388–392, 1989;* acute miliary, in AIDS *Eur J Clin Micro Infect Dis 14:911–914, 1995; JAAD 26:356–359, 1992;* lichen scrofulosorum *BJD 94:319–325, 1976; AD 124:1421–1426, 1988;* papulonecrotic tuberculid – folliculitis *Am J Derm 16:474–485, 1994*

*Penicillium marneffei* – folliculitis *Lancet 344:110–113, 1994; Mycoses 34:245–249, 1991*

*Pityrosporum* folliculitis – upper trunk and upper arms *Int J Derm 38:453–456, 1999; Int J Derm 37:772–777, 1998; JAAD 12:56–61, 1985; AD 107:388–391, 1973;* Splendore–Hoeppli phenomenon in *Pityrosporum* folliculitis *J Cutan Pathol 18:293–297, 1991*

*Pseudomonas* – *Pseudomonas* diving suit folliculitis *Cutis 59:245–246, 1997; JAAD 31:1055–1056, 1994; Pseudomonas* hot tub folliculitis *Cutis 45:97–98, 1990; Pseudomonas* folliculitis in HIV *JAAD 32:279–280, 1995; Pseudomonas* folliculitis with non-0:11 serogroups *J Clin Inf Dis 21:437–439, 1995; Pseudomonas* folliculitis after depilation *Ann Derm Venereol 123:268–270, 1996*

Scabies – diffuse papular folliculitis *Rook p.1069, 1998, Sixth Edition*

*Schistosoma haematobium* folliculitis *Amer J Derm 16:442–446, 1994*

*Staphylococcus aureus* – folliculitis *Rook p.1116, 1998, Sixth Edition;* chronic folliculitis of the legs of Indian males *Indian J DV 39:35–39, 1973*

Syphilis – secondary *Cutis 35:259–261, 1985;* syphilitic folliculitis *Med Clin North Am 82:1081–1104, 1998;* alopecia of secondary syphilis *Am J Dermatopathol 17 (2):158–162, 1995*

Tinea capitis, corporis, barbae *Int J Derm 33:255–257, 1994*

Tinea versicolor

Trichodysplasia spinulosa – folliculocentric viral infection *J Invest Dermatol Symp Proc 4:268–271, 1999*

Trichophytid, lichenoid

*Trichosporon beigeleii* folliculitis *Derm Clinics 14:57–67, 1996*

Tufted folliculitis of the scalp – Staphylococcus aureus *BJD 138:799–805, 1998; JAAD 38:857–859, 1998*

Tumbu fly myiasis – folliculitis *AD 13:951, 1995*

West Nile virus – scattered red papules resembling folliculitis *JAAD 51:820–823, 2004*

Yaws – follicular pustules

## INFILTRATIVE DISEASES

Benign cephalic histiocytosis *JAAD 12:328–331, 1985*

Langerhans cell histiocytosis in adults – in scalp and groin – follicular pustules *JAAD 28:166–170, 1993;* presenting as scalp folliculitis *AD 13:719–720, 1995*

## INFLAMMATORY

Hidradenitis suppurativa *AD 133:967–970, 1997*

Necrotizing infundibular crystalline folliculitis – follicular papules with waxy keratotic plugs *BJD 145:165–168, 2001*

Perforating folliculitis *Am J Dermatopathol 20:147–154, 1998; AD 97:394–399, 1968*

Perifolliculitis capitis abscedens et suffodiens (dissecting cellulitis of the scalp) *Ann DV 121:328–330, 1994*

Sarcoid *Eur J Dermatol 10:303–305, 2000*

Sterile neutrophilic folliculitis with perifollicular vasculopathy *J Cutan Pathol 25:215–221, 1998*

## METABOLIC DISEASES

Biotin deficiency

Cholinergic/adrenergic urticaria

Hereditary LDH M-subunit deficiency *AD 122:1420–1424, 1986*

Kwashiorkor

Liver disease – vesiculopustular eruption of hepatobiliary disease *Int J Derm 36:837–844, 1997*

Miliaria *Acta DV 77:1–3, 1997;* miliaria profunda

Papular dermatitis of pregnancy – folliculitis *Semin Derm 8:23–25, 1989*

Phrynoderma – vitamin A deficiency – hyperkeratotic follicular papules (umbilicated) of elbows, knees, neck, posterior axillary folds *JAAD 41:322–324, 1999; AD 120:919–921, 1984; Indian Med Gazette 68:681–687, 1933; folliculitis JAAD 29:447–461, 1993;* phrynoderma as sign of general malnutrition not specific for Vitamins A, B, E or essential fatty acid deficiency *Ped Derm 22:60–63, 2005*

Pretibial myxedema

Pruritic folliculitis of pregnancy – limbs and abdomen *JAAD 43:132–134, 2000; Semin Derm 8:23–25, 1989; AD 117:20–22, 1981*

Riboflavin deficiency (vitamin $B_2$ deficiency) – 'dyssebacea'

Scurvy – follicular hyperkeratosis or perifollicular hemorrhagic keratotic papules *JAAD 41:895–906, 1999; JAAD 29:447–461, 1993; NEJM 314:892–902, 1986*

Uremic follicular hyperkeratosis *JAAD 26:782–783, 1992*

Vitamin A intoxication – follicular keratoses *Rook p.2656, 1998, Sixth Edition; NEJM 315:1250–1254, 1986*

Vitamin $B_{12}$-induced folliculitis *DICP 23:1033–1034, 1989*

## NEOPLASTIC DISEASES

Basaloid follicular hamartoma *JAAD 43:189–206, 2000; Ped Derm 16:281–284, 1999; AD 131:454–458, 1995; JAAD 27:237–240, 1992*

Becker's nevus

Congenital smooth muscle hamartoma with follicular accentuation *J Pediatr 110:742–724, 1987; JAAD 13:837–838, 1985*

Epidermal nevus

Eruptive infundibulomas *JAAD 21:361–366, 1989*

Folliculosebaceous cystic hamartoma *JAAD 34:77–81, 1996*

Generalized follicular harmatoma *(S) AD 131:454–8, 1995; AD 107:435–440, 1973; AD 99:478–493, 1969*

Hamartoma moniliformis *Clin Exp Derm 13:34–35,1988*

Inverted follicular keratosis

Keratoacanthomas – multiple keratoacanthomas *JAAD 23:862–866, 1990;* generalized eruptive keratoacanthoma of Grzybowski – skin-colored to red, dome-shape follicular papules of face (confluent), trunk, proximal extremities; ectropion, narrowing of mouth with keratosis of face; oral involvement *BJD 142:800–803, 2000; JAAD 37:786–787, 1997; BJD 91:461–463, 1974; AD 97:615–623, 1968*

Lymphoma – follicular (pilotropic) cutaneous T-cell lymphoma *BJD 152:193–194, 2005; JAAD 48:448–452, 2003; JAAD 48:238–243, 2003; AD 138:191–198, 2002; AD 137:657–662, 2001; BJD 141:315–322, 1999; Ann DV 126:243–246, 1999; JAAD 36:563–568, 1997; AD 132:683–687, 1996; JAAD 29:330–334, 1993; Am J Dermatopathol 16:52–55, 1994; JAAD 31:819–822, 1994;* keratosis-pilaris-like *AD 132:683–687, 1996*; CTCL with alopecia mucinosa; lymphomatoid granulomatosis – folliculitis-like eruptions *AD 127:1693–1698, 1991;* HTLV-1 *JAAD 34:69–76, 1996*

Lymphomatoid papulosis *Am J Dermatopathol 19:189–196, 1997*

Melanoma – metastatic melanoma; mimicking folliculitis *Z Hautkr 60:1682, 1685–1689, 1985*

Milia

Myeloma with cryoglobulinemia – follicular spicules *JAAD 32:834–839, 1995;* myeloma – hyperkeratotic filiform follicular spicules *JAAD 49:736–740, 2003; JAAD 36:476–477, 1997*

Nevoid follicular epidermolytic hyperkeratosis *AD 111:221–222, 1975*

Nevus anelasticus *JAAD 51:165–185, 2004*

Nevus comedonicus

Nevus sebaceus

Pigmented follicular cysts *BJD 134:758–762, 1996*

Sebaceous casts – nasolabial follicular sebaceous casts; filiform projections *BJD 143:228–229, 2000*

Sebaceous gland hyperplasia *Am J Dermatopathol 18:296–301, 1996*

Smooth muscle hamartoma – linear, follicular spotted appearance *JAAD 46:477–490, 2002; BJD 142:138–142, 2000; AD 114:104–106, 1978*

Steatocystoma multiplex

Trichilemmal cyst – folliculitis *J Cutan Pathol 17:185–188, 1990*

Trichodiscomas *Acta DV 68:163–165, 1988*

Vellus hair cysts – eruptive *Eur J Dermatol 10:487–489, 2000;* familial eruptive vellus hair cysts (keratosis pilaris-like) *Ped Derm 5:94–96, 1988*

## PARANEOPLASTIC DISORDERS

Palmoplantar keratoderma and malignancy *AD 132:640–645, 1996*

Paraneoplastic follicular hyperkeratotic spicules in myeloma *AD 126:509–513, 1990*

Sterile suppurative folliculitis associated with acute myelogenous leukemia *BJD 146:904–907, 2002*

## PHOTODERMATITIS

Actinic superficial folliculitis *BJD 139:359–360, 1998; BJD 138:1070–1074, 1998; Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

## PRIMARY CUTANEOUS DISEASES

Acne keloidalis nuchae *JAAD 53:1–37, 2005; JAAD 39:661, 1998; Dermatol Clin 6:387–395, 1988*

Acne necrotica miliaris *Rook p.1122, 1998, Sixth Edition*

Acne necrotica varioliformis (necrotizing lymphocytic folliculitis) *AD 132:1367, 1370, 1996; JAAD 16:1007–1014, 1987*

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998;* acne agminata (granulomatous rosacea) – monomorphic brown papules of chin, cheeks, eyelids *BJD 134:1098–1100, 1996*

Acne vulgaris *Curr Probl Derm 8:237–268, 1996;* follicular white papular scarring of the back *Rook p.1949–1951, 1998, Sixth Edition; AD 126:797–800, 1990*

Alopecia and follicular papules *Int J Derm 38 (Suppl 1):31, 1999*
- Alopecia, keratosis pilaris, cataracts and psoriasis
- Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*
- Atrichia with papular lesions *JAAD 47:519–523, 2002; AD 121:1167–1174, 1985*
- Down's syndrome
- Hayden's disease
- Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis *JAAD 46:S156–158, 2002; Am J Med Genet 85:365–368, 1999 AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*
- Monilethrix
- Noonan's syndrome
- Pachyonychia congenita
- Schopf–Schulz–Passarge syndrome

Alopecia, keratosis pilaris, cataracts and psoriasis

Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Acquired perforating dermatosis – folliculitis *J Derm 20:329–340, 1993*

Atopic dermatitis *Acta DV Suppl 171:1–37, 1992*

Atrichia with papular lesions *JAAD 47:519–523, 2002; AD 121:1167–1174, 1985*

Atrophoderma vermiculatum *Ped Derm 15:285–286, 1998*

Axillary granular parakeratosis – folliculitis *JAAD 37:789–790, 1997*

Cutis anserina (gooseflesh)

Darier's disease – dirty yellow–brown papules; autosomal dominant *Curr Prob Derm 14:71–116, 2002;* linear Darier's disease *J Derm 25:469–475, 1998*

Dermatitis palaestrae limosae *JAMA 269:502–504, 1993*

Dermographism, follicular *Cutis 32:244–245, 254, 260, 1983*

Dilated pore of Winer

Dissecting folliculitis of the scalp *J Derm Surg Oncol 18:877–880, 1992*

Disseminated and recurrent infundibulofolliculitis – neck, trunk, extremities *J Derm 25:51–53, 1998; Dermatol Clin 6:353–362, 1988; AD 105:580–583, 1972*

Dowling–Degos disease *JAAD 24:888–892, 1991*

Elastosis perforans serpiginosa – folliculitis *J Derm 20:329–340, 1993*

Eosinophilic pustular folliculitis (Ofuji's disease) *Clin Exp Dermatol 26:179–181, 2001;* HIV-associated *J Dermatol 25:178–184, 1998; J Derm 25:742–746, 1998; AD 127:206–209, 1991;* Ofuji's disease – follicular plugs *Ann DV 124:540–543, 1997; JAAD 29:259–260, 1993; JAAD 12:268–273, 1985; AD 121:921–923, 1985*

Erosive pustular dermatitis of the scalp – folliculitis-like *Hautarzt 43:576–579, 1992*

Erythema toxicum neonatorum

Erythromelanosis follicularis faciei et colli (keratosis rubra pilaris faciei atrophicans – facial erythema, KP, follicular atrophy) – cheeks and pre-auricular area *JAAD 34:714, 1996; JAAD 32:863–866, 1995; JAAD 25:430–432, 1991; Cutis 34:163–170, 1984; JAAD 5:533–534, 1981; BJD 102:323–325, 1980*

Erythrose peribuccale pigmentale of Brocq

Facial Afro-Caribbean childhood eruption – folliculitis *Clin Exp Derm 15:163–166, 1990*

Flegel's disease (hyperkeratosis lenticularis perstans) – keratinous papules of calves *BJD 116:681–691, 1987*

Folliculitis decalvans – follicular plugging of scalp, inflammation, and pustules; scarring *J Dermatol 28:329–331, 2001*

Folliculitis decalvans – follicular plugging of scalp, inflammation, and pustules; scarring *J Dermatol 28:329–331, 2001*

Follicular ichthyosis *BJD 111:101–109,1984*

Fox–Fordyce disease *Rook p.2002, 1998, Sixth Edition*

Granuloma annulare – follicular, pustular granuloma annulare *BJD 138:1075–1078, 1998*

Granuloma faciale – follicular prominence *Int J Dermatol 36:548–551, 1997; AD 129:634–635, 637, 1993*

Ichthyosis congenita type IV – erythrodermic infant with follicular hyperkeratosis *BJD 136:377–379, 1997*

Juxtaclavicular beaded lines

Keratosis circumscripta

Keratosis follicularis squamosa – follicular hyperkeratotic papule; annular with scale *BJD 144:1070–1072, 2001*

Keratosis pilaris *JAAD 39:891–893, 1998*

Keratosis pilaris atrophicans *AD 130:469–475, 1994;* ulerythema ophryogenes *Ped Derm 11:172–175, 1994;* keratosis pilaris decalvans non-atrophicans *Clin Exp Dermatol 18:45–46, 1993;* keratosis follicularis spinulosa decalvans *AD Syphilol 151:384–387, 1926*; folliculitis decalvans *Acta DV* (*Stockh*) *43:14–24, 1963;* atrophoderma vermiculatum – cheeks and pre-auricular regions *JAAD 18:538–542, 1988; J Cutan Dis 36:339–352, 1918* keratosis pilaris atrophicans facei *JAAD 39:891–893, 1998;* associated with Noonan's syndrome *BJD 100:409–416, 1979;* associated with woolly hair *BJD 110:357–362, 1984*

Keratosis pilaris, ulerythema ophyrogenes and koilonychia *JAAD 45:627–629, 2001*

Keratosis pilaris, ulerythema ophyrogenes, koilonychia and monilethrix *JAAD 45:627–629, 2001; Ped Derm 16:297–300, 1999*

Kyrle's disease (hyperkeratosis follicularis et parafollicularis in cutem penetrans) *Rook p.1551, 1998, Sixth Edition; J Derm 20:329–340, 1993; JAAD 16:117–123, 1987*

Lichen nitidus *Cutis 62:247–248, 1998; JAAD 12:597–624, 1985*

Lichen planopilaris (Graham–Little syndrome) *Rook p.1904–1912, 1998, Sixth Edition; Dermatol Clin 14:773–782, 1996; JAAD 27:935–942, 1992; JAAD 22:594–598, 1990; AD Syphilol 5:102–113, 1922;* lichen planus facieie of Brocq

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition*

Lichen simplex chronicus *Rook p.668, 1998, Sixth Edition*

Lichen spinulosus *AD 136:1165–1170, 2000; JAAD 22:261–264, 1990; Int J Derm 34:670–671, 1985*

Mid-dermal elastolysis – perifollicular protrusions *JAAD 51:165–185, 2004; JAAD 48:846–851, 2003; JAAD 26:490–492, 1992*

Monilethrix – horny follicular papules *AD 132:577–582, 1996*

Multiple minute digitate keratoses – follicular keratoses *JAAD 31:802–803, 1994*

Nevus anelasticus – pink–red perifollicular papules *Ped Derm 22:153–157, 2005*

Palmoplantar keratoderma – epidermolytic palmoplantar keratoderma, woolly hair, and dilated cardiomyopathy – striated palmoplantar keratoderma, follicular keratosis, clubbing, vesicles and bullae on trunk, psoriasiform keratoses on knees, legs, and feet *JAAD 39:418–421, 1998*

Perifollicular elastolysis – gray or white follicular papules of neck, earlobes *JAAD 51:165–185, 2004*

Perioral dermatitis *Derm 195:235–238, 1997*

Pityriasis alba *Int J Derm 32:870–873, 1993*

Pityriasis rosea

Pityriasis rubra pilaris – erythematous perifollicular papules; grouped; scaly scalp; orange palmoplantar keratoderma; islands of sparing; resembles seborrheic dermatitis *BJD 133:990–993, 1995; Eur J Dermatol 4:593–597, 1994; JAAD 20:801–807, 1989*

Prurigo nodularis *J Cutan Pathol 15:208–211, 1988*

Pseudofolliculitis barbae *Derm Surg 26:737–742, 2000; Cutis 61:351–356, 1998; J Emerg Med 4:283–286, 1986; Dermatol Clin 6:387–395, 1988; pubis; of scalp AD 113:328–329, 1977; of nasal hairs AD 117:368–369, 1981*

Psoriasis, follicular *BJD 137:988–991, 1997*

Pustular eruption of striae – folliculitis-like *Cutis 50:225–228, 1992*

Pyoderma vegetans – folliculitis *J Derm 19:61–63, 1992*

Reactive perforating collagenosis – folliculitis-like lesions *J Derm 20:329–340, 1993; AD 96:277–282, 1967*

Rhinophyma *Clin Exp Dermatol 15:282–284, 1990*

Seborrheic dermatitis – perifollicular

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

Transient or persistent acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996;* folliculitis *JAAD 11:253–256, 1984*

Trichostasis spinulosa

White fibrous papulosis of the neck *Clin Exp Derm 16:224–225, 1991*

## PSYCHOCUTANEOUS DISORDERS

Trichotillomania – follicular hyperkeratosis *BJD 145:1034–1035, 2001*

## SYNDROMES

Alagille syndrome (arteriohepatic dysplasia) – follicular hyperkeratosis *BJD 138:150–154, 1998*

Behçet's disease – folliculitis *Cutis 60:159–161, 1997; Ann Hematol 74:45–48, 1997*

Brook's syndrome (keratosis follicularis contagiosa)

Buschke–Ollendorf syndrome – keratosis pilaris lesions

Cardio-facio-cutaneous syndrome – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophyrogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris *Ped Derm 17:231–234, 2000; JAAD 815–819, 1993; JAAD 22:920–922, 1990*

Cornelia de Lange syndrome – with ulerythema ophyrogenes; specific facies, hypertrichosis of forehead face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata, skin around eyes and nose with bluish tinge, red nose *Ped Derm 19:42–45, 2002; Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*

Deletion short arm chromosome 18 (18p-) – ulerythema ophyrogenes *Ped Derm 11:172–175, 1994*

Down's syndrome – presternal and interscapular follicular papules; keratosis pilaris; pityrosporum folliculitis *BJD 129:696–699, 1993;* deep folliculitis of posterior neck *Ghatan, p.242, 2002, Second Edition*

Focal palmoplantar and oral mucosa (gingival) hyperkeratosis syndrome (MIM:148730) (hereditary painful callosities) – palmoplantar keratoderma, follicular hyperkeratosis, leukoplakia (gingival keratosis), and cutaneous horn of the lips *JAAD 52:403–409, 2005; BJD 146:680–683, 2002; Oral Surg 50:250, 1980; Birth Defects 12:239–242, 1976; Arch Int Med 113:866–871, 1964*

Gall–Galli syndrome – Dowling–Degos disease with acantholysis – hyperkeratotic follicular papules *JAAD 45:760–763, 2001*

Haber's syndrome

Hereditary mucoepithelial dysplasia (dyskeratosis) (Gap junction disease, Witkop disease) – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (hard palate, gingival, tongue) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; Am J Med Genet 39:338–341, 1991; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Hidrotic ectodermal dysplasia

Hypoplastic enamel–onycholysis–hypohidrosis (Witkop–Brearley–Gentry syndrome) – marked facial hypohidrosis, dry skin with keratosis pilaris, scaling and crusting of the scalp, onycholysis and subungual hyperkeratosis, hypoplastic enamel of teeth *Oral Surg 39:71–86, 1975*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia of scalp and eyebrows, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis; X-linked recessive *Ped Derm 20:48–51, 2003; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999; AD 121:1167–1174, 1985*

Jung syndrome – pyoderma, folliculitis, atopic dermatitis, response to histamine-1 antagonist, blepharitis *Am J Med Genet 66:378–398, 1996; Lancet ii:185–187, 1983*

Kartagener's syndrome – folliculitis *Dermatology 186:269–271, 1993*

Keratoderma, woolly hair, follicular keratoses, blistering *Retinoids Today Tomorrow 37:15–19, 1994;* keratosis pilaris atrophicans follicularis and woolly hair *Ped Derm 7:202–204, 1990*

Keratosis follicularis spinulosa decalvans (Siemens syndrome) – autosomal recessive; X-linked dominant and autosomal dominant; alopecia with keratotic follicular papules of scalp, eyebrows; punctate keratitis, photophobia; xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, variable palmoplantar keratoderma *Ped Derm 22:170–174, 2005; JAAD 47:S275–278, 2002; JAAD 39:891–893, 1998; BJD 134:138–142, 1996; AD 128:397–402, 1992; Dermatol Monatsschr 174:736–740, 1988*

Keratosis–ichthyosis–deafness (KID) syndrome – follicular hyperkeratoses; reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *JAAD 39:891–893, 1998; Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990; JAAD 23:385–388, 1990; AD 123:777–782, 1987; AD 117:285–289, 1981*

Neurofibromatosis type 1 – congenital reddish neurofibromatous dermal hypoplasia with follicular papules *Cutis 68:253–256, 2001*

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; Ped Derm 15:18–22, 1998; Ann DV 115:303–310, 1988; J Med Genet 24:9–13, 1987;* ulerythema ophyrogenes *Ped Derm 7:77–78, 1990; BJD 100:409–416, 1979;* extremities *Cutis 46:242–246, 1990*

Olmsted syndrome – follicular hyperkeratosis of buttocks and knees; follicular papules; intertrigo, mutilating palmoplantar keratoderma, linear streaky hyperkeratosis, leukokeratosis of the tongue, sparse hair anteriorly *JAAD 53:S266–272, 2005; Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; Eur J Derm 13:524–528, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; Semin Derm 14:145–151, 1995; JAAD 10:600–610, 1984; Am J Dis Child 33:757–764, 1927*

Pachyonychia congenita type I – follicular papules of elbows and knees *Cutis 72:143–144, 2003; Ped Derm 14:491–493, 1997; JAAD 19:705–711, 1988, AD 122:919–923, 1986*

Pili torti, enamel hypoplasia syndrome – keratosis pilaris, dry fair hair, enamel hypoplasia, widely spaced abnormal teeth *BJD 145:157–161, 2001*

Reflex sympathetic dystrophy – folliculitis *JAAD 35:843–845, 1996*

Reticular erythematous mucinosis (REM) syndrome

Rubinstein–Taybi syndrome – ulerythema ophyrogenes *Ped Derm 16:134–136, 1999*

Sabinas syndrome – trichothiodystrophy with folliculitis

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis,

widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – follicular papules, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

X-linked anhidrotic ectodermal dysplasia

### TRAUMA

Amputation stump frictional follicular hyperkeratosis *Rook p.905, 1998, Sixth Edition*

Follicular keratosis of the chin *JAAD 26:134–135, 1992*

Loofah sponge folliculitis *J Clin Microbiol 31:480–483, 1993*

Occlusion folliculitis – beneath adhesive dressings or plasters *Rook p.1117, 1998, Sixth Edition*

Perniosis

Physical or chemical trauma – folliculitis *Rook p.1117, 1998, Sixth Edition*

Traumatic folliculitis due to home epilating device *JAAD 27:771–772, 1992*

Wax epilation – severe folliculitis with keloidal scarring *Cutis 59:41–42, 1997*

### VASCULAR

Leukocytoclastic vasculitis with follicular accentuation *JAAD 24:898–902, 1991*

## PAPULES, HYPERKERATOTIC

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – follicular hyperkeratosis *BJD 81:544–547, 1969;* juvenile dermatomyositis *Ped Derm 17:37–40, 2000*

Dermatophytids – associated with kerion; widespread eruption of follicular papules sometimes with keratotic spines *J Dermatol 21:31–34, 1994*

Graft vs. host disease – annular scaly papules of epithelioid granulomas *BJD 149:898–899, 2003*

Immunodeficiency with elevated IgM – warts *Rook p.2744–2745, 1998, Sixth Edition*

Lupus erythematosus – systemic lupus – hyperkeratotic follicular papules of trunk and extremities in Chinese *Rook p.2475, 1998, Sixth Edition;* hypertrophic DLE *JAAD 19:961–965, 1988;* discoid lupus erythematosus – warty papules, resemble prurigo nodularis *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigoid nodularis *JAAD 27:863–867, 1992; AD 118:937–939, 1982*

Pemphigus erythematosus *JAAD 10:215–222, 1984*

Pemphigus foliaceus resembling seborrheic keratoses *AD 126:543–544, 1990*

Rheumatoid nodules – perforating variant *Ghatan p.222, 2002, Second Edition*

### CONGENITAL LESIONS

Bronchogenic cyst – keratotic papule *Ped Derm 15:277–281, 1998*

Ectopic nail *JAAD 35:484–485, 1996*

Supernumerary digit *Ped Derm 11:181–182, 1994*

### DRUG-INDUCED

Drug eruption, including lichenoid drug eruption

Etretinate – digitate keratoses induced in treatment of disseminated superficial actinic porokeratosis *Clin Exp Dermatol 15:370–371, 1990*

Iodine *Rook p.1587, 1998, Sixth Edition*

Lithium *J Clin Psychopharmacol 11:149–150, 1991*

Phenytoin reaction – keratotic finger papules *Cutis 61:101–102, 1998*

Tegafur *AD 131:364–365, 1995*

### EXOGENOUS

Arsenical keratosis *Dermatology 186:303–305, 1993*

Calcium-containing EEG paste – papules with central umbilication due to perforation of calcium *Neurology 15:477–480, 1965*

Caustic drilling fluid in petrochemical industry – papules with central umbilication due to perforation of calcium *JAAD 14:605–611, 1986*

Halogenated aromatic weedkiller *Clin Exp Dermatol 19:264–267, 1994*

Hydrocarbon (tar) keratosis – flat-topped papules of face and hands; keratoacanthoma-like lesions on scrotum *JAAD 35:223–242, 1996;* pitch, asphalt, creoste – diffuse melanosis of exposed skin; evolves to atrophy, telangiectasia, lichenoid papules, follicular keratosis *Rook p.1791, 1998, Sixth Edition*

Injected steroid or foreign material

Scar keratosis

### INFECTIONS AND INFESTATIONS

Adiaspiromycosis – cutaneous adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white–yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

Bacillary angiomatosis *BJD 126:535–541, 1992*

Coccidioidomycosis *AD 140:609–614, 2004; JAAD 46:743–747, 2002; AD 134:365–370, 1998*

Condyloma acuminatum

Cryptococcosis *JAAD 44:391–394, 2001*

Cytomegalovirus *JAAD 44:391–394, 2001*

Erythrasma, petalloid

Herpes simplex, chronic

Herpes zoster, chronic *JAAD 44:391–394, 2001; JAAD 28:306–308, 1993*

Histoplasmosis in AIDS *JAAD 44:391–394, 2001;* transepidermal elimination *Cutis 47:397–400, 1991*

Leishmaniasis

Molluscum contagiosum *JAAD 44:391–394, 2001*

*Mycobacterium kansasii JAAD 41:854–856, 1999*

Mycobacterium tuberculosis – tuberculosis verrucosa cutis, lichen scrofulosorum

Paracoccidioidomycosis – near mouth, anus, or genitalia *Clin Inf Dis 23:1026–1032, 1996*

Phaeohyphomycosis, by inoculation – seborrheic keratosis-like lesion *AD 123:1597–1598, 1987*

Pinta

*Pneumocystis pneumoniae JAAD 44:391–394, 2001*

Rhinosporidiosis

Scabies, crusted (Norwegian) *Rook p.1587, 1998, Sixth Edition; AD 124:121–126, 1988;* hyperkeratotic nodule of the soles *AD 134:1019–1024, 1998;* scabies-associated acquired perforating dermatosis *JAAD 51:665–667, 2004*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm; group to form mamillated plaques; nodules develop with overlying dark pigmentation, scale, and ulceration *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

*Strongyloides stercoralis* – hyperkeratotic papules (prurigo nodularis-like) *JAAD 41:357–361, 1999*

Syphilis – secondary *Presse Med 19:369–371, 1990;* malignant lues

Tinea versicolor

Trichophytosis *Rook p.1587, 1998, Sixth Edition*

Varicella-zoster virus, chronic – in AIDS *JAAD 20:637–642, 1989*

Verruca vulgaris *Rook p.1035, 1998, Sixth Edition;* associated with immune disorders – Wiskott–Aldrich syndrome, isolated primary IgM deficiency, X-linked immunodeficiency with hyper-IgM, Hodgkin's disease, lymphoma, chronic lymphocytic leukemia *Rook p.2747, 1998, Sixth Edition*

Verruga peruana

Yaws, including clavus of yaws on the soles *Rook p.1587, 1998, Sixth Edition*

## INFILTRATIVE LESIONS

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

Colloid milium, papuloverrucous variant *BJD 143:884–887, 2000*

Lichen myxedematosis

## INFLAMMATORY

Chondrodermatitis nodularis chronicus helicis

Crohn's disease

Perforating folliculitis *Am J Dermatopathol 20:147–154, 1998; AD 97:394–399, 1968*

Sarcoid – keratotic lesions of palms resembling psoriasis or syphilis *Rook p.2693, 1998, Sixth Edition*

## METABOLIC DISEASES

Calcinosis cutis, including cutaneous calculus

Fabry's disease – angiokeratomas; $\alpha$-galactosidase A deficiency *AD 140:1440–1446, 2004; Ped Derm 19:85–87, 2002*

Gout – tophi

Necrobiosis lipoidica diabeticorum – perforating variant *Ghatan p.222, 2002, Second Edition*

Osteoma cutis

Phrynoderma – vitamin A deficiency; elbows, knees, neck, posterior axillary folds *JAAD 41:322–324, 1999; AD 120:919–921, 1984; Indian Med Gazette 68:681–687, 1933;* phrynoderma as sign of general malnutrition not specific for vitamins A, B, E or essential fatty acid deficiency *Ped Derm 22:60–63, 2005*

Pretibial myxedema – thyroid acropachy

Renal disease – chronic renal failure – acquired perforating disease of chronic renal failure *Int J Derm 32:874–876, 1993; Int J Dermatol 31:117–118, 1992; AD 125:1074–1078, 1989*

Scurvy – follicular hyperkeratosis or perifollicular hemorrhagic keratotic papules *JAAD 41:895–906, 1999; JAAD 29:447–461, 1993; NEJM 314:892–902, 1986*

Tyrosinemia type II – elbows and knees

Uremic follicular hyperkeratosis *JAAD 26:782–783, 1992*

Vitamin A intoxication – follicular keratoses *Rook p.2656, 1998, Sixth Edition; NEJM 315:1250–1254, 1986*

Zinc deficiency

## NEOPLASTIC DISEASES

Acantholytic acanthoma *AD 131:211–216, 1995*

Acquired digital fibrokeratoma – digital papule *AD 124:1559–1564, 1988; JAAD 12:816–821, 1985;* of the nail bed *Dermatology 190:169–171, 1995*

Acquired fibrokeratoma of the heel *AD 121:386–388, 1985*

Acquired periungual fibrokeratoma *Rook p.2846, 1998, Sixth Edition; AD 97:120–129, 1968*

Actinic keratosis *Rook p.1671, 1998, Sixth Edition*

Basal cell carcinoma – single or multiple *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980;* basal cell carcinoma of the palm

Bowen's disease *Rook p.1674–1675, 1998, Sixth Edition;* pigmented *Dermatologica 157:229–237, 1978*

Bowenoid papulosis

Clear cell acanthoma *Am J Dermatopathol 16:134–139, 1994; BJD 83:248–254, 1970*

Cutaneous horn

Dermal dendrocytoma – keratotic papules *AD 126:689–690, 1990*

Dermatofibroma

Dermatosis papulosa nigra *Cutis 32:385–392, 1983; AD 89:655–658, 1964*

Digital myxoid cyst *Rook p.2849, 1998, Sixth Edition*

Eccrine dermal duct tumor – dermal nodule with overlying verrucous changes *AD 94:50–55, 1966*

Eccrine poroma

Epidermal nevus

Exostosis, subungual *JAAD 45:S200–201, 2001*

Intra-epidermal carcinoma of the eyelid margin *BJD 93:239–252, 1975*

Inverted follicular keratosis *J Clin Pathol 28:465–471, 1975*

Isolated epidermolytic acanthoma *AD 101:220–223, 1970*

Eruptive vellus hair cysts *AD 131:341–346, 1995*

Fibrokeratoma

Garlic clove tumor (fibroma) (acquired periungual fibrokeratoma) *Rook p.2846, 1998, Sixth Edition; AD 97:120–129, 1968*

Generalized eruptive histiocytoma – brown scaly papules *AD 139:933–938, 2003; AD 88:586–593, 1963*

Granular cell tumor *Cutis 62:147–148, 1998;* prurigo nodularis-like lesions *Int J Derm 20:126–129, 1981*

Intraepidermal epithelioma of Jadassohn *Cutis 37:339–341, 1986*

Juvenile xanthogranuloma *Dis Chest 50:325–329, 1966*

Keratoacanthoma – single or multiple *AD 120:736–740, 1984*

Kaposi's sarcoma *JAAD 38:143–175, 1998*

Large cell acanthoma *J Cutan Pathol 17:182–184, 1990*

Lichen planus-like keratosis *Am J Surg Pathol 17:259–263, 1993*

Lymphoma – cutaneous T-cell lymphoma – pityriasis lichenoides-like *BJD 142:347–352, 2000; JAAD 31:819–822, 1994;* Woringer–Kolopp disease *AD 120:1045–1051, 1984;* HTLV-1 granulomatous T-cell lymphoma – hyperkeratotic and/or umbilicated red–orange papulonodules *JAAD 44:525–529, 2001*

Lymphomatoid papulosis

Melanacanthoma

Melanocytic nevus – keratotic melanocytic nevus *J Cutan Pathol 27:344–350, 2000*

Melanoma – verrucous and keratotic melanoma *Histopathology 23:453–458, 1993*

Metastasis – renal cell carcinoma – keratotic papule of the eyelid *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.135, 1999*

Mucinous nevus *AD 132:1522–1523, 1996*

Nevoid follicular epidermolytic hyperkeratosis *AD 111:221–222, 1975*

Nevus corniculatus *BJD 122:107–112, 1990*

Nevus sebaceus

Pilar sheath acanthoma *AD 114:1495–1496, 1978*

Pilomatrixoma – keratoacanthoma-like *JAAD 39:191–195, 1998*

Plasma-acanthoma of the lip *Rook p.3142, 1998, Sixth Edition*

Porokeratosis – of Mibelli *AD 122:586–587, 1986*; giant porokeratosis *Hautarzt 41:633–635, 1990*; hyperkeratotic porokeratosis *Int J Dermatol 32:902–903, 1993*; linear porokeratosis *Ped Derm 21:682–683, 2004; AD 135:1544–1555,1547–1548, 1999; Cutis 44:216–219, 1989; Int J Dermatol 27:589–590, 1988; Ped Derm 4:209, 1987; AD 109:526–528, 1974;* palmoplantar porokeratosis *JAAD 21:415–418, 1989;* palmaris et plantaris et disseminata

Punctate porokeratosis *AD 120:263–264, 1984*

Seborrheic keratosis *Rook p.1659–1660, 1998, Sixth Edition;* eruptive seborrheic keratoses associated with erythroderma (psoriasis, pityriasis rubra pilaris, allergic contact dermatitis, drug eruption) *JAAD 45:S212–214, 2001*

Squamous cell carcinoma *Rook p.1689–1690, 1998, Sixth Edition*

Stucco keratosis *AD 105:859–861, 1972*

Syringoacanthoma – seborrheic keratosis-like *AD 120:751–756, 1984*

Syringocystadenoma papilliferum

Trichilemmal carcinoma *Dermatol Surg 28:284–286, 2002;* with cutaneous horn *JAAD 36:107–109, 1997*

Trichilemmal cyst with horn

Trichilemmal horn *JAAD 39:368–371, 1998*

Trichilemmoma – eyelash margin – *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.69, 1999*

Vascular and myxoid fibromas of the fingers – multiple warty lesions of palms and fingers *JAAD 2:425–431, 1980*

Verrucous acanthoma

Verrucous carcinoma (epithelioma cuniculatum) *Histopathology 5:425–436, 1986*

Verrucous perforating collagenoma *Dermatologica 152:65–66, 1976*

## PARANEOPLASTIC DISEASES

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Florid cutaneous papillomatosis – multiple acuminate keratotic papules *Int J Dermatol 32:56–58, 1993; AD 114:1803–1806, 1978*

Sign of Leser–Trelat

## PHOTODERMATITIS

Disseminated superficial actinic porokeratosis *Int J Derm 38:204–206, 1999; Int J Dermatol 34:71–72, 1998; BJD 123:249–254, 1996; Cutis 42:345–348, 1988*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans – hereditary benign *Int J Dermatol 35:126–127, 1996;* benign *Am J Public Health 84:1839–1842, 1994;* pseudo-acanthosis nigricans *Am J Med 87:269–272, 1989;* drug-induced (nicotinic acid *Dermatology 189:203–206, 1994;* fusidic acud *JAAD 28:501–502, 1993;* stilbestrol *AD 109:545–546, 1974;* triazinate *AD 121:232–236, 1985*); malignant acanthosis nigricans – bladder *Int J Dermatol 33:433–435, 1994;* kidney *Int J Dermatol 32:893–894, 1993;* bile-duct *Acta DV* (*Stockh*) *32:893–894, 1993;* thryoid, esophagus, bronchus, rectum *Rook p.1584, 1998, Sixth Edition*

Acrokeratoelastoidosis of Costa – crateriform hyperkeratotic papules of the lateral palms and soles *AD 140:479–484, 2004;* of legs *Clin Exp Derm 26:263–265, 2001*

Acrokeratosis verruciformis of Hopf *AD 130:508–509, 511–512, 1994; Ann DV 115:1229–1232, 1988; Dermatol Zeitschr 60:227–250, 1931*

Acrosyringeal epidermolytic papulosis neviformis *Dermatologica 171:122–125, 1985*

Acquired ichthyosis

Alopecia mucinosa – scaly red papules *AD 138:244–246, 2002*

Angiolymphoid hyperplasia with eosinophilia – prurigo nodularis-like lesions *J Dermatol 20:660–661, 1993*

Confluent and reticulated papillomatosis *Int J Derm 31:480–483, 1992*

Darier's disease (keratosis follicularis) – follicular skin-colored, brown papule *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992;* zosteriform Darier's disease *Mt Sinai J Med 68:339–341, 2001*

Dermatitis

Disseminated and recurrent infundibulofolliculitis

Ectopic plantar nail *BJD 149:1071–1074, 2003*

Elastosis perforans serpiginosa *JAAD 51:1–21, 2004; Hautarzt 43:640–644, 1992; AD 97:381–393, 1968*

Epidermolysis bullosa with mottled pigmentation – wart-like hyperkeratotic papules of axillae, wrists, dorsae of hands, palms and soles; P25L mutation of keratin 5 *JAAD 52:172–173, 2005*

Epidermolysis bullosa pruriginosa – dominant dystrophic or recessive dystrophic; mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 146:267–274, 2002; BJD 130:617–625, 1994*

Epidermolytic acanthoma *BJD 141:728–730, 1999*

Flegel's disease (hyperkeratosis lenticularis perstans) *AD 133:909–914, 1997; Acta DV 68:341–345, 1988; JAAD 16:190–195, 1987*

Focal acral hyperkeratosis *Ped Derm 21:128–130, 2004; BJD 142:340–342, 2000; Hautarzt 50:586–589, 1999; AD 132:1365–1370, 1996; Dermatology 188:28–31, 1994; AD 123:1225, 1228, 1987; BJD 109:97–103, 1983; Hautarzt 9:362–364, 1958*

Granular parakeratosis (axillary granular parakeratosis) – brownish red keratotic papules *AD 140:1161–1166, 2004;* submammary granular parakeratosis *JAAD 40:813–814, 1999;* hyperkeratotic papules and plaques in the intertriginous areas *Ped Derm 19:146–147, 2002*

Granuloma annulare, perforating

Grover's disease (transient acantholytic dermatosis)

Drug-induced by IL-4 infusion *JAAD 29:206–209, 1993*

Hailey–Hailey disease – genital papules *JAAD 26:951–955, 1992*

Hereditary callosities

Hereditary papulotranslucent acrokeratoderma *Z Hautkr 60:211–214, 1985*

Hyperkeratosis of the nipple and areola *JAAD 32:124–125, 1995; AD 113:1691–1692, 1977*

Ichthyosis congenita type IV – erythrodermic infant with follicular hyperkeratosis *BJD 136:377–379, 1997*

Keratosis circumscripta – age 3–5; plaques of follicular keratoses of elbows, knees, hips, and sacrum with palmoplantar thickening (possible childhood PRP) *Rook p.1548, 1998, Sixth Edition; Dermatologica 159:182–183, 1980; AD 93:408–410, 1966*

Keratosis follicularis spinulosa decalvans – X-linked dominant; follicular hyperkeratosis, corneal degeneration, alopecia, alopecia of eyebrows *Curr Prob Derm 14:71–116, 2002*

Keratosis follicularis squamosa – follicular hyperkeratotic papule; annular with scale *BJD 144:1070–1072, 2001*

Keratosis lichenoides chronica *Dermatology 201:261–264, 2000; Dermatology 191:264–267, 1995; AD 131:609–614, 1995; AD 105:739–743, 1972; JAAD 37:263–264, 1997; JAAD 38:306–309, 1998*

Keratosis pilaris – autosomal dominant *Curr Prob Derm 14:71–116, 2002; JAAD 39:891–893, 1998*

Keratosis pilaris atrophicans *AD 130:469–475, 1994;* ulerythema ophryogenes *Ped Derm 11:172–175, 1994;* keratosis pilaris decalvans non-atrophicans *Clin Exp Dermatol 18:45–46, 1993;* keratosis follicularis spinulosa decalvans *AD Syphilol 151:384–387, 1926*; folliculitis decalvans *Acta DV (Stockh) 43:14–24, 1963;* atrophoderma vermiculatum – cheeks and pre-auricular regions *JAAD 18:538–542, 1988; J Cutan Dis 36:339–352, 1918*

Keratosis punctata *Ghatan p.11, 2002, Second Edition*

Knuckle pads (heloderma) *AD 129:1043–1048, 1993;* keratotic knuckle pads unassociated with palmoplantar keratoderma *Rook p.1555–1556, 1998, Sixth Edition*

Kyrle's disease (hyperkeratosis follicularis et parafollicularis in cutem penetrans) *J Derm 20:329–340, 1993; JAAD 16:117–123, 1987*

Lenticular acral keratosis in washerwomen *Int J Derm 37:532–537, 1998*

Lichen nitidus *Clin Exp Dermatol 18:381–383, 1993*

Lichen planus/lichen planopilaris (Graham–Little syndrome) *Rook p.1586,1904–1912, 1998, Sixth Edition;* with keratosis pilaris *BJD 27:183–190, 1915;* hypertrophic lichen planus

Lichen spinulosus *JAAD 22:261–264, 1990; Cutis 43:557–560, 1989*

Lichen striatus

Minute aggregate keratoses *Clin Exp Dermatol 10:566–571, 1985*

Multiple minute digitate hyperkeratosis – disseminated spiked hyperkeratosis – after X-ray therapy *Clin Exp Dermatol 20:425–427, 1995;* sporadic *AD 111:1176–1177, 1975;* familial (autosomal dominant) *JAAD 18:431–436, 1988;* associated with laryngeal carcinoma *Med Cutan Ibero Lat Am 6:279–283, 1978;* filiform keratoses (spiked, filiform, or hairy keratoses) – sporadic *Int J Dermatol 32:446–447, 1993; familial AD 117:412–414, 1981;* cyclosporine-induced *Hautarzt 46:841–846, 1995;* myeloma-associated *JAAD 33:346–351, 1995*

Papular acantholytic dyskeratosis of the vulva *Ped Derm 22:237–239, 2005*

Parapsoriasis – acute, pityriasis lichenoides chronica (guttate parapsoriasis)

Periumbilical pseudoxanthoma elasticum (acquired perforating pseudoxanthoma elasticum) – flat, well-demarcated, hyperpigmented, reticulated, atrophic central plaque with raised scaly border *JAAD 51:1–21, 2004; JAAD 39:338–344, 1998*

Persistent acantholytic dermatosis *Ann Acad Med Singapore 29:770–772, 2000*

Pityriasis rosea

Pityriasis rubra pilaris – erythematous perifollicular papules; grouped; scaly scalp; orange palmoplantar keratoderma; islands of sparing; resembles seborrheic dermatitis *BJD 133:990–993, 1995; Eur J Dermatol 4:593–597, 1994; JAAD 20:801–807, 1989*

Postpemphigus acanthomata *Int J Derm 36:194–196, 1997*

Progressive symmetric erythrokeratoderma – elbows, knees, hands, and feet

Prurigo nodularis – idiopathic or associated with lymphoma, peripheral T-cell lymphoma (Lennert's lymphoma) *Cutis 51:355–358, 1993;* Hodgkin's disease *Dermatologica 182:243–246, 1991; Ped Derm 7:136–139, 1990;* gluten sensitive enteropathy *BJD 95:89–92, 1976;* AIDS *JAAD 33:837–838, 1995;* uremia *South Med J 68:138–141, 1975;* depression, liver disease, $\alpha_1$-antitrypsin deficiency *Australas J Dermatol 32:151–157, 1991;* malabsorption *Dermatologica 169:211–214, 1984; The Clinical Management of Itching; Parthenon; p.xvi, 2000; Rook p.671–672, 1998, Sixth Edition*

Psoriasis – guttate, small plaques; rupioid, elephantine, ostraceous (oyster-like) *Rook p.1598–1599, 1998, Sixth Edition*

Reactive perforating collagenosis – early childhood, precipitated by trauma; skin-colored umbilicated papules; heal with hypopigmentation or scar *AD 121:1554–1555, 1557–1558, 1985*

Spiny keratoderma *Cutis 54:389–394, 1996*
- Palmoplantar parakeratotic spiny keratoderma
- Disseminated parakeratotic spiny keratoderma
- Palmoplantar orthokeratotic spiny keratoderma
- Disseminated orthokeratotic spiny keratoderma
- Spiny keratoderma in eccrine hamartoma

Terra firme

Transient reactive papulotranslucent acrokeratoderma *Australas J Dermatol 41:172–174, 2000*

Trichostasis spinulosa *AD 133:1579,1582, 1997*

Urostomy site – pseudoverrucous peristomal lesions – warty papules at mucocutaneous junction *Rook p.930, 1998, Sixth Edition; JAAD 19:623–632, 1988*

Waxy keratoses of childhood (disseminated hypopigmented keratoses) – generalized dome-shaped yellow or skin-colored keratotic papules *Ped Derm 18:415–416, 2001; Clin Exp Dermatol 19:173–176, 1994*

Warty dyskeratoma

X-linked ichthyosis

## PSYCHOCUTANEOUS DISORDERS

Trichotillomania – follicular hyperkeratosis *BJD 145:1034–1035, 2001*

## SYNDROMES

Alagille syndrome (arteriohepatic dysplasia) – follicular hyperkeratosis *BJD 138:150–154, 1998*

Atrichia with keratin cysts – horny papules of face, neck, scalp; then trunk and extremities *Ann DV 121:802–804, 1994*

Cardio-facio-cutaneous syndrome – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris *Ped Derm 17:231–234, 2000*

CHILD syndrome

Cowden's syndrome

Down's syndrome – keratosis pilaris *Ghatan p.130, 2002, Second Edition*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Epidermodysplasia verruciformis – seborrheic keratosis-like lesions *J Cutan Pathol 20:237–241, 1993*

Gall–Galli syndrome – Dowling–Degos disease with acantholysis – hyperkeratotic follicular papules *JAAD 45:760–763, 2001*

Greither's syndrome – warty keratoses of hands and feet with poikiloderma

Haber's syndrome – keratotic axillary papules *JAAD 40:462–467, 1999*

Hereditary acrokeratotic poikiloderma – vesicopustules of hands and feet at 1–3 months of age; widespread dermatitis; keratotic papules of hands, feet, elbows, and knees *AD 103:409–422, 1971*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

IFAP syndrome – ichthyosis, keratotic follicular papules, alopecia, photophobia *JAAD 46:S156–158, 2002; BJD 142:157–162, 2000*

Incontinentia pigmenti – solitary keratotic papule on finger *Ped Derm 13:47–50, 1996*

Keratoderma, woolly hair, follicular keratoses, blistering *Retinoids Today Tomorrow 37:15–19, 1994*

Keratosis–ichthyosis–deafness (KID) syndrome

Kindler's syndrome – acral keratoses

Klippel–Trenaunay–Weber syndrome – angiokeratomaous nodules; venous malformation, arteriovenous fistula, or mixed venous lymphatic malformation *Br J Surg 72:232–236, 1985; Arch Gen Med 3:641–672, 1900*

Lipoid proteinosis *Int J Dermatol 39:203–204, 2000; JAAD 39:149–171, 1998*

Maffucci's syndrome

Mal de Meleda – hyperkeratotic plaques

Noonan's syndrome – webbed neck, short stature, malformed ears, nevi, keloids, transient lymphedema, ulerythema ophyrogenes, keratosis follicularis spinulosa decalvans *JAAD 46:161–183, 2002; Rook p.3016, 1998, Sixth Edition; Ped Derm 15:18–22, 1998; J Med Genet 24:9–13, 1987;* extremities *Cutis 46:242–246, 1990*

Olmsted syndrome – periorificial keratotic papules and plaques; follicular hyperkeratosis of buttocks and knees; intertrigo, mutilating palmoplantar keratoderma, linear streaky hyperkeratosis, leukokeratosis of the tongue, sparse hair anteriorly *JAAD 53:S266–272, 2005; Eur J Derm 13:524–528, 2003; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; Semin Derm 14:145–151, 1995; Am J Dis Child 33:757–764, 1927*

Pachyonychia congenita – keratotic papules on dorsa of fingers, elbows, and knees *Ped Derm 14:491–493, 1997*

Phakomatosis pigmentokeratotica *Dermatology 197:377–380, 1998*

Pili torti, enamel hypoplasia syndrome – keratosis pilaris, dry fair hair, enamel hypoplasia, widely spaced abnormal teeth *BJD 145:157–161, 2001*

POEMS syndrome – multiple seborrheic keratoses

Proteus syndrome – epidermal nevus, eruptive seborrheic keratoses, depigmented nevi; (Takatsuki syndrome, Crowe–Fukase syndrome) – osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism *JAAD 25:377–383, 1991; JAAD 21:1061–1068, 1989*, *Cutis 61:329–334, 1998*

Reiter's syndrome

Rothmund–Thomson syndrome – warty keratoses of hands, wrists, feet and ankles

Tuberous sclerosis

## TRAUMA

Callosities from clothing and appliances

Chondrodermatitis nodularis chronicus helicis

Clavus

Carpenter's calluses

Ectopic nail – post-traumatic *JAAD 50:323–324, 2004*

Habit tics – callosities

Plantar calluses

Prayer nodules – forehead, knees, and ankles

Radiation – post irradiation keratoses *Rook p.1676, 1998, Sixth Edition;* post-irradiation digitate keratosis; keratotic miliaria secondary to radiotherapy *AD 124:855–856, 1988*

Thermal keratoses and squamous cell carcinoma *in situ* with erythema ab igne *AD 115:1226–1228, 1979*

## VASCULAR

APACHE (acral pseudolymphomatous angiokeratoma of children) – linear scaly red papules of hand *BJD 145:512–514, 2001; BJD 124:387–388, 1991*

Angiokeratoma circumscriptum *AD 117:138–139, 1981*

Angiokeratoma of Fordyce – scrotal angiokeratomas *Rook p.594, 1998, Sixth Edition*

Angiokeratoma of Mibelli – autosomal dominant; associated with chilblains; on dorsum of fingers, toes, hands, feet *AD 106:726–728, 1972*

Angiokeratoma, solitary papular – occur after trauma in adulat life – red to blue–black; may rapidly enlarge or bleed and simulate melanoma *AD 117:138–139, 1981; AD 95:166–175, 1967*

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive *NEJM 276:1163–1167, 1967;* fucosidosis ($\alpha_1$-fucosidase) *AD 107:754–757, 1973;* Kanzaki's disease ($\alpha$-*N*-acetylgalactosidase) *AD 129:460–465, 1993*; aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991;* adult-onset GM1 gangliosidosis ($\beta$-galactosidase) *Clin Genet 17:21–26, 1980;* galactosialidosis (combined $\beta$-galactosidase and sialidase) *AD 120:1344–1346, 1984;* no enzyme deficiency *AD 123:1125–1127, 1987; JAAD 12:885–886, 1985*) – telangiectasias or small angiokeratomas

Cobb syndrome – angiokeratoma circumscriptum; nevus flammeus, angioma in spinal cord *Ghatan p.201, 2002, Second Edition*

Degos' disease

Digital verrucous fibroangioma *Acta DV 72:303–304, 1992*

Hemangioma, including cutaneous keratotic hemangioma *AD 132:703–708, 1996*

Acquired lymphangiectasis S/P mastectomy *Cutis 58:276–278, 1996*

Lymphangioma circumscriptum *BJD 83:519–527, 1970;* acquired vulvar lymphangioma mimicking genital warts *J Cutan Pathol 26:150–154, 1999*

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *BJD 132:1014–1016, 1996*

Lymphostasis verrucosa cutis (lymphedematous keratoderma) *BJD 127:411–416, 1992; Int J Dermatol 20:177–187, 1981*

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition*

Verrucous hemangiomas, including eruptive verrucous hemangiomas *Ped Derm 2:191–193, 1985; Dermatologica 171:106–111, 1985*

# PAPULES, HYPERPIGMENTED WITH HYPERTRICHOSIS

## CONGENITAL LESIONS

Congenital hypertrophy with hypertrichosis

Congenital smooth muscle hamartoma *JAAD 48:161–179, 2003; JAAD 46:477–490, 2002; Curr Prob Derm 14:41–70, 2002; Ped Derm 13:431–433, 1996; AD 125:820–822, 1989; AD 121:1200–1201, 1985; AD 114:104–106, 1978*

Supernumery nipples (accessory nipple or nipple nevus) *Cutis 62:235–237, 1998*

Transient thickening of the skin with hypertrichosis

## DRUG ERUPTIONS

Vaccines – DPT or BCG immunizations

## INFILTRATIVE DISEASES

Lichen amyloidosis

Pretibial myxedema *JAAD 46:723–726, 2002; Rook p.2707, 1998, Sixth Edition; AD 122:85–88, 1986*

Xanthoma disseminatum – mimicking melanocytic nevi *AD 128:1207–1212, 1992*

## INFLAMMATORY DISEASES

Casting

Local inflammation – friction, gonococcal arthritis, recurrent thrombophlebitis, melorhestatic scleroderma, chewing, burn, insect bites

## NEOPLASTIC

Becker's nevi

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin–colored *JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 13:139–142, 1996*

Granular cell tumor *Cutis 69:343–346, 2002*

Hairy Pacinian neurofibroma (nerve sheath myxoma) *JAAD 18:416–419, 1988*

Melanocytic nevi – intradermal nevi; congenital melanocytic nevi *JAAD 48:161–179, 2003; Rook p.1733–1735,2892, 1998, Sixth Edition; JAAD 36:409–416, 1997*; eruptive atypical nevi in AIDS *AD 125:397–401, 1989*

Neurofibroma resembling congenital melanocytic nevus *JAAD 20l358–362, 1989*

Spitz nevi – eruptive Spitz nevi *JAAD 15:1155–1159, 1986;* pigmented spindle cell nevus (Spitz nevus) *JAAD 28:565–571, 1993*

## PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa, dystrophic types *Ann Ital Dermatol 10:195–196, 1995*

Lichen simplex chronicus *JAAD 48:161–179, 2003; Rook p.2895, 1998, Sixth Edition*

## SYNDROMES

Neurofibromatosis type I – schwannomas

Neurofibromatosis type II – schwannomas

Syndromes associated with nevi *JAAD 29:374–388, 1993*

# PAPULES, PERIORBITAL

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Graft vs. host reaction *JAAD 26:49–55, 1992*

Lupus erythematosus

## CONGENITAL LESIONS

Blueberry muffin baby

## DRUG-INDUCED

Corticosteroid-induced periorbital dermatitis

Drug eruption

## EXOGENOUS AGENTS

Irritant contact dermatitis

## INFECTIONS AND INFESTATIONS

Cat scratch disease

Gianotti–Crosti syndrome

Insect bite

Leishmaniasis

Lepidopterism

Leprosy

Measles

Molluscum contagiosum

North American blastomycosis

Papular urticaria

Roseola infantum

Scabies, nodular

Sporotrichosis

Stye

Syphilis – primary, secondary

Tinea faciei *AD 114:250–252, 1978*

Verrucae

Viral exanthem

## INFILTRATIVE DISORDERS

Amyloidosis, primary systemic *NEJM 349:583–596, 2003*

Benign cephalic histiocytosis

Colloid milium

Langerhans cell histiocytosis

Mucinosis

Xanthogranulomas, including juvenile xanthogranuloma *Clin Exp Derm 18:462–463, 1993*

Xanthoma disseminatum *JAAD 15:433–436, 1991*

## INFLAMMATORY DISEASES

Blepharitis granulomatosa *AD 120:1141, 1984*

Erythema multiforme

Neutrophilic eccrine hidradenitis *JAAD 28:775, 1993; AD 131:1141–1145, 1995*

Sarcoid

## METABOLIC DISEASES

Calcinosis cutis – dystrophic calcification due to intralesional corticosteroids for infantile periocular hemangiomas *Ped Derm 15:23–26, 1998*

Xanthelasma

## NEOPLASTIC DISORDERS

Actinic keratosis

Apocrine hidrocystomas *AD 134:1627–1632, 1998*

Basal cell carcinoma

Bowen's disease

Chalazion

Dermoid cyst

Dermatosis papulosa nigra *Rook p.1660, 1998, Sixth Edition*

Eccrine hidrocystomas *J Dermatol 23:652–654, 1996*

Embryonal rhabdomyosarcoma

Epidermal inclusion cyst

Eruptive hidradenoma *Cutis 46:69–72, 1990*

Eruptive vellus hair cysts – skin-colored, red, white, blue, yellow *Ped Derm 19:26–27, 2002*

Hidrocystomas

Kaposi's sarcoma *JAAD 40:312–314, 1999*

Leiomyoma

Leukemia

Lymphoma – cutaneous T-cell lymphoma; HTLV-1

Melanocytic nevus, including divided nevus

Melanoma

Merkel cell tumor

Metastatic breast cancer

Microcystic adnexal carcinoma – periorbital papule or nodule *Derm Surg 27:979–984, 2001*

Milium

Milia en plaque *Derm Surg 28:291–295, 2002*

Mucinous eccrine carcinoma (mucinous carcinoma of skin) *AD 136:1409–1414, 2000; Dermatol Surg 25:566–568, 1999; JAAD 36:323–326, 1997*

Myeloma – cutaneous crystalline deposits *AD 130:484–488, 1994*

Myxomas *JAAD 34:928–930, 1995*

Nevus, melanocytic

Nevus sebaceous – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.21, 1999*

Oncocytoma – bright red or yellow papule of eyelid *Arch Ophthalmol 102:263–265, 1984*

Orbital tumors (ethmoid sinus carcinoma)

Preauricular cyst, inflamed

Primary mucinous carcinoma *AD 133:1161–1166, 1997*

Sebaceous carcinoma

Seborrheic keratosis – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.7, 1999*

Sweat gland carcinoma

Syringomas – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.53, 1999; Rook p.1712–1713, 1998, Sixth Edition*

Trichoepitheliomas

Vellus hair cysts

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:99, 102, 1997*

Normolipemic plane xanthomas

## PHOTODERMATOSES

Chronic actinic dermatitis

Photo-induced drug eruption

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acne vulgaris

Alopecia mucinosa

Atopic dermatitis

Colloid milium

Granuloma annulare – periorbital *AD 118:190–191, 1982;* of the eyelid *Ped Derm 16:373–376, 1999*

Lichen planus

Lichen sclerosus et atrophicus

Lichen striatus

Periorbital 'perioral' dermatitis *Semin Cutan Med Surg 18:206–209, 1999*

Psoriasis

Rosacea, including granulomatous rosacea

Seborrheic dermatitis

### SYNDROMES

Ankyloblepharon–ectrodactyly–cleft lip, palate syndrome (AEC syndrome) – eyelid papillomas

Atrichia with papular lesions – autosomal recessive; follicular cysts *AD 139:1591–1596, 2003; JAAD 47:519–523, 2002*

Carney complex – cutaneous myxomas of the *eyelids Cutis 62:275–280, 1998*

Down's syndrome – syringomas *Ghatan p.130, 2002, Second Edition*

Fabry's disease

Familial sea blue histiocytosis

Kawasaki's disease

Lipoid proteinosis

Multicentric reticulohistiocytosis

Sly syndrome

Sweet's syndrome

### TRAUMA

Granuloma fissuratum

### VASCULAR DISORDERS

Angiolymphoid hyperplasia with eosinophilia *Ann Allergy 69:101–105, 1992*

Angiosarcoma *JAAD 34:308–310, 1996*

Disseminated neonatal hemangiomatosis

Hemangiomas

Pyogenic granuloma

Vasculitis

Wegener's granulomatosis

## PAPULES, RED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Autoeczematization reaction

Bowel arthritis dermatitis syndrome – papular and pustular vasculitis, erythema nodosum-like lesions; tenosynovitis, non-destructive polyarthritis *AD 138:973–978, 2002; BJD 142:373–374, 2000; AD 135:1409–1414, 1999; Cutis 63:17–20, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Chronic granulomatous disease – suppurative granuloma – *Microascus cinereus Clin Inf Dis 20:110–114, 1995*

Common variable immune deficiency – granulomas *JAAD 37:499–500, 1997*

Congenital combined immunodeficiency – cutaneous granulomas of elbows and hands *Mt Sinai J Med 68:326–330, 2001*

Dermatitis herpetiformis *Rook p.1890, Sixth Edition*

Herpes (pemphigoid) gestationis *Rook p.1878–1879, 1998, Sixth Edition; JAAD 40:847–849, 1999*

Hyper-IgD syndrome – red macules or papules, urticaria, red nodules, combinations of fever, arthritis, and rash, annular erythema, and pustules – autosomal recessive; mevalonate kinase deficiency *AD 136:1487–1494, 2000; AD 130:59–65, 1994*; *Ann DV 123:314–321, 1996*

Interstitial granulomatous dermatitis with arthritis *JAAD 34:957–961, 1996; Dermatopathol Prac Concept 1:3–6, 1995*

Linear IgA disease, adulthood *Rook p.1882, 1998, Sixth Edition*

Lupus erythematosus – chilblain lupus – fingers, toes, elbows, knees, calves, knuckles, nose, ears *Cutis 69:183–184, 190, 2002; BJD 98:497–506, 1978*

Rheumatoid arthritis – palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis) *JAAD 47:251–257, 2002; JAAD 45:596–600, 2001; JAAD 22:922–925, 1990; AD 133:757–760, 1997*

Still's disease *Rook p.2570, 1998, Sixth Edition*

Urticaria *Rook p.2116–2117, 1998, Sixth Edition*

X-linked agammaglobulinemia – caseating granulomas *JAAD 24:629–633, 1991*

### CONGENITAL LESIONS

Congenital neurovascular hamartoma – papillomatous red–brown lesion

Meningocoele

Perineal pyramidal protrusion *Textbook of Neonatal Dermatology, p.483, 2001*

Umbilical granuloma *Textbook of Neonatal Dermatology, p.95, 2001*

### DRUG-INDUCED

Cortiscosteroids – peristomal granulomas due to fluorinated corticosteroids *J Cutan Pathol 8:361–364, 1981*

Drug-induced pseudolymphoma syndrome *JAAD 38:877–905, 1998*

Drug rash, morbilliform

G-CSF – neutrophilic dermatosis *Ped Derm 18:417–421, 2001*

Gemcitabine – red papules in groin; pseudolymphoma *BJD 145:650–652, 2001*

Interferon-$\alpha$ – sarcoidal papules *BJD 146:320–324, 2002*

Interferon alpha (pegylated) and ribavirin as treatment for hepatitis C infection – sarcoidosis *AD 141:865–868, 2005*

Methotrexate-induced rheumatoid papules – red papules on arms and buttocks *JAAD 40:702–707, 1999*

Sirolimus – drug-induced vasculitis *Transplantation 74:739–743, 2002*

Subacute cutaneous lupus erythematosus – drug-induced including hydrochlorthiazide, ACE inhibitors, calcium channel blockers *Ann Intern Med 103:49–51, 1985*

### EXOGENOUS AGENTS

Acrylic or nylon fibers form dust or carpet *BJD 96:673–677, 1977*

BCG vaccine – granulomas *JAAD 21:1119–1122, 1989*

Coral contact dermatitis *Int J Derm 30:271–273, 1991*

Fiberglass dermatitis

Foreign body granuloma – talc, kaolin, quartz in slate, brick, gravel, coal; silica; beryllium – sarcoidal granulomas *Rook p.2701, 1998, Sixth Edition*

Irritant contact dermatitis

Sea urchin spine – sarcoidal granuloma *BJD 77:335–343, 1965*

Zirconium – axillary sarcoidal granuloma from deodorants *J Dermatol 38:223–232, 1962; BJD 70:75–101, 1958*

## INFECTIONS AND INFESTATIONS

African histoplasmosis

African tick-bite fever – *Rickettsia africae Clin Inf Dis 39:700–701, 741–742, 2004*

Alternariosis *JAAD 52:653–659, 2005; BJD 143:910–912, 2000; AD 94:201–207, 1976*

Amebiasis – *Acanthamoeba Ped Inf Dis J 22:197–199, 2003; JAAD 42:351–354, 2000; Clin Inf Dis 25:267–272, 1997;* red nodules and crusted nodules in HIV disease *AD 139:1647–1652, 2003*

Ancylostomiasis – papular or papulovesicular rash; feet; generalized urticaria; late changes resemble kwashiorkor *Dermatol Clin 7:275–290, 1989*

Anthrax *JAMA 260:616, 1987; J Clin Inf Dis 19:1009–1014, 1994*

Aquarium dermatitis – cercarial dermatitis *Dermatology 197:84–86, 1998*

Arthropod bites – persistent nodular arthropod reactions on elbows, abdomen, genitalia, and axillae (pseudolymphoma syndrome) *JAAD 38:877–905, 1998;* avian mites from pet gerbils – itchy red bumps *AD 137:167, 2001*

Aspergillosis *BJD 85 (suppl 17):95–97, 1971;* primary cutaneous aspergillosis *JAAD 31:344–347, 1994*; disseminated (red) *JAAD 20:989–1003, 1989*

Bacillary angiomatosis (*Bartonella henselae*) – starts as pinpoint erythematous papule *BJD 143:609–611, 2000; Hautarzt 44:361–364, 1993; JAAD 22:501–512, 1990*

Bartonellosis – bacillary angiomatosis; Oroya fever with verruga peruana – red papules in crops become nodular, hemangiomatous or pedunculated; face, neck, extremities, mucosal lesions; 1–4mm pruritic red papules *Clin Inf Dis 33:772–779, 2001; Ann Rev Microbiol 35:325–338, 1981*

Botryomycosis – granulomatous reaction to bacteria with granule formation; single or multiple abscesses of skin and subcutaneous tissue break down to yield multiple sinus tracts; small papule; extremities, perianal sinus tracts, face *Int J Dermatol 22:455–459, 1983; AD 115:609–610, 1979*

Brucellosis *JAAD 48:474–476, 2003*

*Calymmatobacterium granulomatis* (Donovanosis) – papules of upper arms and chest *J Clin Inf Dis 25:24–32, 1997*

*Candida* sepsis – papules and nodules with pale centers *Am J Dermatopathol 8:501–504, 1986; JAMA 229:1466–1468, 1974; Candida tropicalis Cutis 71:466–468, 2003;* congenital cutaneous candidiasis *AJDC 135:273–275, 1981*

Cat scratch disease – *Bartonella henselae*; red papule, becomes vesicle, crusts, ulcerates, heals with scar *Am J Dis Child 139:1124–1133, 1985; JAMA 154:1247–1251, 1954*

Caterpillars – puss caterpillar (larval stage of flannel moth, *Megalopyge opercularis*) *Cutis 71:445–448, 2003*

Cercarial dermatitis – schistosomes; pruritic red papules; fresh water avian cercarial dermatitis (swimmer's itch) *Cutis 19:461–467, 1977;* sea water avian cercarial dermatitis *Bull Mrine Sci Gulf Coast 2:346–348, 1952*; fresh water mammalian cercarial dermatitis *Trans R Soc Trop Med Hyg 66:21–24, 1972;* cercarial dermatitis from snail (*Lymnaea stagnalis*) in aquarium tank *BJD 145:638–640, 2001*

*Cheyletiella* mites – dogs, cats, rabbits; papules, papulovesicles, pustules, necrosis *JAAD 50:819–842, 2004; AD 116:435–437, 1980*

Chigger bites

Chromomycosis

Coccidioidomycosis *Cutis 70:70–72, 2002;* acute pulmonary coccidioidomycosis with interstitial granulomatous dermatitis *JAAD 45:840–845, 2001*

Coral dermatitis

Cowpox – papule progresses to vesicle to hemorrhagic vesicle to umbilicated pustule, then eschar with ulcer *JAAD 49:513–518, 2003; JAAD 44:1–14, 2001; BJD 1331:598–607, 1994*

Cryptococcosis *Clin Inf Dis 33:700–705, 2001; JAAD 32:844–850, 1995*

Cutaneous larva migrans

Cytomegalovirus *JAAD 38:349–351, 1998*

Dematiaceous fungal infections in organ transplant recipients – all lesions on extremities
- *Alternaria*
- *Bipolaris hawaiiensis*
- *Exophiala jeanselmei*, *E. spinifera*, *E. pisciphera*, *E. castellani*
- *Exserohilum rostratum*
- *Fonsacaea pedrosoi*
- *Phialophora parasitica*

Dental sinus

Dermatophytosis

Dracunculosis – small papule or vesicle which ruptures *Dermatol Clinic 7:323–330, 1989*

Eruptive pseudoangiomatosis – vascular papules or nodules; Echovirus 25, 32; Coxsackie B virus *Ped Derm 19:76–77, 2002*

Fire corals – urticarial lesions followed by vesiculobullous rash, chronic granulomatous and lichenoid lesions *Contact Dermatitis 29:285–286, 1993; Int J Dermatol 30:271–273, 1991*

Folliculitis – various organisms

*Fusarium* – sepsis with red/gray papules *JAAD 47:659–666, 2002*

Gianotti–Crosti syndrome *Ped Derm 21:542–547, 2004*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gnathostomiasis

Gonococcemia – periarticular lesions appear in crops with red macules, papules, vesicles with red halo, pustules, bullae becoming hemorrhagic and necrotic; suppurative arthritis and tenosynovitis *Ann Intern Med 102:229–243, 1985*

Gypsy moth caterpillar dermatitis

Helminth infection – *Enterobius vermicularis*

Herpes zoster – disseminated zoster, hyponatremia, severe abdominal pain and leukemia relapse *BJD 149:862–865, 2003*

Histoplasmosis – disseminated histoplasmosis *Tyring p.341, 2002; BJD 144:205–207, 2001; J Eur Acad Dermatol Venereol 10:182–185, 1998; Int J Dermatol 36:599–603, 1997; Diagnostic Challenges Vol V:77–79, 1994; JAAD 29:311–313, 1993; JAAD 23:422–428, 1990; BJD 113:345–348, 1985*

Insect bites – mites including avian mite bites (*Dermanyssus gallinae*) (gamasoidosis, acariasis); other bird mites (*Ornithonyssus sylviarum* and *O. bursa*); baker's itch (*Acarus siro*); grocer's itch (*Glycophagus domesticus*); coolie itch (onions, plant bulbs, tea) (*Rhizoglyphus parasiticus*); dried fruit itch (dried fruit, feathers, skin) (*Carpoglyphus lactis*); from pet gerbils *AD 137:167–170, 2001;* mites – barley itch, grain-shoveller's itch, grain itch (*Pyemotes tritici*), straw itch, cotton seed dermatitis *Rook p.1468, 1998, Sixth Edition;* trombiculid

mites (*Eutromicula*) (chiggers (*E. alfreddugusi*)); Pyemotes ventricosus (wood mite) *The Clinical Management of Itching; Parthenon; p.61, 2000;* tropical rat mite (*O. baconi*) *Cutis 42:414–416, 1988;* cheese mite (Glyciphagus) bites – papulovesicles and pustules *Dermatol Clin 8:265–275, 1990;* fleas – human flea (*Pulex irritans*); cat flea (*Ctenocephalides felis*); dog flea (*C. canis*); bird flea (*Ceratophyllus gallinae*); beetles (*Paederus fuscipes*) – blisters, papules *Eur J Ped 152:6–8, 1993;* carpet beetle (*Anthrenus verbasci*) *JAAD 5:428–432, 1981;* bedbugs (*Cimex lectularis*, *C. hemipterus*); mosquitoes *The Clinical Management of Itching; Parthenon; p.63, 2000;* sandflies (*Phlebotomus*, *Lutzomyia*) – harara, urticaria multiformis endemica in Middle East *The Clinical Management of Itching; Parthenon; p.64, 2000*

Janeway lesion *Med News 75:257–262, 1899*

Jellyfish stings

Leishmaniasis *Clin Inf Dis 33:815,897–898, 2001; AD 134:193–198, 1998; J Clin Inf Dis 22:1–13, 1996;* post-kala azar dermal leishmaniasis – papules of cheeks, chin, ears, extensor forearms, buttocks, lower legs; in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Lepidopterism – butterflies and moths *The Clinical Management of Itching; Parthenon; p.63, 2000*

Leprosy – lepromatous leprosy *Rook p.1224, 1998, Sixth Edition*

Listeriosis

Lobomycosis

Lyme disease – papular variant *JAAD 49:363–392, 2003*

Majocchi's granuloma

Malacoplakia *AD 134:244–245, 1998*

Meningococcemia – acute or chronic *BJD 153:669–671, 2005; Rev Infect Dis 8:1–11, 1986*

Molluscum contagiosum, including giant molluscum contagiosum

Murine typhus *Clin Inf Dis 21:859, 1995*

*Mycobacterium avium* complex – traumatic inoculation papules *BJD 130:785–790, 1994*

*Mycobacterium haemophilum Clin Inf Dis 33–330–337, 2001*

*Mycobacteria kansasii Ped Derm 18:131–134, 2001*

*Mycobacterium tuberculosis* – tuberculosis cutis orificialis (acute tuberculous ulcer) – red edematous papules break down to form shallow ulcers of mouth, tongue, dental sockets, genitalia, perianal region *Rook p.1193, 1998, Sixth Edition;* miliary *J Clin Inf Dis 23:706–710, 1996;* lupus vulgaris; papulonecrotic tuberculid *Ped Derm 7:191–195, 1990; Ped Derm 15:450–455, 1998*

Myiasis *Cutis 55:47–48, 1995*

Neutrophilic eccrine hidradenitis – infectious etiology – *Serratia*, *Enterobacter cloacae*, *Staphylococcus aureus JAAD 38:1–17, 1998*

North American blastomycosis – disseminated blastomycosis *Clin Infect Dis 33:1706, 1770–1771, 2001; Am Rev Resp Dis 120:911–938, 1979; Medicine 47:169–200, 1968*

Onchocerciasis – presents with blotchy erythema and urticarial papules *BJD 121:187–198, 1989*

Orf – reddish–blue papule becomes hemorrhagic umbilicated pustule or bulla surrounded by gray–white or violaceous rim which is surrounded by a rim of erythema *AD 126:356–358, 1990*; large lesions may resemble pyogenic granulomas or lymphoma; rarely widespread papulovesicular or bullous lesions occur *Int J Dermatol 19:340–341, 1980*

Osler's node (subacute bacterial endocarditis) – small, red papules on distal finger and toe pads *NEJM 295:1500–1505, 1976*

*Paecilomyces lalacinus* (cutaneous hyalohyphomycosis) *JAAD 35:779–781, 1996; JAAD 39:401–409, 1998*

Papular urticaria *Semin Dermatol 12:53–56, 1993*

Paragonimus

Pediculosis – head lice – pruritic papules of nape of neck *Rook p.1441, 1998, Sixth Edition*; generalized pruritic eruption *NEJM 234:665–666, 1946*

*Peloderma strongyloides* (nematode larvae) – exanthem of papules and pustules *JAAD 51:S109–112, 2004*

*Penicillium marneffei Clin Inf Dis 18:246–247, 1994*

Pheohyphomycotic cyst – fluctuant papules *JAAD 28:34–44, 1993*

Pinta – primary *AD 135:685–688, 1999*

*Pityrosporum* folliculitis *J Dermatol 27:49–51, 2000; Int J Dermatol 38:453–456, 1999; JAAD 234:693–696, 1991; Ann Intern Med 108:560–563, 1988; JAAD 12:56–61, 1985*

Plague (*Yersinia pestis*)

Portuguese man-of-war stings *J Emerg Med 10:71–77, 1992*

Protothecosis *AD 125:1249–1252, 1999; Cutis 63:185–188, 1999*

*Pseudomonas* – swimming pool or hot tub folliculitis; macules, papules, pustules, urticarial lesions *JAMA 239:2362–2364, 1978; JAMA 235:2205–2206, 1976; Pseudomonas* wet suit dermatitis – pustules and papules *Ped Derm 458–459, 2003*

Rat bite fever (*Streptobacillus moniliformis* (pleomorphic facultative anaerobic bacillus) or *Spirillium minor* (Soduku)) – macular, petechial, or morbilliform widespread exanthem; palmoplantar rash; arthralgia and chronic arthritis; Haverhill fever (raw milk) – papules, crusted papules, vesicles, pustules; chronic abscesses *Cleveland Clin Q 52 (2):203–205, 1985; Pediatr Clin N Am 26:377–411, 1979*

Rheumatic fever – papules on extensor extremities near joints *Rook p.2732, 1998, Sixth Edition*

*Rickettsia slovaca* (Hungary) – *Dermacentor marginatus* or *D. reticulatus* tick bite; erythema marginatum-like lesions; scalp papules, crusted scalp papules and subsequent alopecia; tick-borne lymphadenopathy *Clin Inf Dis 34:1331–1336, 2002*

*Salmonella typhimurium* – rose spots on abdomen, chest and back seen in typhoid fever *NEJM 340:869–876, 1999; Lancet 1:1211–1213, 1975; AD 105:252–253, 1972*

Scabies – persistent nodular arthropod reactions on elbows, abdomen, genitalia, and axillae (pseudolymphoma syndrome) *JAAD 38:877–905, 1998*

Schistosomal dermatitis – identical to swimmer's itch *Dermatol Clin 7:291–300, 1989; Schistosoma hematobium* – groin and back *JAAD 42:678–680, 2000; Am J Dermatopath 16:434–438, 1994*

Seabather's eruption – Cnidaria larvae (*Linuche unguiculata* (thimble jellyfish)); *Edwardsiella lineata* (sea anemone) *Rook p.1476, 1998, Sixth Edition*

Sea urchin sting – red rash on knees and ankles *Dermatologica 180:99–101, 1990;* sea urchin granuloma *Int J Derm 25:649–650, 1986; Hautarzt 31:159–160, 1980*

Sporotrichosis, disseminated *Tyring p.342, 2002*

Staphylococcal sepsis

Swimmer's itch – cercaria of *Trichobiharzia ocellata*, *T. szidati*, *Diplostomum spathaceum*, *Schistosoma spindale Folia Parasitologica 39:399–400, 1992; Cutis 23:212–216, 1979;* Hawaiian swimmer's itch (stinging seaweed dermatitis) – olive-green or black algae (*Microcolus lyngbyaceus*) *Hawaii Med J 52:274–275, 1993*

Sycosis

Syphilis – secondary; malignant lues *JAAD 22:1061–1067, 1990*

Tanapox – pruritic papule, initially *Tyring p.59, 2002*

Toxocariasis – (*Toxocara canis*, *T. cati*, *T. leonensis*) visceral larva migrans – papular rash of trunk and legs *Dermatologica 144:129–143, 1972*

Trichodysplasia spinulosa – papovaviral infection of immunocompromised host; progressive alopecia of eyebrows initially, then scalp and body hair and red follicular papules of nose, ears, forehead; leonine facies *JID Symposium Proceedings 4:268–271, 1999*

*Trichosporon beigelii* sepsis *AD 129:1020–1023, 1993*

*Trichophyton rubrum*, invasive *Cutis 67:457–462, 2001*

Trypanosomiasis

*Tsukamurella paurometabolum J Clin Inf Dis 23:839–840, 1996*

Tularemia – vesiculopapular lesions of trunk and extremities *Cutis 54:279–286, 1994*; *Photodermatology 2:122–123, 1985*

Yaws – primary red papule (mother yaw), ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (raspberry-like) (framboesia); heals with large atrophic scar with white center with dark halo*;* secondary (daughter yaws, pianomas, framboesiomas) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws); hyperkeratotic plantar plaques (crab yaws); periungual *Rook p.1268–1271, 1998, Sixth Edition; JAAD 29:519–535, 1993*

Viral exanthem

West Nile virus – scattered red papules resembling folliculitis *JAAD 51:820–823, 2004*

## INFILTRATIVE DISORDERS

Amyloidosis – primary systemic amyloid; lichen amyloid; presents as papular pruritis *Dermatology 194:62–64, 1997*

Benign cephalic histiocytosis – red–brown papules of cheeks, forehead, earlobes, neck *Ped Derm 11:265–267, 1994; Ped Derm 6:198–201, 1989; AD 122:1038–43, 1986; JAAD 13:383–404, 1985*

Congenital self-healing histiocytosis (Hashimoto–Pritzker disease) – red or blue nodular lesions in generalized distribution including palms and soles in neonatal period; self-limited over a few weeks *Ped Derm 18:41–44, 2001; AD 134:625–630, 1998; Rook p.2319, 1998, Sixth Edition*

Generalized eruptive histiocytosis *JAAD 50:116–120, 2004*

Histiocytosis, cutaneous – papulonodular variant *BJD 133:444–448, 1995*

Focal mucinosis

IgM storage papule *BJD 106:217–222, 1982*

Langerhans cell histiocytosis *JAAD 13:481–496, 1985*

Mastocytosis – urticaria pigmentosa; solitary mastocytoma *Rook p.2341–2344, 1998, Sixth Edition; Acta DV* (*Stockh*) *42:433–439, 1962*

Progressive mucinous histiocytosis *BJD 142:133–137, 2000*

Verruciform xanthoma – red or yellow cauliflower-like appearance *J Dermatol 16:397–401, 1989*

Xanthogranulomas, including juvenile xanthogranuloma *Rook p.2324, 1998, Sixth Edition*

Xanthoma disseminatum

## INFLAMMATORY DISORDERS

Crohn's disease – metastatic lesions *Rook p.3175, 1998, Sixth Edition*

Endometriosis *JAAD 41:327–329, 1999*

Eosinophilic pustular folliculitis of AIDS

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983*

Interstitial granulomatous dermatitis with plaques (aka linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare, palisaded neutrophilic granulomatous dermatitis) *JAAD 47:319–320, 2002*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – multiple red papules of face, scalp, chest, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *BJD 144:885–889, 2001; JAAD 36:342–346, 1997; Am J Surg Pathol 14:872–876, 1990*

Lymphocytoma cutis (pseudolymphoma) *Acta DV 62:119–124, 1982;* $CD30^+$ T-cell rich pseudolymphoma – induced by gold acupuncture *BJD 146:882–884, 2002*

Neutrophilic eccrine hidradenitis *BJD 142:784–788, 2000; JAAD 40:367–398, 1999; JAAD 38:1–17, 1998; JAAD 35:819–822, 1996; AD 118:263–266, 1982*

Pyoderma gangrenosum

Sarcoid *Rook p.2687, 1998, Sixth Edition; AD 133:882–888, 1997; NEJM 336:1224–1234, 1997; Clinics in Chest Medicine 18:663–679, 1997*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – violaceous, red papules and nodules; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *JAAD 41:335–337, 1999; Int J Derm 37:271–274, 1998; BJD 134:749–753, 1996; Am J Dermatopathol 17:384–388, 1995; AD 114:191–197, 1978; Cancer 30:1174–1188, 1972*

Subacute necrotizing lymphadenitis *JAAD 22:909–912, 1990*

## METABOLIC DISEASES

Angiokeratoma corporis diffusum *BJD 144:363–368, 2001; AD 132:1219, 1222, 1996; AD 129:460–465, 1993*
- Adult onset GM-1, gangliosidosis (beta galactosidase deficiency) *Clin Genet 17:323–334, 1980*
- α-*N*-acetylgalactosaminidase deficiency (Kanzaki's disease)
- Aspartylglucosaminuria (aspartylglycosaminidase deficiency) *BJD 147:760–764, 2002; J Med Genet 36:398–404, 1999; Paediatr Acta 36:179–189, 1991*
- β-mannosidosis (beta mannosidase deficiency) *BJD 152:177–178, 2005; J Inherit Metab Dis 11:17–29, 1988; NEJM 315:1231, 1986*
- Fabry's disease – α-galactosidase A deficiency *NEJM 276:1163–1167, 1967; Arch Dermatol Syphil 43:187, 1898*
- Fucosidosis type II (α-l-fucosidase) *AD 107:754–757, 1973; Science 176:420–427, 1972*
- Galactosialidosis (combined beta-galactosidase and sialidase) *AD 120:1344–1346, 1984*
- Normal
- Sialidosis type II *BJD 152:177–178, 2005; Ann Neurol 6:232–244, 1978*
- Galactosialidosis
- Kansaki's disease (Kanzaki–Schindler disease) (α-N-acetylgalactosidase) *AD 129:460–465, 1993*
- No enzyme deficiency – telangiectasias or small angiokeratomas *AD 123:1125–1127, 1987; JAAD 12:885–886, 1985;* telangiectasias or small angiokeratomas; and arteriovenous fistulae without metabolic disorders – papules *AD 131:57–62, 1995*

Cryoglobulinemia *JAAD 48:311–340, 2003*

Hepatocutaneous syndrome – in chronic active hepatitis; firm red papules leaving atrophic scars *Br Med J i:817, 1977*

Necrobiosis lipoidica diabeticorum – starts as red papule *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Osteoma cutis – congenital osteoma cutis *AD 133:775–780, 1997;* progressive osseous heteroplasia – pink papules *AD 132:787–791, 1996*

Pregnancy – prurigo of pregnancy *Semin Derm 8:23–25, 1989;* pruritic urticarial papules and plaques of pregnancy *JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Whipple's disease – sarcoid-like granulomas *Ann DV 105:235–238, 1978*

Xanthomas – eruptive xanthomas

## NEOPLASTIC LESIONS

Acquired digital fibrokeratoma

Acrochordon, irritated

Acrospiroma *Cutis 58:349–351, 1996*

Actinic keratosis

Multinucleate cell angiohistiocytoma – red to red–brown papule *Cutis 59:190–192, 1997; JAAD 30:417–422, 1994*; generalized multinucleate cell angiohistiocytoma *JAAD 320–322, 1996*

Angioimmunoblastic lymphadenopathy

Atrial myxoma – red macules and papules *Cutis 62:275–280, 1998; JAAD 32:881–883, 1995; JAAD 21:1080–1084, 1989*

Basal cell carcinoma – superficial basal cell carcinomas in radiation port *AD 136:1007–1011, 2000; J Natl Cancer Inst 88:1848–1853, 1996; AD 131:484–488, 1995*

Basaloid follicular hamartoma – pink papule *AD 133:381–386, 1997*

Benign self-healing histiocytosis

Blue nevus – *Caputo p.88, 2000;* hypopigmented blue nevus of dorsum of foot; pink papule *AD 138:1091–1096, 2002; J Cutan Pathol 24:494–498, 1997*

Bowenoid papulosis *Actas Dermosifilogr 72:545–550, 1981*

Chalazion – yellow, skin-colored or red papule or nodule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.165, 1999; Ophthalmology 87:218–221, 1980*

Chondroid syringoma

Clear cell acanthoma *Am J Dermatopathol 16:134–139, 1994; BJD 83:248–254, 1970; Ann Dermatol Syphilol 89:361–371, 1962*

Clear cell hidradenoma

Dermatofibroma

Dermatofibrosarcoma protuberans – early, red papule/nodule *JAAD 35:355–374, 1996*

Desmoplastic nevus *Histopathology 20:207–211, 1992*

Digital mucous cyst

Eccrine poroma – plantar red papule *BJD 145:830–833, 2001; Rook p.1706–1707, 1998, Sixth Edition; AD 74:511–521, 1956;* digital papule *AD 74:511–512, 1956*

Eccrine spiradenoma *Ghatan p.312, 2002, Second Edition*

Eccrine syringofibroadenoma *BJD 143:591–594, 2000*

Eruptive vellus hair cysts *JAAD 3:425–429, 1980*

Erythroplasia of Queyrat

Exostosis, subungual *Derm Surg 27:591–593, 2001; Rook p.2846, 1998, Sixth Edition*

Fibroepithelioma of Pinkus – skin-colored or red pedunculated nodule of trunk, groin, or thigh *Ghatan p.308, 2002, Second Edition*

Fibrofollicullomas

Fibrous papule of the face (nose) (angiofibroma) *JAAD 10:670–671, 1984*

Generalized eruptive histiocytoma – hundreds of skin-colored, brown, blue–red papules; resolve with macular pigmentation; face, trunk, proximal extremities *JAAD 31:322–326, 1994; JAAD 20:958–964, 1989; JAAD 17:499–454, 1987*; *AD 117:216–221, 1981; AD 116:565–567, 1980; AD 96:11–17, 1967*

Granular cell tumor *Ped Derm 14:489–490, 1997*

Hidradenoma papilliferum *JAAD 41:115–118, 1999*

Kaposi's sarcoma

Keloids *Rook p.2056–2057, 1998, Sixth Edition*

Keratoacanthoma – solitary; Grzybowski *AD 120:736–740, 1984*

Leiomyoma *AD 141:199–206, 2005*

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Leukemic infiltrates, including AMML, ALL, CLL *JAAD 35:849–850, 1996;* monocytic leukemia – red, brown, violaceous patch or nodule *AD 123:225–231, 1971;* preleukemic state of monocytosis and neutropenia – perniotic lesions *BJD 81:327–332, 1969*

Leukemid

Lichen planus-like keratosis *AD 116:780–782, 1980*

Lymphoma – B-cell; cutaneous, T-cell lymphoma *JAAD 52:694–698, 2005;* angiotropic B-cell lymphoma (malignant angioendotheliomatosis) – cherry angioma-like lesions *BJD 143:162–164, 2000;* Hodgkin's disease, immunocytoma (low grade B-cell lymphoma) – reddish–brown papules *JAAD 44:324–329, 2001;* adult
T-cell lymphoma/leukemia (HTLV-1) *JAAD 46:S137–141, 2002; AD 134:439–444, 1998; JAAD 34:69–76, 1996; BJD 128:483–492, 1993; Am J Med 84:919–928, 1988;* HTLV-1 leukemia/lymphoma (ATLL) – red–brown annular patches, red papules and nodules *BJD 152:76–81, 2005;* red–orange papulonodules – HTLV-1 granulomatous T-cell lymphoma *JAAD 44:525–529, 2001;* pityriasis lichenoides-like CTCL *BJD 142:347–352, 2000;* nasal NK/T-cell lymphoma *JAAD 46:451–456, 2002;* angioimmunoblastic lymphadenopathy (T-cell lymphoma) *BJD 144:878–884, 2001*

Lymphomatoid granulomatosis – pink papules *AD 139:803–808, 2003*

Lymphomatoid papulosis

Melanoma – primary, metastatic

Melanocytic nevus, including atypical nevus *JAAD 14:1044–1052, 1986*

Merkel cell carcinoma – red papule of eyelid mimicking chalazion *Am J Ophthalmol 121:331–332, 1996; Aust NZ J Ophthlmol 24:377–380, 1996; J R Coll Surg Edin 36:129–130, 1991*

Metastases – induration, ulcer, or painless nodule *Arch Opthalmol 92:276–286, 1974;* breast cancer *Cutis 31:411–415, 1983;* testicular choriocarcinoma *Cutis 67:117–120, 2001;* lung *Eu J Derm 8:573–574, 1998;* carcinoma telangiectatica *Rook p.2294, 1998, Sixth Edition;* renal cell carcinoma; osteosarcoma *JAAD 49:757–760, 2003;* well differentiated fetal adenocarcinoma – purple nodule *BJD 150:778–780, 2004;* carcinoma telangiectoides

Mucoepidermoid carcinoma – red papule of scalp *Derm Surg 27:1046–1048, 2001*

Multiple myeloma

Myelodysplastic syndrome – disseminated cutaneous granulomatous eruptions *Clin Exp Dermatol 18:559–563, 1993*

Neurofibroma

Neuroma, including solitary encapsulated neuroma *BJD 142:1061–1062, 2000*

Nevus comedonicus, inflammatory *JAAD 38:834–836, 1998*

Nevus, melanocytic, hemorrhagic

Nevus sebaceus

Oncocytoma – bright red or yellow papule of eyelid *Arch Ophthalmol 102:263–265, 1984*

Pilomatrixoma – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.71, 1999*

Pinkus tumors

Plasmacytoma – extramedullary plasmacytoma *JAAD 19:879–890, 1988; AD 127:69–74, 1991;* systemic plasmacytosis *JAAD 38:629–631, 1998*

Porocarcinoma *BJD 152:1051–1055, 2005*

Porokeratosis, disseminated superficial actinic *AD 99:408–412, 1969;* linear porokeratosis *AD 135:1544–1555,1547–1548, 1999; Ped Derm 4:209, 1987; AD 109:526–528, 1974;* porokeratosis palmaris et plantaris et disseminata

Poroma – pink, purple, red papule *JAAD 44:48–52, 2001*

Post-transplant Epstein–Barr virus-associated lymphoproliferative disorder *JAAD 51:778–780, 2004*

Progressive nodular histiocytoma

Reticulohistiocytoma

Sebaceous carcinoma – red papule (mimics chalazion); late ulceration *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985;* papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.40–41, 1999*

Spitz nevus *Caputo p.86, 2000; JAAD 27:901–913, 1992*

Squamous cell carcinoma

Syringosquamous metaplasia *JAAD 38:1–17, 1998; AD 123:1202–1204, 1987*

Syringocystadenoma papilliferum – linear red papules *JAAD 45:139–141, 2001; AD 121:1197–1202, 1985*

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003;* in trisomy 21 or normal patients; periorbital vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

Tumor of follicular infundibulum – single or multiple – associated with Cowden's, nevus sebaceus *JAAD 33:979–84, 1995*

Waldenström's IgM storage papules – skin-colored translucent papules on extensor extremities, buttocks, trunk; may be hemorrhagic, crusted, or umbilicated pruritic papules, vesicles, bullae, urticaria *JAAD 45:S202–206, 2001*

Waldenström's macroglobulinemia with lymphoplasmacytoid B-cells – chest, earlobes, facial papules *JAAD 45:S202–206, 2001;* red papule *AD 134:1127–1131, 1998; AD 128:372–376, 1992; AD 124:1851–1856, 1988;* Waldenström's macroglobulinemia with granulomatous dermatitis – personal observation

## PHOTOSENSITIVITY DISORDERS

Actinic reticuloid (pseudolymphoma syndrome) *JAAD 38:877–905, 1998*

HIV photosensitivity

Polymorphic light eruption

## PARANEOPLASTIC DISEASES

Eosinophilic dermatosis of myeloproliferative disease – red papulonodules *AD 137:1378–1380, 2001*

Eruptive cherry angiomas *Clin Exp Dermatol 3:147–155, 1978*

Generalized eruptive histiocytosis associated with acute myelogenous leukemia *JAAD 49:S233–236, 2003*

Insect bite-like reactions associated with hematologic malignancies *AD 135:1503–1507, 1999*

Necrobiotic xanthogranuloma with paraproteinemia

Sign of Leser–Trelat – inflammatory seborrheic keratoses

## PRIMARY CUTANEOUS DISEASES

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition*

Acne vulgaris

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Alopecia mucinosa (follicular mucinosis) *JAAD 38:803–805, 1998*

Angiolymphoid hyperplasia with eosinophilia – disseminated papules over face, trunk and extremities *Cutis 72:323–326, 2003*

Eosinophilic pustular folliculitis of childhood *AD 133:775–780, 1997*

Eruptive pseudoangiomatosis – bright red pinpoint lesions *JAAD 52:174–175, 2005; AD 140:757, 2004*

Erythema elevatum diutinum *Cutis 68:41–42, 55, 2001; Medicine* (*Baltimore*) *56:443–455, 1977*

Erythema of acral regions – red papules and plaques on ears and distal extremities

Erythema of Jacquet

Granular parakeratosis – scaly red papules *JAAD 52:863–867, 2005*

Granuloma annulare *JAAD 3:217–230, 1980*

Granuloma faciale *Int J Dermatol 36:548–551, 1997; AD 129:634–635, 637, 1993;* extrafacial granuloma faciale *AD 79:42–52, 1959*

Granulomatous periorificial dermatitis – extrafacial and generalized periorificial dermatitis *AD 138:1354–1358, 2002*

Granulosis rubra nasi

Grover's disease (transient acantholytic dermatosis) *AD 101:426–434, 1970*

Keratosis pilaris

Lichen nitidus

Lichen planus

Miliaria rubra *BJD 99:117–137, 1978*

Papular elastorrhexis

Papular prurigo

Perforating folliculitis

Perioral dermatitis including facial Afro–Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Pityriasis lichenoides chronica

Pityriasis rosea

Pityriasis rubra pilaris

Psoriasis

Prurigo pigmentosa *Cutis 63:99–102, 1999; BJD 120:705–708, 1989; AD 125:1551–1554, 1989; JAAD 12:165–169, 1985*

Pseudoxanthoma elasticum

Reactive perforating collagenosis

Subacute prurigo (itchy red bump disease) *JAAD 24:697–702, 1991; JAAD 4:723–729, 1981*

## SYNDROMES

Acral angiokeratoma-like pseudolymphoma (APACHE syndrome) – red papules *JAAD S209–211, 2001; BJD 124:387–388, 1991*

Ataxia–telangiectasia – granuloma *Clin Exp Dermatol 18:458–461, 1993*

Basaloid follicular hamartoma syndrome – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 43:189–206, 2000*

Behçet's disease *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

Blau or Jabs syndrome (familial juvenile systemic granulomatosis) – translucent skin-colored papules of trunk and extremities with uveitis, synovitis, arthritis; polyarteritis, multiple synovial cysts; red papular rash in early childhood; autosomal dominant; resembles childhood sarcoid – red papules; chromosome 16p12–q21 *JAAD 49:299–302, 2003; Am J Hum Genet 76:217–221, 1998; Am J Hum Genet 59:1097–1107, 1996; Clin Exp Dermatol 21:445–448, 1996*

Congenital self-healing reticulohistiocytosis *AD 134:625–630, 1998*

Cowden's syndrome – tumor of follicular infundibulum – single or multiple – associated with Cowden's, nevus sebaceus *JAAD 33:979–84, 1995;* angiomas *Rook p.2711, 1998, Sixth Edition*

Eruptive familial lingual papillitis *Ped Derm 14:13–16, 1997*

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Goltz's syndrome – raspberry papillomas *J Med Genet 27:180–187, 1990*

Hepatocutaneous syndrome

Hereditary progressive mucinous histiocytosis *JAAD 35:298–303, 1996; AD 124:1225–1229, 1988*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease)

Hereditary progressive mucinous histiocytosis – autosomal dominant; skin-colored or red–brown papules; nose, hands, forearms, thighs *JAAD 35:298–303, 1996; AD 130:1300–1304, 1994*

Hypereosinophilic syndrome – red papulonodules *BJD 144:639, 2001; AD 132:583–585, 1996; Med Clin (Barc) 106:304–306, 1996; Blood 83:2759–2779, 1994; AD 114:531–535, 1978; Medicine 54:1–27, 1975*

Hyper-IgD syndrome – autosomal recessive; red macules or papules, urticaria, red nodules, urticaria, combinations of periodic fever, arthritis, arthralgias, and rash, annular erythema, and pustules, abdominal pain with vomiting and diarrhea, lymphadenopathy; elevated IgD and IgA – mevalonate kinase deficiency *Ped Derm 22:138–141, 2005; AD 136:1487–1494, 2000; AD 130:59–65, 1994; Medicine 73:133–144, 1994; Lancet 1:1084–1090, 1984*

Infantile systemic hyalinosis *Am J Med Genet 100:122–129, 2001*

Multicentric reticulohistiocytosis

POEMS syndrome – glomeruloid hemangioma *JAAD 37:887–920, 1997*

Reiter's syndrome

REM (reticular erythematous mucinosis) syndrome *JAAD 27:825–828, 1992; Ped Derm 7:1–10, 1990; Z Hautkr 63:986–998, 1988* (*German*); *JAAD 19:859–868, 1988; AD 115:1340–1342, 1979; BJD 91:191–199, 1974; Z Hautkr 49:235–238, 1974*

Rosai–Dorfman disease *BJD 148:1060–1061, 2003*

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Self-healing infantile familial cutaneous mucinosis *Ped Derm 14:460–462, 1997*

Sweet's syndrome – red papules of knees associated with human granulocytic anaplasmosis *AD 141:887–889, 2005*

Torre's syndrome

## TOXINS

Eosinophilia myalgia syndrome (L-tryptophan related) – morphea, urticaria, papular lesions; arthralgia *BJD 127:138–146, 1992; Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990*

## TRAUMA

Chilblains

Chondrodermatitis nodularis chronicus helicis

Cold panniculitis

Granuloma fissuratum

Mastectomy – granulomatous nodules after mastectomy for breast carcinoma *BJD 146:891–894, 2002*

Radiation therapy – eosinophilic polymorphic and pruritic eruption associated with radiotherapy (EPPER) – bullae, red papules, pruritic *AD 137:821–822, 2001;* violaceous or red papules – post-radiation angiosarcoma

Scar

## VASCULAR LESIONS

Acral arteriovenous hemangioma *Dermatologica 113:129–141, 1956*

Angiofibroma

Angiokeratoma circumscriptum *AD 117:138–139, 1981*

Angiokeratoma of Fordyce

Angiokeratoma of Mibelli – autosomal dominant; associated with chilblains; on dorsum of fingers, toes, hands, feet *AD 106:726–728, 1972*

Angiokeratoma, solitary papular – occur after trauma in adult life – red to blue–black; may rapidly enlarge or bleed and simulate melanoma *AD 117:138–139, 1981; AD 95:166–175, 1967;* strawberry glans penis due to multiple angiokeratomas *BJD 142:1256–1257, 2000*

1)Circumscriptum- usually present at birth; may be part of Klippel-Trenaunay-Weber syndrome, mixed vascular malformations, or Cobb's syndrome

2) Mibelli – autosomal dominant; associated with acrocyanosis and chilblains; develop at age 10–15

3) Acquired – solitary papule

4) Angiokeratoma of scrotum (Fodyce)

5) Angiokeratoma corporis diffusum (Fabry's disease) *AD Syphilol 64:301–308, 1951*

Angioma – proliferating hemangioma, cherry angioma (Campbell de Morgan spots) *Rook p.2092, 1998, Sixth Edition*

Angiomas, eruptive – treatment with cyclosporine in a patient with psoriasis *AD 134:1487–1488, 1998*

Angioma serpiginosum

Angiopericytomatosis (angiomatosis with cryoproteins) – painful red papules and ulcerated plaques acrally; necrotic plaques *JAAD 49:887–896, 2003*

Angiosarcoma – lymphedematous leg *BJD 138:692–694, 1998;* radiation-induced – papulonodules *JAAD 38:143–175, 1998*

Aortic angiosarcoma with cutaneous metastases *JAAD 43:930–933, 2000*

Arteriovenous hemangioma (cirsoid aneurysm or acral arterivenous tumor) – associated with chronic liver disease *BJD 144:604–609, 2001*

Benign (reactive) angioendotheliomatosis (benign lymphangioendothelioma, acquired progressive lymphangioma, multifocal lymphangioendotheliomatosis) – present at birth; red brown or violaceous nodules or plaques on face, arms, legs with petechiae, ecchymoses, and small areas of necrosis *AD 140:599–606, 2004; JAAD 38:143–175, 1998; AD 114:1512, 1978*

Benign lymphangiomatous papules of the skin *JAAD 52:912–913, 2005*

Churg–Strauss disease – red macules and papules *JAAD 47:209–216, 2002*

Degos' disease (malignant atrophic papulosis) *BJD 100:21–36, 1979; Ann DV 79:410–417, 1954*

Disseminated (diffuse) neonatal hemangiomatosis *Ped Derm 21:469–472, 2004; Ped Derm 14:383–386, 1997*

Eosinophilic vasculitis *AD 130:1159–1166, 1994*; in connective tissue diseases *JAAD 35:173–182, 1996;* cutaneous necrotizing eosinophilic vasculitis *AD 130:1159–66, 1994*

Epithelioid hemangioma *AD 137:365–370, 2001; JAAD 35:851–853, 1996*

Eruptive pseudoangiomatosis – 1.5-mm regular red vascular blanchable papules of face; probably a viral exanthem *Ped Derm 19:243–245, 2002; BJD 143:435–438, 2000*

Glomeruloid hemangioma – vascular papule in POEMS syndrome *JAAD 49:887–896, 2003; Am J Med 97:543–553, 1994*

Glomus tumor

Hemolymphangioma – red papules of tongue *JAAD 52:1088–1090, 2005*

Intravascular papillary endothelial hyperplasia – pseudo-Kaposi's sarcoma – red or purple papules and nodules of the legs *JAAD 10:110–113, 1984*

Kaposiform hemangioendothelioma *JAAD 38:799–802, 1998*

Lymphangiosarcoma (Stewart–Treves tumor) – red papules in lymphedematous extremity *Arch Surg 94:223–230, 1967; Cancer 1:64–81, 1948*

Lymphohemangioma

Microvenular hemangioma *AD 131:483–488, 1995*

Multifocal lymphangioendotheliomatosis – congenital appearance of hundreds of flat vascular papules and and plaques associated with gastrointestinal bleeding, thrombocytopenia with bone and joint involvement; spontaneous resolution *J Pediatr Orthop 24:87–91, 2004*

Multinucleate cell angiohistiocytoma – grouped violaceous or red papules on extremities of women *Cutis 63:145–148, 1999; BJD 113 (Suppl29):15, 1985*

Non-involuting congenital hemangioma – round to ovoid pink to purple papule or plaque with central or peripheral pallor, coarse telangiectasias *JAAD 50:875–882, 2004*

Polyarteritis nodosa, including cutaneous polyarteritis nodosa

Pyogenic granuloma

Spider telangiectasia

Targetoid hemosiderotic hemangioma – violaceous papule surrounded by pale brown halo *AD 136:1571–1572, 2000; J Cutan Pathol 26:279–286, 1999; JAAD 41:215–224, 1999; JAAD 32:282–284, 1995*

Tufted angioma – deep red papule, plaque, or nodule of back or neck *JAAD 52:616–622, 2005; Ped Derm 19:394–401, 2002; JAAD 20:214–225, 1989*

Vascular malformations

Vasculitis, including leukocytoclastic vasculitis, urticarial vasculitis

Virus-associated hemosiderotic hemangioma

Wegener's granulomatosis *Rook p.2219, 1998, Sixth Edition*

# PAPULES, SKIN-COLORED

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Acantholytic acanthomas in immunosuppressed patients *JAAD 27:452–453, 1992*

Bowel-associated dermatosis–arthritis syndrome *JAAD 14:792–796, 1986*

Lupus erythematosus – papulonodular dermal mucinosis *AD 140:121–126, 2004; Int J Derm 35:72–73, 1996; JAAD 32:199–205, 1995; JAAD 27:312–315, 1992; AD 114:432–435, 1978*

Rheumatoid papules *JAAD 28:405–411 1993*

## CONGENITAL LESIONS

Bronchogenic cyst with papilloma *JAAD 11:367–371, 1984*

Congenital rhabdomyomatous mesenchymal hamartoma

Wattle (cutaneous cervical tag) *AD 121:22–23, 1985*

## DRUG-INDUCED

BCG vaccine – granulomas *JAAD 21:1119–1122, 1989*

## EXOGENOUS AGENTS

Bovine collagen implant *J Derm Surg Oncol 9:377–380, 1983*

Foreign body granuloma

## INFECTIONS AND INFESTATIONS

Brucellosis *AD 125:380–383, 1989*

Cat scratch disease, inoculation papule *Ped Derm 5:1–9, 1988;* multiple leg papules *Cutis 49:318–320, 1992*

*Cheyletiella* dermatitis *JAAD 15:1130–1133, 1986*

Coccidioidomycosis *JAAD 26:79–85, 1992*

*Corynebacterium* group JK sepsis *JAAD 16:444–447, 1987*

Cowpox *JAAD 44:1–14, 2001*

Cytomegalovirus infection, generalized *JAAD 24:346–352,1991*

*Demodex folliculorum* – papulonodular demodicidosis in AIDS *JAAD 20:197–201, 1989*

*Fusarium* – papulovesicular *Ped Derm 962–965, 1992*

HIV exanthem *AD 125:629–632, 1989*

HTLV-1 *JAAD 24:633–637,1991*

Infectious eccrine hidradenitis *JAAD 22:1119–1120, 1990*

Insect bite granuloma

Leishmaniasis – localized cutaneous leishmaniasis *JAAD 34:257–272, 1996*

Localized cutaneous leishmaniasis *JAAD 34:257–72, 1996*

Meningococcemia *Ped Derm 3:414–416, 1986*

Milker's nodule – papilloma *JAAD 44:1–14, 2001*

Molluscum contagiosum

Monkeypox *JAAD 44:1–14, 2001*

*Mycobacterium kansasii JAAD 40:359–363, 1999*

Mycobacterium tuberculosis – miliary tuberculosis – papulovesicles *JAAD 23:1031–1035, 1990;* papulonecrotic tuberculid *JAAD 14:815–826, 1986*

Myiasis

Orf – papilloma *JAAD 44:1–14, 2001*

Pinta *AD 135:685–688, 1999*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

Smallpox *JAAD 44:1–14, 2001*

Soil nematode, *Peloderma strongyloides Ped Derm 2:33–37, 1985*

Sparganosis – ingestion sparganosis; *Sparganum proliferum* – subcutaneous nodules and pruritic papules *Am J Trop Med Hyg 30:625–637, 1981*

Sporotrichosis, fixed cutaneous *JAAD 12:1007–1012, 1985*

Toxoplasmosis in AIDS *AD 124:1446–1447, 1988*

Verruca vulgaris

## INFILTRATIVE DISEASES

Benign cephalic histiocytosis

Cutaneous focal mucinosis *AD 93:13–20, 1966*

Cutaneous mucinosis of infancy – grouped skin–colored papules – resembles connective tissue nevus *BJD 144:590–593, 2001; Ped Derm 18:159–161, 2001; AD 116:198–200, 1980*

Disseminated xanthosiderohistiocytosis *JAAD 11:750–755, 1984*

Hereditary progressive mucinous histiocytosis *AD 124:1225–1229, 1988*

Langerhans cell histiocytosis including Letterer–Siwe disease and xanthoma disseminatum *JAAD 25:433–436, 1991; JAAD 18:646–654, 1988*

Lichen myxedematosus *JAAD 14:878–888, 1986*

Non-X histiocytosis *JAAD 31:322–326, 1994*

Papular mucinosis *Cutis 55:174–176, 1995; AD 125:985–990, 1989*

Self-healing juvenile cutaneous mucinosis

## INFLAMMATORY DISEASES

Interstitial granulomatous dermatitis (palisaded neutrophilic granulomatous dermatitis) – annular plaques, skin-colored papules, linear erythematous cords, urticarial lesions *JAAD 51:S105–107, 2004; JAAD 47:251–257, 2002*

Neutrophilic eccrine hidradenitis *J Dermatol 22:137–142, 1995; AD 126:527–532, 1990*

Sarcoid – lichen nitidus-like papules *AD 127:1049–1–54, 1991;* Darier–Roussy sarcoid

## METABOLIC

Calcinosis cutis – idiopathic *Rook p.2665, 1998, Sixth Edition;* papular or nodular calcinosis cutis secondary to heel sticks *Ped Derm 18:138–140, 2001*; cutaneous calculus *BJD 75:1–11, 1963;* extravasation of calcium carbonate solution; metastatic calcification *JAAD 33:693–706, 1995; Cutis 32:463–465, 1983*

Cutis anserina

Miliaria profunda – pale papules 1–3-mm *JAAD 35:854–856, 1996*

Papular dermatitis of pregnancy *JAAD 22:690–691, 1990*

Papular xanthoma *JAAD 22:1052–156,1990, AD 121:626–631, 1985*

X-linked infantile hypogammaglobulinemia (caseating granulomas) *JAAD 24:629–633, 1991*

## NEOPLASTIC

Apocrine nevi – chest papules

Basal cell carcinoma – palmar *JAAD 33:823–824, 1995;* perianal *Clin Exp Dermatol 17:360–362, 1992*

Basaloid follicular hamartoma – solitary papule or generalized papules with alopecia and myasthenia gravis *BJD 146:1068–1070, 2002*

Clear cell acanthoma *AD 129:1505–1510, 1993*

Collagenoma (connective tissue nevus) – eruptive, familial cutaneous

Desmoplastic trichoepithelioma *AD 138:1091–1096, 2002; AD 132:1239–1240, 1996; Cancer 40:2979–2986, 1977*

Eccrine nevus – skin-colored perianal papule *AD 141:515–520, 2005*

Epidermal inclusion cyst

Eruptive hidradenoma *Cutis 46:69–72, 1990*

Eruptive infundibulomas – chest *JAAD 21:361–366, 1989*

Eruptive vellus hair cysts *AD 120:1191–1195, 1984*

Extramammary Paget's disease, perianal – resembles basal cell carcinoma *Clin Exp Dermatol 17:360–362, 1992*

Extramedullary hematopoiesis in acute myelofibrosis *AD 124:329–330, 1988*

Generalized eruptive histiocytoma – hundreds of skin-colored, brown, blue–red papules; resolve with macular pigmentation; face, trunk, proximal extremities *JAAD 31:322–326, 1994; JAAD 20:958–964, 1989; JAAD 17:499–454, 1987*; *AD 117:216–221, 1981; AD 116:565–567, 1980; AD 96:11–17, 1967*

Giant folliculosebaceous cystic hamartoma – skin-colored exophytic papules *AD 141:1035–1040, 2005; Am J Dermatopathol 13:213–220, 1991*

Infantile choriocarcinoma *JAAD 14:918–927, 1986*

Juvenile xanthogranuloma *JAAD 14:405–411, 1986*

Kaposi's sarcoma in AIDS *JAAD 22:1237–1250, 1990*

Leukemia cutis – acute myelomonocytic leukemia *AD 126:653–656, 1990*

Lymphoma – generalized papular xanthomatosis in cutaneous T-cell lymphoma *JAAD 26:828–832, 1992*

Lymphomatoid granulomatosis *AD 127:1693–8, 1991*

Melanocytic nevus

Meningioma

Metastases – metastatic lung carcinoma – papule within a scar *JAAD 36:117–118, 1997*

Multiple cutaneous reticulohistiocytomas, including self-healing reticulohistiocytosis *JAAD 25:948–951, 1992*

Neurilemmomas

Neuroma, traumatic

Nevus elasticus

Osteoma cutis *JAAD 24:878–881, 1991*

Poroma – papilloma, especially of scalp *JAAD 44:48–52, 2001*

Progressive osseous heteroplasia – infants *JAAD 33:693–706, 1995*

Pilomatrixoma

Pinkus tumor – skin-colored, pink, or brown; sessile or pedunculated *Cutis 54:85–92, 1994*

Sclerotic fibromas *JAAD 20:266–271, 1989*

Sinus histiocytosis with massive lymphadenopathy *JAAD 13:383–404, 1985*

Skin tag lesions in epidermal nevi *JAAD 20:476–488, 1989*

Smooth muscle hamartoma – skin-colored papules *Ped Derm 18:17–20, 2001*

Spitz nevus

Steatocystoma multiplex

Superficial pigmented trichoblastoma arising in a nevus sebaceous *JAAD 42:263–268, 2000*

Syringomas, including eruptive syringoma *AD 125:1119–1120, 1989*

Syringocystadenoma papilliferum

Trichilemmal carcinoma *Dermatol Surg 28:284–286, 2002*

Trichoepithelioma, single or multiple

Urticaria pigmentosa

Waldenström's macroglobulinemia – skin-colored translucent papule – IgM storage lesion *BJD 135:287–291, 1996*

## PHOTODERMATOSES

Papular phytophotodermatitis – weed wacker dermatitis *AD 127:1419–1420, 1991*

## PRIMARY CUTANEOUS DISEASES

Atrichia with papular lesions *AD 122:565–567, 1986*

Epidermolysis bullosa dystrophica et albopapuloidea (Pasini) *JAAD 16:891–893, 1987*

Fox–Fordyce disease *Rook p.2002, 1998, Sixth Edition*

Frictional lichenoid dermatitis of childhood *AD 130:105–110, 1994*

Generalized perforating granuloma annulare *JAAD 27:319–322, 1992*

Hyperkeratosis lenticularis perstans (Flegel's disease) *JAAD 27:812–816, 1992*

Kikuchi's disease – histiocytic necrotizing lymphadenitis *JAAD 30:504–506, 1994*

Lichen nitidus

Papular elastorrhexis *Dermatology 205:198–200, 2002; Clin Exp Dermatol 27:454–457, 2002; JAAD 19:409–414, 1988; AD 123:433–434, 1987*

Perianal pyramidal protrusion – manifestation of lichen sclerosus et atrophicus *AD 134:1118–1120, 1998*

Waxy keratoses of childhood *Ped Derm 18:415–416, 2001*

White fibrous papulosis of the neck *JAAD 20:1073–1077, 1989*

## SYNDROMES

Basaloid follicular hamartoma syndrome – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 43:189–206, 2000*

Beare–Stevenson syndrome – skin tags, cutis gyrata (furrowed skin), corrugated forehead, acanthosis nigricans, macular hyperpigmentation of antecubital and popliteal fossae, hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and umbilical herniation *Ped Derm 20:358–360, 2003*

Blau syndrome (familial juvenile systemic granulomatosis) – translucent skin-colored papules of trunk and extremities with uveitis, synovitis, arthritis *Clin Exp Dermatol 21:445–448, 1996*

Brown–Crounse syndrome – 1–2-mm papules, plaques, and nodules, diffuse hypotrichosis resembling alopecia areata, basaloid follicular hamartomas, trichoepitheliomas, myasthenia gravis *AD 99:478–493, 1969*

Buschke–Ollendorf syndrome (dermatofibrosis lenticularis disseminata) – disseminated connective tissue nevi

Carney complex (NAME/LAMB) – myxomas

Familial hemophagocytic lymphohistiocytosis – macules and papules with fever *Textbook of Neonatal Dermatology, p.438, 2001*

Gardner's syndrome – pilomatrixomas *Ped Derm 12:331–335, 1995*

Giant lymph node hyperplasia (Castleman's syndrome) *JAAD 26:105–109, 1992*

Granulomatous synovitis, uveitis and cranial neuropathies – JABS syndrome

Hereditary progressive mucinous histiocytosis *AD 124:1225–1229, 1988*

Hunter's syndrome (mucopolysaccharidosis IIb) – X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; linear and reticulated 2–10-mm skin-colored papules over and between scapulae, chest, neck, arms; also posterior axillary lines, upper arms, forearms, chest, outer thighs; rough thickened skin, coarse scalp hair, and hirsutism; short stature, full lips, coarse facies with frontal bossing, hypertelorism, and thick tongue (macroglossia); dysostosis multiplex; hunched shoulders and characteristic posturing; widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias hepatosplenomegaly; upper and lower respiratory infections due to laryngeal or tracheal stenosis; mental retardation; deafness; retinal degeneration and corneal clouding; umbilical and inguinal hernias; valvular and ischemic heart disease with thickened heart valves lead to congestive heart failure; clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus; adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea *Ped Derm 21:679–681, 2004; Clin Exp Dermatol 24:179–182, 1999; Ped Derm 7:150–152, 1990*

Hurler–Scheie syndrome – deficient α-L-iduronidase *JAAD 35:868–870, 1996*

Infantile systemic hyalinosis – pearly papules *Ped Derm 11:52–60, 1994*; *Ped Derm 9:255–258, 1992*

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, flexion contractures of large and small joints; small papules of trunk, chin, ears, around nose *Ped Derm 18:400–402, 2001; Textbook of Neonatal Dermatology, p.395, 2001; JAAD 16:881–883, 1987*

Mucolipidoses (pseudo-Hurler polydystrophy) – connective tissue nevus *BJD 130:528–533, 1994*

Multicentric reticulohistiocytosis

Multiple endocrine neoplasia syndrome (MEN I) – collagenomas *AD 133:853–857, 1997*

Multiple endocrine neoplasia syndrome (MEN II) – conjunctival papules *AD 139:1647–1652, 2003*

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency; papular lesions *BJD 131:895–897, 1994*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus and a popular speckled lentiginous nevus *Skin and Allergy News, page 34, Sept 2000*

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – generalized histiocytomas; osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism *JAAD 21:1061–1068, 1989*, *Cutis 61:329–334, 1998*

Progressive nodular histiocytosis *AD 114:1505–1508, 1978*

Proteus syndrome – lipomas, connective tissue nevi, lymphatic malformations *AD 140:947–953, 2004; AD 125:1109–1114, 1989*

Raspberry-like papillomas on lips, perineum, fingers, toes, buccal mucosa and esophagus *Cutis 53:309–312, 1994*

Reflex sympathetic dystrophy *AD 127:1541–1544, 1991*

Rombo syndrome – papules and cysts of the face and trunk, basal cell carcinomas, vermiculate atrophoderma, milia, hypotrichosis, trichoepitheliomas, peripheral vasodilatation with cyanosis *JAAD 39:853–857, 1998; Acta DV 61:497–503, 1981*

Tuberous sclerosis – collagenomas

### TRAUMA

Dermabrasion with osteoma cutis *Rook p.2370, 1998, Sixth Edition*

Radiation therapy – keratotic miliaria following radiotherapy *AD 124:855–856, 1988*

Scar

### TOXINS

Acute dioxin exposure *JAAD 19:812–819, 1989*

Toxic oil syndrome – cutaneous mucinosis *JAAD 16:139–140, 1987*

### VASCULAR

Takayasu's arteritis – chest papules *AD 123:796–800, 1987*

Vascular malformation with underlying disappearing bone (Gorham–Stout disease) – skin-colored papulovesicles along a vein of the thigh; dilated veins of foot *JAMA 289:1479–1480, 2003*

Wegener's granulomatosis (necrotic or non-necrotic) *AD 130:861–867, 1994; JAAD 28:710–718, 1993*

## PAPULOSQUAMOUS ERUPTIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Amicrobial pustulosis associated with autoimmune disease treated with zinc *BJD 143:1306–1310, 2000*

Graft vs. host disease, chronic *JAAD 38:369–392, 1998;* annular scaly papules of epithelioid granulomas *BJD 149:898–899, 2003*

Lupus erythematosus – systemic *BJD 135:355–362, 1996;* annular, discoid, neonatal, psoriasiform; subacute cutaneous lupus erythematosus *AD 141:911–912, 2005; Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988*

### DRUG-INDUCED DISEASES

Anti-seizure medications – cutaneous T-cell lymphoma-like drug rash to phenytoin or carbamazepine *JAAD 24:216–220, 1991; AD 121:1181–1182, 1985*

Beta blocker-induced psoriasiform eruption *Int J Dermatol 27:619–627, 1988*

Drug eruptions

Lupus erythematosus – subacute cutaneous LE – annular scaly lesions in a photodistribution including the legs – terbinafine, thiazides, piroxicam, D-penicillamine, sulfonylureas, procainamide, oxyprenelol, chrysotherapy, griseofulvin, naproxen, spironolactone, diltiazem, cinnarizine, captopril, cilazapril, verapamil, nifedipine, interferon-β, ranitidine *JAAD 44:925–931, 2001; Ann Intern Med 103:49–51, 1985*; tiotropium bromide *AD 141:911–912, 2005*

### EXOGENOUS AGENTS

Mudi-chood – due to oils applied to hair; papulosquamous eruption of nape of neck and upper back; begin as follicular pustules then brown–black papules with keratinous rim *Int J Dermatol 31:396–397, 1992*

### INFECTIONS AND INFESTATIONS

Bejel – secondary *Rook p.1256–1257, 1998, Sixth Edition*

Candidiasis

Epidermodysplasia verruciformis

Erythrasma – red to brown irregularly shaped and sharply marginated scaly patches of groin, axillae, intergluteal, submammary flexures, toe webs *Rev Infect Dis 4:1220–1235, 1982*

Hepatitis C infection – necrolytic acral erythema; red to hyperpigmented psoriasiform plaques with variable scale or erosions *JAAD 53:247–251, 2005; Int J Derm 35:252–256, 1996*

Histoplasmosis, disseminated

HIV-1 infection *JAAD 28:167–173, 1993*

Lepromatous leprosy – brown hyperkeratotic plaques *AD 125:1569–1574, 1989;* pityriasis rosea-like *JAAD 15:204–208, 1986;* borderline tuberculoid leprosy; *Rook p.1226,1232, 1998, Sixth Edition*

Parvovirus B19 – subacute cutaneous lupus-like annular scaling erythematous rash *Hum Pathol 31:488–497, 2000*

Pinta – generalized cutaneous phase – erythematosquamous eruption *Rook p.1274, 1998, Sixth Edition;* tertiary *Cutis 51:425–430, 1993*

*Prototheca wickerhamii Am J Clin Path 77:485–493, 1982*

Rubella congenital *Ghatan p.107, 2002, Second Edition*

Scabies – crusted

Syphilis – congenital *Rook p.1254, 1998, Sixth Edition;* secondary – morbilliform or papular (copper red) *Rook p.1246–1247, 1998, Sixth Edition; J Clin Inf Dis 21:1361–1371, 1995*; syphilis brephotrophica (not sexually transmitted) *JAAD 38:638–639, 1998*

Tinea corporis – *Trichophyton rubrum*, *T. megninii*, *Epidermophyton floccosum Rook p.1302, 1998, Sixth Edition; Trichophyton verrucosum* – extensive annular lesions of trunk and neck *AD 94:35–37, 1966*

Tinea versicolor *Semin Dermatol 4:173–184, 1985*

Toxoplasmosis – pityriasis lichenoides-like eruption *Rook p.1422, 1998, Sixth Edition*

Viral exanthem

Yaws

### INFILTRATIVE DISEASES

Langerhans cell histiocytosis

### INFLAMMATORY DISEASES

Sarcoidosis

### METABOLIC DISEASES

Biotinidase deficiency

Hereditary LDH M-subunit deficiency *AD 122:1420–1424, 1986*

Kwashiorkor *AD 140:521–524, 2004*

### NEOPLASTIC DISEASES

Inflamed actinic keratoses due to systemic fluorouracil *AD 130:1193, 1994*

Kaposi's sarcoma *JAAD 28:371–395, 1993*

Lymphoma – adult T-cell lymphoma/leukemia *JAAD 46:S137–141, 2002;* CTCL; pityriasis lichenoides chronica-like lesions in CTCL *BJD 142:347–352, 2000*

### PARANEOPLASTIC DISEASES

Bazex syndrome *Cutis 49:265–268, 1992*

Paraneoplastic pemphigus *JAAD 27:547–553, 1992;* lichenoid dermatitis *AD 136:652–656, 2000*

### PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *JAAD 21:461–469, 1989*

Asteatotic dermatitis

Atopic dermatitis

Axillary granular parakeratosis *JAAD 24:541–544, 1991*

Confluent and reticulated papillomatosis

Digitate dermatosis

Erythema annulare centrifugum

Erythrokeratoderma variabilis *AD 101:68–73, 1970*

Ichthyosis

Keratosis follicularis squamosa of Dohi – scaly 3–10-mm patches symmetrical on trunk and thighs with central brown follicular plugs; margins slightly detached *BJD 150:603–605, 2004; Jpn J Dermatol 3:513–514, 1903*

Keratosis lichenoides chronica *JAAD 28:870–873, 1993*

Lichen nitidus

Lichen planus

Malignant disseminated porokeratosis *AD 123:1521–1526, 1987*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004; Int J Derm 35:252–256, 1996*

Papuloerythroderma of Ofuji

Parapsoriasis – digitate dermatosis, poikiloderma vasculare atrophicans; parapsoriasis en plaque

Pityriasis lichenoides chronica *The Clinical Management of Itching; Parthenon; p.137, 2000; Caputo p.20, 2000; Rook p.1608, 2222, 1998, Sixth Edition; BJD 129:353–354, 1993; AD 119:378–380, 1983; AD Syphilol 50:359–374, 1899*

Pityriasis lichenoides et varioliformis acuta *The Clinical Management of Itching; Parthenon; p.137, 2000*

Pityriasis rosea *JAAD 15:159–167, 1986*

Pityriasis rubra pilaris *JAAD 20:801–807, 1989*

Progressive symmetric erythrokeratoderma *Dermatologica 164:133–141, 1982*

Psoriasis

Seborrheic dermatitis, including AIDS-associated seborrheic dermatitis *BJD 111:603–607, 1984*

Vitiligo – serpiginous papulosquamous variant of inflammatory vitiligo *Dermatology 200:270–274, 2000*

### SYNDROMES

Epidermodysplasia verruciformis – pityriasis rosea-like appearance *BJD 145:669–670, 2001;* multiple lichenoid papules *AD 138:649–654, 2002*

Glucagonoma syndrome

Papillon–Lefevre syndrome – psoriasiform plaques of elbows *Ped Derm 6:222–225, 1989*

Reiter's disease

## PAPULOVESICULAR DERMATITIS IN INFANTS

Absent dermatoglyphics and transient facial milia (vesicles) *JAAD 32:315–318, 1995*

Behçet's disease, neonatal

Congenital candidiasis

Congenital self-healing Langerhans cell histiocytosis *JAAD 31:910–6, 1994*

Eosinophilic pustular folliculitis

Erythema toxicum neonatorum

Herpes simplex infection

Infantile acropustulosis

Incontinentia pigmenti

*Listeria monocytogenes* infection, perinatal

Miliaria

Transient neonatal pustular melanosis

## PARANEOPLASTIC DERMATOSES

***Am J Med 99:662–671, 1995; JAAD 28:147–64, 1993***

Acanthosis nigricans, malignant *JAAD 25:361–365, 1991;* lips and/or palatal cobblestoning *AD 130:649–654, 1994*

Acanthosis palmaris (tripe palms) *J Clin Oncol 7:669–678, 1989; JAAD 16:217–219, 1987*

Acquired ichthyosis

Paraneoplastic acral vascular syndrome – acral cyanosis and gangrene *JAAD 47:47–52, 2002; AD 138:1296–1298, 2002; Br Med J iii:208–212, 1967;* Robboy's acral cyanosis – associated with gastric adenocarcinoma *Rev Esp Enferm Apar Dig 74:562–564, 1988;* myeloproliferative diseases – chronic myelogenous leukemia with leukostasis; *Bolognia p.1947, 2003; AD 123:921–924, 1987*

Acrochordons

Alopecia – brain tumors of mid-brain and brainstem *Arch Dermatol Syphilol 176:196–199, 1937*

Amyloidosis, primary systemic

Angioedema – chronic lymphocytic leukemia *Ghatan p.122, 2002, Second Edition;* acute lymphoblastic leukemia with eosinophilia *Ped Derm 20:502–505, 2003;* myeloma *Ghatan Second Edition*

Angiomas, eruptive

Annular erythema, paraneoplastic – perigenital dermatitis

Arsenic – dyschromatosis with diffuse pigmentation, especially of trunk; with depigmentation yielding rain-drop appearance *Rook p.1785, 1998, Sixth Edition*

Arthropod bite reactions, exaggerated – associated with chronic lymphocytic leukemia *Bolognia p.1947, 2003*

Bazex syndrome (acrokeratosis paraneoplastica) – dermatitis of hands, feet, nose, ears *JAAD 40:822–825, 1999; J Laryg Otol 110:899–900, 1996*; *Bull Soc Fr Dermatol Syphilol 72:182, 1965*

Birt–Hogg–Dube syndrome

Bloom's syndrome

Bowen's disease

Bullous pemphigoid

Bullous pyoderma gangrenosum

Cachectic state associated with neoplasms *Rook p.1781, 1998, Sixth Edition*

Carcinoid syndrome – blue cyanotic nose and face *Acta DV (Stockh) 41:264–276, 1961;* appendix, ileum, ovary, bronchus

Clubbing

Coagulopathies

Cowden's syndrome

Cronkhite–Canada syndrome

Cryoglubulinema

Cushing's syndrome

Cutis laxa – acquired cutis laxa *Bolognia p.1528, 2003*

Cutis verticis gyrata *AD 125:434–435, 1989*

Cytophagic histiocytic panniculitis – associated with malignant histiocytic syndromes *AD 121:910–913, 1985*

Deep venous thrombosis

Dermatitis – adult-onset recalcitrant eczema – marker of non-cutaneous lymphoma or leukemia *JAAD 43:207–210, 2000*

Dermatitis herpetiformis

Dermatomyositis

Digital ischemia *Br Med J iii:208–212, 1967*

Dyschromatosis – arsenic – diffuse pigmentation, especially of trunk; with depigmentation yielding rain-drop appearance *Rook p.1785, 1998, Sixth Edition*

Dyskeratosis congenita

Ectopic adrenocorticotropic hormone syndrome – adenocarcinoma of the lung *Arch Int Med 142:1387–1389, 1982;* soft palate hyperpigmentation *Oral Surg 41:726–733, 1976*

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Epidermolysis bullosa acquisita

Erythema annulare centrifugum

Erythema elevatum diutinum – associated with hairy cell leukemia, chronic lymphocytic leukemia *Bolognia p.1947, 2003*

Erythema gyratum repens – seen with malignancy, benign breast hypertrophy, CREST syndrome, ichthyosis, palmoplantar hyperkeratosis *Rook p.2090, 1998, Sixth Edition; AD 111:227–229, 1975*

Erythema multiforme

Erythema nodosum associated with acute myelogenous leukemia, chronic myelogenous leukemia, chronic myelomonocytic leukemia *Bolognia p.1947, 2003*

Erythrodermas – esophageal carcinoma *JAAD 13:311, 1985;* Fallopian tube carcinoma *Obstet Gynecol 71:1045–1047, 1988;* gastric carcinoma *Am J Gastroenterol 79:921–923, 1984;* lymphoma – Hodgkin's disease *JAAD 49:772–773, 2003;* others

Erythromelalgia

Extramammary Paget's disease

Fanconi's anema

Florid cutaneous papillomatosis – related to acanthosis nigricans and sign of Leser–Trelat *Rook p.2713, 1998*

Folliculitis – sterile suppurative folliculitis associated with acute myelogenous leukemia *BJD 146:904–907, 2002*

Gardner's syndrome

Generalized eruptive histiocytosis associated with acute myelogenous leukemia *JAAD 49:S233–236, 2003*

Glucagonoma syndrome (necrolytic migratory erythema) *JAAD 24:473–477, 1991*

Granulomas annular scaly red and reticulated plaques due to cutaneous granulomas associated with systemic lymphoma *JAAD 51:600–605, 2004*

Hemochromatosis

Herpes zoster

Howel–Evans syndrome

Hyperhidrosis, generalized *Rook p.2718, 1998, Sixth Edition*

Hypertrichosis lanuginosa acquisita (malignant down) – in mild forms, confined to face – starts on nose and eyelids; lung, colon carcinomas most common; also breast, gall bladder, uterus, urinary bladder if accompanied by acanthosis nigricans, the malignancy is always an adenocarcinoma *Can Med Assoc 118:1090–1096, 1978*

Hypertrophic osteoarthropathy

Ichthyosis, acquired – multiple myeloma *AD Syphilol 72:506–522, 1955;* carcinoma of breast, lung, cervix *AD 111:1446–1447, 1975;* Kaposi's sarcoma *Dermatologica 147:348–351, 1973;* carcinoma of the breast, colon, lung, cervix, intestinal leiomyosarcoma *JAAD 40:862–865, 1999;* myeloma *JAAD 40:862–865, 1999*; leukemia *JAAD 40:862–865, 1999;* HTLV-1 (acute T-cell leukemia) (adult T-cell lymphoma/leukemia) *JAAD 49:979–1000, 2003; JAAD 46:S137–141, 2002;* lymphoma – Hodgkin's disease – ichthyosis vulgaris-like changes of legs or generalized (increased G-CSF levels) *JAAD 49:772–773, 2003; Rook p.2393, 1998, Sixth Edition; Br Med J 1:763–764, 1955;* non-Hodgkin's lymphoma, reticulolymphosarcoma, cutaneous T-cell lymphoma (CTCL) *JAAD 34:887–889, 1996;* B-cell lymphomas *JAAD 40:862–865, 1999;* $CD30^+$ cutaneous anaplastic large cell lymphoma *JAAD 42:914–920, 2000; Tumori 85:71–74, 1999;* metastatic male breast carcinoma – sclerodermoid ichthyosiform plaque of chest wall *AD 139:1497–1502, 2003;* polycythemia rubra vera *JAAD 40:862–865, 1999*; rhabdomyosarcoma *JAAD 40:862–865, 1999*; spindle cell sarcoma *JAAD 40:862–865, 1999*

Keratoacanthoma visceral carcinoma syndrome – cancers of the genitourinary tract *AD 139:1363–1368, 2003; AD 120:123–124, 1984*

Leser–Trelat – eruptive inflammatory seborrheic keratoses *JAAD 21:50–55, 1989*

Linear IgA with Hodgkins *JAAD 19:1122–4, 1988*

Lymphedema, unilateral

Muir–Torre syndrome

Multiple endocrine neoplasia syndrome type II

Multicentric reticulohistiocytosis

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997*

Neuroendocrine syndromes

Neutrophilic dermatosis in chronic myelogenous leukemia *JAAD 29:290–292, 1993*

Nevoid basal cell carcinoma syndrome

Neurofibromatosis

Normolipemic plane xanthomas

Palmar filiform hyperkeratosis *JAAD 33:337–340, 1995*

Panniculitis – paraneoplastic septal panniculitis associated with acute myelogenous leukemia *BJD 144:905–906, 2001;* neutrophilic panniculitis associated with myelodysplastic syndrome *JAAD 50:280–285, 2004;* pancreatic panniculitis

Paraneoplastic autoimmune multiorgan syndrome (paraneoplastic pemphigus) – arciform and polycyclic lesions *AD 137:193–206, 2001*

Paraneoplastic hyperkeratosis *JAAD 31:157–190, 1994*

Peutz–Jeghers syndrome

Peutz–Jeghers-like mucocutaneous pigmentation – associated with breast and gynecologic carcinomas in women *Medicine (Baltimore) 79:293–298, 2000*

Pityriasis rotunda *Cutis 58:406–408, 1996; AD 119:607–6098, 1983*

Polyarteritis nodosa – associated with hairy cell leukemia, and chronic myelomonocytic leukemia *Bolognia p.1947, 2003*

Porphyria cutanea tarda

Primary immune deficiency disorders

Pruritus

Punctate keratoderma *Lancet i:530–533, 1984*

Scleroderma *Br J Rheumatol 28:65–69, 1989*

Pemphigus vulgaris

Punctate PPK

Raynaud's phenomenon

Scleroderma, paraneoplastic

Scleromyxedema

Superficial migratory thrombophlebitis

Sweet's syndrome

Trousseau's sign (migratory thrombophlebitis) *Circulation 22:780, 1960*

Urticaria, chronic

Vasculitis – paraneoplastic vasculitis *J Rheumatol 18:721–727, 1991;* granulomatous vasculitis with lymphocytic lymphoma *JAAD 14:492–501, 1986*

Wells' syndrome – associated with lung cancer *BJD 145:678–679, 2001;* anal squamous cell carcinoma *Acta DV (Stockh) 66:213–219, 1986;* nasopharyngeal carcinoma *Ann DV 111:777–778, 1984*

Werner's syndrome

Xanthomas – diffuse plane xanthomatosis – flat yellow plaques of eyelids, neck, trunk, buttocks, flexures *AD 93:639–646, 1966*

Xerosis – generalized erythema craquele as a paraneoplastic phenomenon; lymphoma *BJD 97:323–326, 1977;* angioimmunoblastic lymphadenopathy *AD 115:370, 1979;* gastric carcinoma *BJD 109:277–278, 1983;* breast cancer *BJD 110:246, 1984*

# PARAPROTEINEMIAS, CUTANEOUS MANIFESTATIONS

***JAAD 20:206–11, 1989***

Amyloidosis

Angioedema (acquired inhibitor of complement deficiency)

Cryogobulinemia (purpura, cold urticiaria)

Erythema elevatum diutinum

Hyperviscosity

Necrobiotic xanthogranuloma with paraproteinemia

Neutrophilic pustulosis

Papular mucinosis

Plasmacytomas

POEMS syndrome

Purpura (hyperviscosety, paraproteinemia, microangiopathy)

Pyoderma gangrenosum

Schnitzler's syndrome

Sneddon–Wilkinson disease

Sweet's syndrome

Systemic capillary leak syndrome

Vasculitis

Vasculitis without cryoglobulins

Waldenström's hyperglobulinemic purpura

Xanthomatosis – normolipemic plane xanthomas

# PARONYCHIA

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – latex *J Eur Acad DV 14:504–506, 2000;* acrylic *Contact Dermatitis 44:117–119, 2001;* thymol *Cutis 43:531–532, 1989;* acrylic nails *Rook p.2867, 1998, Sixth Edition*

Antiepidermal growth factor receptor antibody C225 – acute paronychia *BJD 144:1169–1176, 2001*

Bullous pemphigoid

Chronic granulomatous disease *Ped Derm 21:646–651, 2004*

Chronic granulomatous paronychia – pseudomegadactyly *Dermatologica 169:86–87, 1984*

Chronic mucocutaneous candidiasis *Textbook of Neonatal Dermatology, p.511, 2001*

Dermatomyositis – periungual erythema, telangiectasia and ragged cuticles *Rook p.2558, 1998, Sixth Edition*

DiGeorge's syndrome *Textbook of Neonatal Dermatology, p.511, 2001*

Lupus erythematosus – systemic LE; discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigoid nodularis *BJD 142:575–577, 2000*

Pemphigus vulgaris *Clin Exp Dermatol 21:315–317, 1996; JAAD 29:494–496, 1993; AD 126:1374–1375, 1990*; hemorrhagic paronychia *JAAD 43:529–535, 2000*

Rheumatoid vasculitis – purpuric infarcts of paronychial areas (Bywater's lesions) *BJD 77:207–210, 1965*

Scleroderma *Rook p.2529, 1998, Sixth Edition*

## DRUGS

Acral dysesthesia syndrome *Cutis 52:43–44, 1993*

Capecitabine – pyogenic granuloma-like paronychial lesions *BJD 147:1270–1272, 2002*

Cetuximab (epidermal growth factor receptor antibody) *JAAD 47:632–633, 2002*

Docataxel – painful paronychia *Cutis 71:229–232, 2003; Australas J Dermatol 42:293–296, 2002; Dermatology 198:288–290, 1999*

Fixed drug eruption – acute paronychia *BJD 125:592–595, 1991*

Indinavir (protease inhibitors) – paronychia with or without pyogenic granulomas *JAAD 46:284–293, 2002; Clin Inf Dis 32:140–143, 2001; BJD 142:1063–1064, 2000;* indinavir/rotinavir combination *Ann Pharmacother 35:881–884, 2001*

Lamivudine *Lancet 351 (9111):1256, 1998*

Methotrexate *AD 119:623–624, 1983*

Retinoids, systemic – isotretinoin *JAAD 10:677–678, 1984;* acetretin

Zidovudine *JAAD 46:284–293, 2002; JAAD 40:322–324, 1999*

## EXOGENOUS AGENTS

Foods *JAAD 27:706–710, 1992*

Foreign body, hair – chronic paronychia *Int J Dermatol 14:661–663, 1975*

## INFECTIONS AND INFESTATIONS

Accidental inoculation – orf, leishmaniasis

Acute and chronic paronychia – *Staphylococcus aureus*, *Candida albicans*, *Pseudomonas aeruginosa*, *Serratia marcescens*, *Klebsiella pneumoniae*

*Bartonella henselae Lancet 350 (9084):1078, 1997*

*Candida* and/or *Pseudomonas* – chronic paronychia *Semin Dermatol 12:315–330, 1993;* acute paronychia *AD 129:786–787, 1993;* chronic mucocutaneous candidiasis *Clin Exp Dermatol 7:155–162, 1982;* congenital candidiasis *Textbook of Neonatal Dermatology, p.226, 2001*

Coliform organisms *Rook p.2835, 1998, Sixth Edition*

Cowpox

*Curvularia lunata Mycopathologia 118:83–84, 1992*

*Eikenella corrodens* – chronic paronychia in children *Am J Surg 141:703–705, 1981*

Erysipeloid

*Fusarium JAAD 47:659–666, 2002*

Herpes simplex – herpetic whitlow *Br Dent J 177:251–252, 1994; Am J Dis Child 137:861–863, 1983; Int J Dermatol 16:752–754, 1977; NEJM 283:804–805, 1970; AD 101:396–402, 1970*

Mixed infections *J Hand Surg (Am) 13:790, 1988*

*Mycobacterium marinum Handchir Mikrochir Plast Chir 32:343–346, 2000*

*Mycobacterium tuberculosis* – tuberculous chancre *AD 114:567–569, 1979;* primary inoculation *JAMA 245:1556–1557, 1981;* prosector's paronychia *AD 114:567–569, 1978; Arch Surg 103:757–758, 1971*

Myrmecia (deep warts) – tender periungual nodules *AD 128:105–110, 1992*

North American blastomycosis *J Emerg Med 19:245–248, 2000*

Onychomycosis *Rook p.1313, 1998, Sixth Edition*

Orf

Osteomyelitis of the fingertip

*Proteus vulgaris Rook p.2835, 1998, Sixth Edition*

*Pseudomonas pyocyanea Rook p.2835, 1998, Sixth Edition*

*Scopulariopsis*

*Staphylococcus aureus* – acute paronychia; adults and children *Textbook of Neonatal Dermatology, p.183, 2001; Am J Dis Child 137:361–364, 1983*

*Streptococcus Neonatal Dermatology, p.511, 2001; Rook p.2835, 1998, Sixth Edition*

Syphilis, primary *Br J Vener Dis 59:167–171, 1983;* secondary – chronic paronychia *Khirurgiia* (*Mosk*) *12:93–94, 1975; AD 105:458, 1972;* congenital *Rook p.1254, 1998, Sixth Edition*

*Trichosporon beigelii Mykosen 28:601–606, 1985*

Tularemia

Tungiasis *JAAD 26:513–515, 519–520, 1992*

*Veillonella* – in neonates *Clin Pediatr 11:690–692, 1972*

Yaws – secondary (daughter yaws, pianomas, framboesiomas) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws); hyperkeratotic plantar plaques (crab yaws); periungual *Rook p.1268–1271, 1998*

## INFILTRATIVE DISEASES

Amyloidosis, primary systemic *JAAD 42:339–342, 2000*

Langerhans cell histiocytosis *BJD 145:137–140, 2001; Rook p.2320, 1998, Sixth Edition; JAAD 13:522–524, 1985*

## INFLAMMATORY DISEASES

Erythema multiforme, Stevens–Johnson syndrome *Rook p.2084, 1998, Sixth Edition*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Ped Derm 19:426–431, 2002; Ped Derm 19:180–182, 2002; AD 116:562–564, 1980; Dermatologica 156:155–166, 1978; Lancet 1:676–677, 1973;* acquired zinc deficiency – due to intestinal malabsorption*;* extensive burns, Crohn's disease, sickle cell anemia, sprue, systemic malignancies, pancreatic insufficiency, renal tubular dysfunction, drugs, defect of mammary zinc secretion, blind loop syndrome, diets high in phytates and calcium *Am J Dis Child 135:968–969, 1981;* total parenteral nutrition *Am J Clin Nutr 29:197–204, 1976;* prematurity *BJD 104:459–464, 1980*

Celiac disease *Ghatan p.83, 2002, Second Edition*

Hypoparathyroidism *Ghatan p.83, 2002, Second Edition*

## NEOPLASTIC DISEASES

Acral fibromyxoma – paronychial nodule *JAAD 50:134–136, 2004*

Basal cell carcinoma – chronic paronychia *JAAD 37:791–793, 1997*

Bowen's disease *AD 130:204–209, 1994*

Eccrine spiradenoma – papule of proximal nail fold *AD 140:1003–1008, 2004*

Enchondroma *Rook p.2847, 1998, Sixth Edition*

Kaposi's sarcoma *J Hand Surg (Am) 11:410–413, 1986*

Keratoacanthoma, subungual – chronic paronychia *Ann Plast Surg 34:84–87, 1995*

Leukemia – red swollen nail folds in chronic lymphocytic leukemia *Br J Haematol 112:1, 2001; Int J Dermatol 24:595–597, 1985*

Melanoma *Rook p.2853, 1998, Sixth Edition; Khirurgiia (Mosk) 9:150–151, 1990; Hand 9:49–51, 1977*

Metastatic squamous cell carcinoma *JAAD 31:259–263, 1994;* bronchogenic carcinoma *J Foot Ankle Surg 36:115–119, 1997;* small cell lung cancer; breast cancer mimicking acute paronychia *Am J Clin Oncol 16:86–91, 1993*

Squamous cell carcinoma, subungual – chronic paronychia *Eur J Dermatol 10:149–150, 2000; Cutis 36:189–191, 1985*

Subungual exostosis – periungual papules

### PARANEOPLASTIC DISEASES

Bazex syndrome *JAMA 248:2882–2884, 1982*

Paraneoplastic pemphigus – erosive paronychia *BJD 147:725–732, 2002*

### PRIMARY CUTANEOUS DISEASES

Acrodermatitis continua of Hallopeau *Clin Inf Dis 32:431,505, 2001; Dtsch Med Wochenschr 123:386–390, 1998*

Alopecia mucinosa *Clin Exp Dermatol 12:50–52, 1987*

Dual toenails – chronic paronychia *J Derm Surg Oncol 12:1328–1329, 1986*

Dyshidrotic eczema

Epidermolysis bullosa, junctional and dystrophic forms – paronychia at birth *Textbook of Neonatal Dermatology, p.507, 2001*

Ingrown nails, including congenital ingrown nails *Clin Pediatr (Phila) 21:424–426, 1982; Clin Pediatr 18:247–248, 1979*

Keratoderma of Jadassohn and Lewandowski – congenital paronychia *Bull Soc Fr Dermatol Syphiligr 76:411–412, 1969*

Keratosis lichenoides chronica *AD 120:1471–1474, 1984*

Lichen planus

Parakeratosis pustulosa – psoriasiform dermatitis of children; paronychial skin with thickening of nail edges *BJD 79:527–532, 1967*

Psoriasis and pustular psoriasis – subacute and chronic paronychia *J Hand Surg (Br) 11:265–268, 1986; BJD 92:685–688, 1975*

### PSYCHOCUTANEOUS DISEASES

Factitial paronychia *Rook p.2800–2802, 1998, Sixth Edition; J R Coll Physicians Lond 17:199–205, 1983*

### SYNDROMES

Anhidrotic ectodermal dysplasia (Clouston syndrome) *Cutis 71–224–225, 2003*

Apert's syndrome *Cutis 52:205–208, 1993*

Hereditary sensory and autonomic neuropathies – painless paronychyia *JAAD 21:736–739, 1989*

Hyper–IgE syndromes (Job's, Buckley's, Quie–Hill syndromes (allergic rhinitis)) *Dermatol Therapy 18:176–183, 2005; Rook p.2748, 1998, Sixth Edition*

Incontinentia pigmenti – painful subungual tumors *J Hand Surg (Br) 18:667–669, 1993; JAAD 13:913–918, 1985*

Multicentric reticulohistiocytosis – coral beading around nail folds *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Olmsted syndrome – leukokeratosis of oral mucosa, periorificial keratotic plaques; congenital diffuse sharply marginated transgradient keratoderma of palms and soles, onychodystrophy, constriction of digits (ainhum), diffuse alopecia, thin nails, chronic paronychia, linear keratotic streaks, follicular keratosis, anhidrosis, small stature; differential diagnostic considerations include Clouston hidrotic ectodermal dysplasia, pachyonychia congenita, acrodermatitis enteropathica, Vohwinkel's keratoderma, mal de Meleda, and other palmoplantar keratodermas *Ped Derm 20:323–326, 2003; AD 132:797–800, 1996; JAAD 10:600–610, 1984*

Pachyonychia congenita *JAAD 30:275–276, 1994*

Reflex sympathetic dystrophy *JAAD 29:865–868, 1993*

Reiter's disease *BJD 102:480–482, 1980*

Yellow nail syndrome *BJD 76:153–157, 1964*

### TRAUMA

Fractures of the terminal phalanx *Arch Emerg Med 10:301–305, 1993*

Harpists' fingers – paronychia with calluses of the sides and tips of fingers with onycholysis and subungual hemorrhage *Rook p.903, 1998, Sixth Edition*

Nailbiting *Clin Pediatr (Phila) 29:690–692, 1990*

### VASCULAR DISEASES

Pyogenic granuloma *Caputo p.64, 2000*

Thromboangiitis obliterans (Buerger's disease) – necrosis around nails *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

## PAROTID GLAND ENLARGEMENT

### BILATERAL ENLARGEMENT

Adnexotropic T-cell lymphoma *JAAD 38:493–497, 1998*

Age-related asteatosis with pseudoparotomegaly

Ascariasis – parotid enlargement, forehead edema *Am J Clin Nutr 30:2117–2121, 1977*

Bulimia *Arch Otolaryngol Head Neck Surg 119:787–788, 1993;* anorexia nervosa *Clin Radiol 53:623, 1998; Oral Surg Oral Med Oral Pathol 53:567–573, 1982*

Chronic alcoholism *Ariz Med 28:261–262, 1971*

Chronic myelomonocytic leukemia *JAAD 35:804–807, 1996*

Cirrhosis *Gastroenterology 96 (2 Pt 1):510–518, 1989*

Cystic fibrosis

Cytomegalovirus sialadenitis *J Clin Inf Dis 22:1117–1118, 1996*

Diabetes mellitus *Oral Surg Oral Med Oral Pathol 52:594–598, 1981; JAMA 232:20, 1975*

Diffuse follicular lymphoid hyperplasia

Diffuse infiltrative lymphocytosis syndrome *Ann Intern Med 112:3–10, 1990*

Drugs
- Catecholamines
- Chlorhexidine
- Dextropropoxyphene
- High-dose estrogen
- Iododerma – 'iodine mumps' *JAAD 36:1014–1016, 1997*
- Methyldopa
- Nifedipine *Am J Cardiol 61:874, 1988*
- Phenothiazines
- Phenylbutazone
- Sulfonamides
- Thiouracil

Foot and mouth disease

Gout *Arch Interam Rheumatol 8:272–278, 1965*

Hyperlipidemia *JAMA 211:2016, 1970*

Kaposi's sarcoma *J Otolaryngol 20:243–246, 1991*

Lipoid proteinosis – parotitis with parotid gland enlargement *Ped Derm 14:22–25, 1997; Acta DV (Stockh) 53 (Suppl. 71):1–56, 1973*

Lupus erythematosus – discoid LE; bilateral parotid gland enlargement *Rook p.2452, 1998, Sixth Edition*

Lymphoepithelioid cysts (AIDS) *JAMA 278:166–167, 1997; Pathologica 82:287–295, 1990; Int J Radiat Oncol Biol Phys 23:1045–1050, 1992; Rheum Dis Clin North Am 17:99–115, 1991; Laryngoscope 98:772–775, 1988*

Lymphoma *Rev Stomatol Chir Maxillofac 82:7–10, 1981;* granulomatous slack skin *Int J Dermatol 39:374–376, 2000*

Malaria – nutritional consequence *Am J Clin Nutr 30:2117–2121, 1977*

Masseter muscle hypertrophy (pseudoparotomegaly) *Dentomaxillofac Radiol 28:52–54, 1999*

Mikulicz's syndrome *Rook p.3058, 1998, Sixth Edition*

Parana hard skin syndrome

Parotitis
- Actinomycosis *Br J Oral Maxillofac Surg 23:128–134, 1985*
- Adenovirus parotitis in AIDS – unilateral or bilateral *Clin Inf Dis 19:1045–1048, 1994*
- *Arachnia* species
- *Candida albicans*
- Cat scratch disease *Laryngorhinootologie 79:471–477, 2000*
- Coxsackie virus
- Cytomegalovirus *Clin Inf Dis 22:1117–1118, 1996*
- Echo virus
- *Eikenella corrodens Arch Otolaryngol 109:772–773, 1983*
- Epstein–Barr virus – recurrent parotitis *Rook p.3122, 1998, Sixth Edition*
- Fungal parotitis
- *Hemophilus influenzae J Rheumatol 6:185–188, 1979*
- Influenza virus *J Infect Dis 152:853, 1985*
- Leprosy
- Lymphadenitis (HIV) *Laryngoscope 99 (6 Pt 1):590–595, 1989*
- Measles *Mund Kiefer Gesichtchir 4:249–252, 2000*
- Mumps *Am J Dis Child 132:678–680, 1978*
- *Mycobacterium avium*, and others *Am J Otolaryngol 16:428–432, 1995*
- Mycobacterium tuberculosis *Br J Oral Maxillofac Aurg 39:320–323, 2001*
- Parainfluenza virus *South Med J 88:230–231, 1995*
- Suppurative, preterminal bacterial (*Staphylococcus aureus*) *NEJM 345:662*
- *Torulopsis glabrata J Clin Inf Dis 21:1342–1343, 1995*
- *Treponema pallidum Br J Vener Dis 60:121–122, 1984*
- Tularemia

Pellagra

Pneumoparotitis *J Laryngol Otol 106:178–179, 1992*

Sarcoid (Heerfordt's syndrome, bilateral parotomegaly, bilateral hilar adenopathy, uveitis) *Rook p.2685, 1998, Sixth Edition; Nuklearmedizin 34:47–49, 1995; Proc R Soc Med 68:651–652, 1975; Van Graefe's Arch Clin Exp Ophthalmol 70:254–265, 1909*

Salivary tumors – bilateral primary salivary tumor (5% of pleomorphic adenomata)

Scleredema of Buschke *Am J Med 9:707–713, 1950*

Selective IgA deficiency *Rook p.3120, 1998, Sixth Edition*

Sialectasis *Dentomaxillofac Radiol 22:159–160, 1993*

Sialolithiasis *Am J Dent 13:342–343, 2000*

Sialosis *Rook p.3058, 1998, Sixth Edition*

Sjögren's syndrome – parotitis *Ped Dent 23:140–142, 2001; Eur J Pediatr 148:414–416, 1989; Radiology 169:749–751, 1988*

Tumor infiltration (lung)

Vomiting *South Med J 74:251, 1981*

Vinyl chloride disease *Br Med J 291:1094, 1985*

Waldenström's macroglobulinemia *Oral Surg Oral Med Oral Pathol 67:689–693, 1989*

## UNILATERAL ENLARGEMENT

Actinomycosis *Rook p.3058, 1998, Sixth Edition*

Adenovirus parotitis of AIDS *Clin Inf Dis 19:1045–1048, 1994*

Bacterial sialadenitis *Rook p.3058, 1998, Sixth Edition*

Calculus – with duct obstruction

Cysts
- Adenolymphoma
- Branchial clefts no. 1 and 2 *Arch Otolaryngol Head Neck Surg 124:291–295, 1998*
- Dermoid *Diagnostic Cytopathol 20:387–388, 1999*
- Hamartoma *Br J Radiol 55:182–188, 1982*
- Mucoepidermoid *Histopathol 33:379–386, 1998*
- Pleomorphic adenoma *J Otolaryngol 30:361–365, 2001*

Facial nerve neuroma

Kaposi's sarcoma – AIDS *Am Surg 64:259–260, 1998*

Lymphoepithelioid cysts (HIV)

Lymphoma *J Laryngol Otol 90:381–392, 1976*

Leprosy

Lipomata *Dentomaxillofac Radiol 30:235–238, 2001*

Pierced-ear lymphadenitis

Primary tumor
- Benign (most to least frequent in parotid)
  - Oxyphil adenoma *HNO 49:109–117, 2001*
  - Pleomorphic adenoma *Acta Cytol 45:1008–1010, 2001*
  - Warthin's tumor (adenolymphoma) *Eur Radiol 11:2472–2478, 2001; Ann Ital Chir 67:537–547, 1996*

Primary tumor
- Malignant (most to least frequent in parotid)
  - Acinic cell *HNO Oct 2001; p.49*
  - Adenocarcinoma *J Exp Clin Cancer Res 20:189–194, 2001*
  - Adenocystic carcinoma *Hinyokika Kiyo 47:785–787, 2001*
  - Kaposi's sarcoma
  - Metastatic
  - Mucoepidermoid carcinoma *Am J Surg Pathol 25:835–845, 2001*
  - Oncocytoma *J Laryngol Otol 115:57–59, 2001*

Primary lymphoma *Leuk Lymphoma 26:49–56, 1997*
Squamous cell carcinoma *Aust NZ J Surg 71:345–348, 2001*

Rhabdomyosarcoma – parotid gland mass *Cancer 84:245–251, 1998*

Suppurative parotitis (abscess)
*Salmonella* parotitis *J Clin Inf Dis 24:1009–1010, 1997*

Temporal artery aneurysm

Tuberculosis

Tularemia

Wegener's granulomatosis *Am J Med 85 (5):741–742, 1988*

# PARTICULATE MATTER/EXFOLIATION

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Systemic lupus erythematosus

## DRUG-INDUCED

Cyclosporine-induced folliculodystrophy – small spicules of vellus hair emanating from follicular papules of face *JAAD 50:310–315, 2004*

Pustular drug eruption

## EXOGENOUS AGENTS

Contact dermatitis – irritant

Airborne ragweed dermatitis

Residual zinc oxide ointment

## INFECTIONS AND INFESTATIONS

Actinomycosis (actinomycetoma) – yellow, white, or red granules *Cutis 60:191–193, 1997*

Black piedra

Dermatophytosis, generalized

Eumycetoma – black, white or brown granules *Cutis 60:191–193, 1997*

Exfoliation following viral exanthem, drug eruption, scarlet fever, Kawasaki's disease

Maggots

Pediculosis – pubic (nits (pubic hair, eyelashes)), head and body lice

Scabies, crusted *AD 124:121–126, 1988*

Trichomycosis axillaris

White piedra

## METABOLIC

Crohn's disease

Dysglobulinemia

Hypovitaminosis A

Methylmalonic acidemia, cobalamin C type – desquamation *AD 133:1563–1566, 1997*

Miliaria crystallina

Monoclonal gammopathy – spicules *JAAD 33:346–351, 1995*

Phrynoderma *AD 120:919–921, 1984*

Porphyria cutanea tarda – calcinosis cutis of scalp

Uremic frost

Urostomy site – encrustations of crystals of phosphates and uric acid *Rook p.930, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Lymphoma

Multiple myeloma with cryoglobulinemia – follicular hyperkeratotic spicules *AD 126:509–513, 1990; JAAD 32:834–839, 1995*

Nevus corniculatus *JAAD 31;157–190, 1994*

Perforating follicular hybrid cyst (pilomatrixoma and steatocystoma) of inner eyelid (tarsus) – chalky material *JAAD 48:S33–34, 2003*

## PARANEOPLASTIC

Paraneoplastic hyperkeratosis *JAAD 31:157–190, 1994*

## PHOTODERMATOSES

Photodermatitis of AIDS

## PRIMARY CUTANEOUS DISEASES

Darier's disease

Epidermolysis bullosa superficialis resembling peeling skin syndrome *AD 125:633–638, 1989*

Hair casts *Cutis 60:251–252, 1997*

Ichthyosiform eruption

Lichen nitidus, generalized

Lichen spinulosis in AIDS *JAAD 26:1013–1014, 1992*

Multiple milia

Multiple minute digitate hyperkeratosis *BJD 142:1044–1046, 2000; JAAD 18:431–436, 1988;* status-post radiotherapy *Clin Exp Dermatol 11:646–649, 1986*

Pityriasis capitis (dandruff) *Rook p.2941, 1998, Sixth Edition*

Pityriasis rubra pilaris with follicular spines *JAAD 23:526–527, 1990;* spiny hyperkeratoses *Tyring p.352, 2002*

Pustular psoriasis

Seborrheic dermatitis

Spiny hyperkeratosis *JAAD 31:157–190, 1994*

Subcorneal pustular dermatosis

Tinea amientacea *Clin Exp Dermatol 2:137–144, 1977*

## PSYCHOCUTANEOUS DISEASE

Delusions of parasitosis – 'infesting organisms' brought to physician

## SYNDROMES

Kawasaki's disease

Keratosis–ichthyosis–deafness (KID) syndrome – spiny follicular plugs of nose

Continual skin peeling syndrome *AD 122:71–75, 1986; BJD 81:191–195, 1969; AD 121:545–546, 1985*; *Cutis 53:255–257, 1994*

### TRAUMA

Radiation therapy – keratotic miliaria following radiotherapy *AD 124:855–856, 1988*

## PEDUNCULATED (POLYPOID) LESIONS

***JAAD 31:235–240, 1994***

### CONGENITAL LESIONS

Accessory tragi

Bronchogenic cyst with papilloma *JAAD 11:367–371, 1984*

Cervical tab

Epulis – soft nodule of gingival margin *Textbook of Neonatal Dermatology, p.473, 2001*

Human tail *Curr Prob Dermatol 13:249–300, 2002; Textbook of Neonatal Dermatology, p.125, 2001*

Persistent vitelline duct and polyp – umbilical polyp *Dermatologica 150:111–115, 1975*

Rhabdomyomatous mesenchymal hamartoma – pedunculated papule associated with a midline cervical cleft *AD 141:1161–1166, 2005*

Vestigial tail *Arch J Dis Child 104:72–73, 1962*

### INFECTIONS

Bacillary angiomatosis *J Clin Inf Dis 21(Suppl 1):S99–102, 1995*

Molluscum contagiosum in a soft fibroma *Cutis 61:153–154, 1998*

*Pneumocystis*, cutaneous *Ann Intern Med 106:396–398, 1987;* polyps within external auditory canal *Am J Med 85:250–252, 1988*

Rhinosporidiosis (*Rhinosporidium seeberi*)

Schistosomiasis – perianal polyps

Verruga peruana (*Bartonella bacilliformis*) – Oroya fever; red papules in crops become nodular, hemangiomatous or pedunculated; face, neck, extremities, mucosal lesions *Ann Rev Microbiol 35:325–338, 1981*

Verrucae vulgaris *Rook p.1037, 1998, Sixth Edition*

### INFILTRATIVE DISORDERS

Juvenile xanthogranuloma *Dis Chest 50:325–329, 1966*

Langerhans cell histiocytosis – polypoid involvement of external auditory canal *Rook p.2320, 1998, Sixth Edition; Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985*

Verruciform xanthoma *AD 138:689–694, 2002;* verruciform xanthoma of scrotum – pedunculated red or yellow cauliflower-like appearance *BJD 150:161–163, 2004; J Dermatol 16:397–401, 1989*

Xanthoma disseminatum (Montgomery's syndrome) – red–yellow–brown skin tag-like papules of axilla *Rook p.2332, 1998, Sixth Edition*

### INFLAMMATORY DISORDERS

Fibrous umbilical polyp – fasciitis-like proliferation; early childhood; male predominance *Am J Surg Pathol 25:1438–1442, 2001*

### METABOLIC DISEASES

Calcinosis cutis – scrotal calcinosis, polypoid *South Med J 89:896–897, 1996;* subepidermal calcified nodule *Ped Derm 18:238–240, 2001*

Crohn's disease – perianal polypoid lesions *Int J Dermatol 39:616–618, 2000; JAAD 36:697–704, 1997*

### NEOPLASTIC LESIONS

Acquired digital fibrokeratoma *Rook p.2348, 1998, Sixth Edition; AD 124:1559–1564, 1988; JAAD 12:816–821, 1985*

Acrochordon (skin tag) *Rook p.1661, 1998, Sixth Edition*

Adnexal polyp, neonatal – firm, pink, polyp, 1-mm; near nipple; resolve in few days *BJD 92:659–662, 1975*

Aggressive angiomyxoma – vulvar, perineal, pelvic, scrotal polypoid masses *JAAD 38:143–175, 1998*

Apocrine acrosyringeal keratosis arising in syringocystadenoma papilliferum *BJD 142:543–547, 2000*

Apocrine gland carcinoma *Am J Med 115:677–679, 2003*

Atypical polypoid dermatofibroma *JAAD 24:561–565, 1991*

Basal cell carcinomas – skin tag-like lesions in children with nevoid basal cell carcinoma syndrome *JAAD 47:792–794, 2002; JAAD 44:789–794, 2001;* giant polypoid basal cell carcinoma *Cutis 58:289–292, 1996*

Basaloid tumors

Clear cell acanthoma *Am J Dermatopathol 12:393–395, 1990*

Cutaneous hamartoma of adnexa and mesenchyma – skin tag-like papule *Ped Derm 16:65–67, 1999*

Cylindroma *Am J Dermatopathol 17:260–265, 1995*

Dermal dendrocytic hamartoma – pedunculated red nodule with stubby hairs *JAAD 32:318–321, 1995*

Dermatofibroma *JAAD 30:714–718, 1994;* pseudosarcomatous dermatofibroma *AD 88:276–280, 1963*

Dermatofibrosarcoma protuberans *JAAD 49:1139–1141, 2003*

Eccrine nevus – perianal skin tag *AD 141:515–520, 2005; JAAD 51:301–304, 2004*

Eccrine porocarcinoma *JAAD 49:S252–254, 2003; JAAD 35:860–864, 1996; AD 131:211–216, 1995*

Eccrine poroma *AD 135:463–468, 1999;* blue–black pedunculated tumor of chin *BJD 152:1070–1072, 2005*

Epidermal nevus

Epidermoid cyst

Fibroepithelial polyp of gingiva (epulides) *Periodontics 6:277–299, 1986*

Fibroepithelioma of Pinkus – skin-colored or red pedunculated nodule of trunk, groin, or thigh *Ghatan p.308, 2002, Second Edition*

Fibroma, oral *Rook p.3111, 1998, Sixth Edition*

Fibrosarcoma/spindle cell sarcoma *Rook p.2352, 1998, Sixth Edition*

Fibrous hamartoma of infancy – skin tag-like papule *Ped Derm 16:65–67, 1999*

Follicular hamartoma with trichofolliculoma-like tumor with multiple trichogenic tumors *J Dermatol 18:465–471, 1991*

Folliculosebaceous cystic hamartoma – skin tag-like papule *Ped Derm 16:65–67, 1999*

Giant folliculosebaceous cystic hamartoma – skin colored exophytic papules *AD 141:1035–1040, 2005; Am J Dermatopathol 13:213–220, 1991*

Granular cell tumor (granular cell myoblastoma), including granular cell tumor of the gingiva (congenital epulis) *Cutis 75:21,23–24, 2005; Ped Derm 15:318–320, 1998*

Hair follicle nevus (hair follicle hamartoma) – pedunculated papule *Cutis 32:79–82, 1983*

Kaposi's sarcoma *AD 141:1311–1316, 2005*

Leiomyoma of scrotum *Urology 39:376–379, 1992;* congenital leiomyoma of the heel *Ped Derm 3:158–160, 1986*

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002; J D Surg Oncol 9:283–287, 1983*

Lipofibroma *J Dermatol 27:288–290, 2000; JAAD 31:235–240, 1994*

Median raphe cyst of the perineum – perianal polyp *Pathol 28:201–202, 1996*

Melanocytic nevus – compound nevi; congenital dermal melanocytic nevus *JAAD 49:732–735, 2003*

Melanoma *Derm Surg 26:127–129, 2002; Mayo Clin Proc 72:273–279, 1997; J Dermatol 22:527–529, 1995; Ann Plast Surg 5:432–435, 1980; Surg Gynecol Obstet 106:586–594, 1958;* amelanotic melanoma *AD 138:1245–1250, 2002*

Merkel cell carcinoma – eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.101, 1999*

Metastases – renal cell carcinoma *Rook p.2371, 1998, Sixth Edition; Cancer 19:162–168, 1966*

Mucinous nevus *BJD 148:1064–1066, 2003*

Myxoma – solitary cutaneous myxoma *JAAD 43:377–379, 2000*

Nasal glioma *J Postgrad Med 45:15–17, 1999*

Neuroblastoma *Dermatol Therapy 18:104–116, 2005*

Neurofibromas – including plexiform neurofibroma; neurofibromatosis *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.97, 1999*

Nevus lipomatosis superficialis – skin tag-like papule *Ped Derm 16:65–67, 1999*

Nevus sebaceus *Textbook of Neonatal Dermatology, p.409, 2001*

Osteoma (osseous choristoma) of the tongue *Br J Oral Surg 25:79–82, 1987*

Pilomatrixoma – polypoid lesion *Ped Derm 18:498–500, 2001;* giant pilomatrixoma *Ann Plast Surg 41:337–338, 1998*

Plantar fibromatosis *Caputo p.50, 2000*

Porocarcinoma *BJD 152:1051–1055, 2005*

Poroma *JAAD 44:48–52, 2001*

Pseudosarcomatous polyp, cutaneous *AD 139:93–98, 2003*

Rhabdomyomas – skin tag-like papule *Ped Derm 16:65–67, 1999*

Rhabdomyomatous mesenchymal harmartoma (striated muscle hamartoma) (congenital) – asssociated with Dellemann's syndrome – multiple skin tag-like lesions of infancy *Ped Derm 16:65–67, 1999*; *Ped Derm 15:274–276, 1998*

Rhabdomyosarcoma *Cutis 73:39–43, 2004*

Sebaceous adenoma *J Cutan Pathol 22:185–187, 1995*

Seborrheic keratosis *Rook p.1659–1660, 1998, Sixth Edition*

Soft fibroma *Dermatology 199:167–168, 1999*

Spitz nevus *BJD 142:128–132, 2000; Great Cases from the South; AAD Meeting; March 2000*

Squamous cell carcinoma – anal squamous cell carcinoma *in situ* – skin tag *J Clin Inf Dis 21:603–607, 1995;* squamous cell carcinoma *Curr Probl Cancer 4:1–44, 1980*

Syringocystadenoma papilliferum – pedunculated nodule of trunk, shoulders, axillae, or genitalia *AD 140:1393–1398, 2004; AD 71:361–372, 1955*

Trichoepithelioma *JAAD 37:881–883, 1997;* giant solitary trichoepithelioma *AD 120:797–798, 1984*

Undifferentiated sarcoma – giant pendulous cystic lesion of cheek *Soc Ped Derm Annual Meeting, July 2005*

Verrucous carcinoma of umbilicus *AD 141:779–784, 2005*

## PARANEOPLASTIC DISORDERS

Florid cutaneous papillomatosis – related to acanthosis nigricans and sign of Leser–Trelat *Rook p.2713, 1998*

## PRIMARY CUTANEOUS DISEASES

Ainhum *NY State Med J 81:1779–1781, 1981; J Am Podiatr Assoc 61:44–54, 1971*

Infantile perianal pyramidal protrusion (anomalous anal papillae) – polypoid or filiform projections at the anus *Ped Derm 22:151–152, 2005; BJD 151:229, 2004; Ped Derm 19:15–18, 2002; J Pediatr 38:468–471, 1951*

Kerinokeratosis papulosa (waxy keratoses of childhood) *JAAD 50:S84–85, 2004; Clin Exp Dermatol 19:173–176, 1994*

Rudimentary polydactyly *BJD 66:402–408, 1954*

## SYNDROMES

Amnion rupture malformation sequence (amniotic band syndrome) – congenital ring constrictions and intrauterine amputations; secondary syndactyly, polydactyly; distal lymphedema *JAAD 32:528–529, 1995; Am J Med Genet 42:470–479, 1992 Cutis 44:64–66, 1989*

Bannayan–Riley–Ruvalcaba syndrome (macrocephaly and subcutaneous hamartomas) (lipomas and hemangiomas) – autosomal dominant*;* multiple skin tags *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996; AD 128:1378–1386, 1992; Eur J Ped 148:122–125, 1988;* lipoangiomas (perigenital pigmented macules, macrocephaly) *AD 128:1378–1386, 1992;* lipomas in Ruvalcaba–Myhre–Smith syndrome *Ped Derm 5:28–32, 1988*

Beare–Stevenson cutis gyrata syndrome – skin tags, localized redundant skin of scalp, forehead, face, neck, palms, and soles, acanthosis nigricans, craniofacial anomalies, anogenital anomalies, and large umbilical stump *Am J Med Genet 44:82–89, 1992*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick, redundant palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 11:453–457, 2001; Am J Med Genet 82:187–193, 1999; JAAD 32:904–907, 1995*; *Aust Paediat J 13:114–118, 1977*

Delleman syndrome (oculocerebrocutaneous syndrome) *J Med Genet 25:773–778, 1988*

Encephalocraniocutaneous lipomatosis – polypoid and papular lesions of scalp and face; alopecia, scalp nodules, skin-colored nodules, facial and eyelid papules – lipomas and lipofibromas; unilateral or bilateral skin-colored or yellow domed papules or nodules of scalp (hairless plaque), head, and neck; ipsilateral cranial and facial asymmetry, cranial and ocular abnormalities, spasticity, mental retardation *JAAD 37:102–104, 1998; JAAD 32:387–389, 1995; Ped Derm 10:164–168, 1993; Arch Neurol 22:144–155, 1970*

Epidermal nevus syndrome – papillomatous epidermal nevi; linear arrays of pigmented papillomas *Curr Probl Pediatr 6:3–56, 1975;* pedunculated eyelid papules *JAAD 50:957–961, 2004*

Familial idiopathic fibroepithelial skin tags

Generalized basaloid follicular hamartoma syndrome – autosomal dominant; milia, comedone-like lesions, dermatosis papulosa nigra, skin tag-like lesions, hypotrichosis, palmar pits *JAAD 45:644–645, 2001*

Goldenhar syndrome (oculo-auricular-vertebral spectrum) *Syndromes of the Head and Neck, p.641–649, 1990*

Infantile myofibromatosis – skin tag-like papule *Australas J Dermatol 41:156–161, 2000; Ped Derm 16:65–67, 1999*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001*

Muir–Torre syndrome – sebaceous adenoma

Nevoid basal cell carcinoma syndrome – acrochordons as presenting sign *JAAD 44:789–794, 2001*

Treacher Collins syndrome – skin tags *Am J Med Genet 27:359–372, 1987*

Tuberous sclerosis – pedunculated fibromas of the neck and axillae *JAAD 46:161–183, 2002; Rook p.386, 1998, Sixth Edition*

Trisomy 13 – aplasia cutis congenita of scalp with holoprosencephaly, eye anomalies, cleft lip and/or palate, polydactyly, port wine stain of forehead *Am J Dis Child 112:502–517, 1966*

### TRAUMA

Amputation neuroma *AD 108:223–225, 1973*

### VASCULAR DISEASES

Hemangioma, proliferative *Rook p.553, 1998, Sixth Edition*

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition;* periumbilical *Ped Derm 4:341–343, 1987*

## PENILE LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – poison ivy, antifungals, condoms, benzocaine *Genital Skin Disorders, Fischer and Margesson, Mosby p.41–43, 1998; Rook p.788, 1998, Sixth Edition*

Angioedema *Dermatol Clin 3:85–95, 1985; JAAD 25:155–161, 1991*

Bullous pemphigoid *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.69, 1998*

Cicatricial pemphigoid *JAAD 46:S128–129, 2002; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 88:56–68, 1999; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.70, 1998; Rook p.1874–1875, 1998, Sixth Edition; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extrexities, penile rash, alopecia universalis, bullae *AD 140:466–472, 2004*

Lupus erythematosus – discoid

Pemphigus vegetans – chronic balanitis *J Urol 137:289–291, 1987*

Pemphigus vulgaris – balanitis *AD 137:756–758, 2001; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.67, 1998*

Rheumatoid nodule – penile nodule

Scleroderma *AD Syphilol 183:493, 1943*

Urticaria

### CONGENITAL LESIONS

Congenital os penis *J Urol 91:663–664, 1964*

Congenital sinus or cyst of genitoperineal raphe (mucous cysts of the penile skin) *Cutis 34:495–496, 1984; AD 115:1084–1086, 1979*

Dermoid cysts *Dermatology 194:188–190, 1997*

Double penis (diphallia) *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.96, 1998*

Foreskin cysts *Eichenfeld p.89, 2001*

Median raphe cyst of the penis *Am J Dermatopathol 23:320–324, 2001; Ped Derm 15:191–193, 1998; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.80, 1998; Cutis 34:495–496, 1984, JAAD 26:273–274, 1992; AD 115:1084–1086, 1979*

True hermaphrodite *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.110, 1998*

Urethral diverticulae

Urethral retention cyst – white papule at urethral opening of males *Textbook of Neonatal Dermatology, p.483, 2001*

### DRUG-INDUCED

Corticosteroid atrophy – striae, dusky erythema, increased visibility of vessels *BJD 107:371–372, 1982*

Coumarin necrosis *Pharmacotherapy 8:351–354, 1988*

Drug eruptions – bullous, morbilliform, fixed drug eruptions – red maculae, bullae *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.62, 1998; Cutis 45:242–244, 1990; Genitourin Med 62:56–58, 1986*

Fixed drug eruption

Foscarnet – erosions/ulceration

Hydroxyurea – lichenoid eruption *AD 140:877–882, 2004*

PUVA macules

### EXOGENOUS

Airborne contact dermatitis – penile dermatitis due to sawdust exposure in carpenters and cabinet makers *Rook p.760, 1998, Sixth Edition*

Condoms – chemical hypopigmentation *Rook p.2295, 1998, Sixth Edition*

Diamond implants *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.94, 1998*

Foreign body granuloma – penile nodule *JAAD 49:924–929, 2003*

Glass beads – penile nodules *Br J Urol 47:463, 1975*

High pressure injection injury – cellulitis *BJD 115:379–381, 1986*

Intracorporeal injection of vasoactive agents – fibrotic lesions *J Urol 140:615–617, 1988*

Irritant contact dermatitis

Occupational leukoderma *Rook p.3187, 1998, Sixth Edition*

Paraffinoma (sclerosing lipogranuloma) *BJD 105:451–456, 1981; Arch Pathol Lab Med 101:321–326, 1977;* mineral oil

paraffinoma resulting in penile enlargement *JAAD 47:S251–253, 2002; JAAD 45:S222–224, 2001*

Penile implant

Penile ring *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.94, 1998*

Tattoos *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.93, 1998*

## INFECTIONS AND INFESTATIONS

Abscess – edema of entire shaft of penis or nodule at base of penis *Genital Skin Disorders, Fischer and Margesson, Mosby p.20–21, 1998*

African trypanosomiasis – penile edema

Amebiasis – *Entamoeba histolyticum* – balanitis *JAMA 120:827–828, 1942;* vegetating plaque of genitalia, perineum, and anus *Derm Clinics 17:151–185, 1999; Urology 48:151–154, 1996*

Arthropod bites – persistent nodular arthropod bite reactions (pseudolymphoma syndrome) *JAAD 38:877–905, 1998*

Aspergillosis – red penis *Ped Derm 19:439–444, 2002*

Bacillary angiomatosis *Genital Skin Disorders, Fischer and Margesson, Mosby p.32–33, 1998*

Black widow spider bite – priapism *Cutis 69:257–258, 2002*

Candidal balanitis *JAAD 37:1–24, 1997;* penile involvement *Genital Skin Disorders, Fischer and Margesson, Mosby p.33, 1998*

Cellulitis – edematous penis and/or scrotum *Rook p.2290, 1998, Sixth Edition*

Chancroid *Hum Pathol 27:1066–1070, 1996;* phagedenic chancroid

*Chlamydia trachomatis* – balanitis *Bull Soc Fr Dermatol Syphyligr 82:419–422, 1975*

Cryptococcosis – balanitis *Infect Urol 3:101–107, 1990*

Diphtheria *Ghatan p.63, 2002, Second Edition*

*Enterococcus* – balanoposthitis

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

Erysipelas – edematous penis and/or scrotum with or without necrosis; may result in chronic lymphedema *Genital Skin Disorders, Fischer and Margesson, Mosby p.20–23, 1998; Rook p.2290, 1998, Sixth Edition*

*Escherichia coli* – balanoposthitis

Filariasis – penile edema

Fournier's gangrene (necrotizing fasciitis)

Furuncle

*Gardnerella vaginalis* – anaerobic balanitis *Br J Venerol Jis 58:243, 1982*

Gonococcus – gonococcal nodule on one or both sides of frenum, abscess *Cutis 36:161–163, 1985*; pustule, furuncle, infected median raphe cyst in association with urethral gonococcal infection *Br J Infect Dis 49:364–367, 1973;* urethral gonorrhea – indurated nodule, penile edema *Rook p.1140, 1998, Sixth Edition*

Granuloma inguinale – ulcers; penile edema *JAAD 11:43–47, 1984*

*Haemophilus parainfluenzae* – balanoposthitis *JAAD 37:1–24, 1997*

Herpes simplex virus infection *Tyring p.78, 2002; Genital Skin Disorders, Fischer and Margesson, Mosby p.15–18, 1998; Cutis 30:442–456, 1982;* crusted and/or verrucous *JAAD 37:1–24, 1997;* mimicking leukemia cutis *JAAD 21:367–371, 1989*

Herpes zoster *JAAD 147:S177–179, 2002; Tyring p.127, 2002; Genital Skin Disorders, Fischer and Margesson, Mosby p.18–19, 1998*

Histoplasmosis – balanitis *J Urol 149:848–850, 1993*

*Klebsiella JAAD 37:1–24, 1997*

Leishmaniasis *BJD 139:111–113, 1998; J Eur Acad Dermatol Venereol 10:226–228, 1998;* post-kala-azar dermal leishmaniasis – in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1370,1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Leprosy *Lepr Rev 60:303–305, 1989*

Lymphogranuloma venereum – papulovesicle *Br J Vener Dis 49:193–202, 1973;* inguinal adenitis with abscess formation and draining chronic sinus tracts; rectal syndrome in women with pelvic adenopathy, periproctitis with rectal stricture and fistulae; esthiomene – scarring and fistulae of the buttocks and thighs with elephantiasic lymphedema of the vulva; lymphatics may develop abscesses which drain and form ulcers *Int J Dermatol 15:26–33, 1976*

Molluscum contagiosum *Tyring p.64, 2002; Genital Skin Disorders, Fischer and Margesson, Mosby p.19–20, 1998; Rook p.3185, 1998, Sixth Edition*

*Morganella* – balanoposthitis *JAAD 37:1–24, 1997*

Mucormycosis – penile necrosis *Clin Inf Dis 21:682–684, 1995*

*Mycobacterium kansasii* – papulonecrotic tuberculid *JAAD 36:497–499, 1997*

*Mycobacterium tuberculosis* – nodule of glans *Genital Skin Disorders, Fischer and Margesson, Mosby p.31–32, 1998;* papulonecrotic tuberculid – dusky red crusted or ulcerated papules occur in crops on elbows, hands, feet, knees, legs; also ears, face, buttock, and penis; small ulcers *Dermatologica 174:151–152, 1987; JAAD 12:1104–1106, 1985*; with worm-eaten scarring *Genitourin Med 64:130–132, 1988;* primary tuberculosis of glans penis – periurethral red plaque *JAAD 26:1002–1003, 1992*

Pediculosis pubis *Genital Skin Disorders, Fischer and Margesson, Mosby p.39, 1998*

*Penicillium marneffei* – balanitis *Mycoses 34:245–249, 1991*

*Proteus* – balanoposthitis *JAAD 37:1–24, 1997*

*Pseudomonas* sepsis – penile gangrene *J Urol 124:431–432, 1980*

Rhinosporidiosis – vascular nodules; may resemble condylomata *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

Scabies – burrows, papules and nodules *Genital Skin Disorders, Fischer and Margesson, Mosby p.36–38, 1998; Dermatol Clinics 8:253–263, 1990*

Schistosomiasis – penile edema; penile papules *Ann DV 107:759–767, 1980; Br J Vener Dis 55:446–449, 1979*

Sporotrichosis *Ghatan p.63, 2002, Second Edition;* vegetative plaque of penis *AD 139:1647–1652, 2003*

*Staphylococcus aureus* – balanoposthitis *Br J Urol 63:196–197, 1989;* bullous impetigo

Streptococcal balanoposthitis – group B β-hemolytic streptococcus *J Urol 135:1015, 1986;* group B streptococcal infection – circumferential erosion *AD 120:85–6, 1984;* penile edema *J Clin Inf Dis 24:516–517, 1997;* group A β-hemolytic streptococcus *Pediatrics 88:154–156, 1991*

Syphilis – primary chancre *Genital Skin Disorders, Fischer and Margesson, Mosby p.23–25, 1998;* hard penile circumferential fold *JAAD 26:700–703, 1992;* secondary – papules *Genital Skin Disorders, Fischer and Margesson, Mosby p.26, 1998; Rook p.1247, 1998, Sixth Edition*

Tinea corporis – *JAAD 44:864–867, 2001;* balanitis due to *Trichophyton rubrum* or *T. mentagrophytes Dermatologica 178:112–124, 1989*

Tinea versicolor *Trop Geogr Med 46:184–185, 1994*

*Trichomonas* – chancre or penile abscesses *Ann DV 108:731–738, 1981; Bull Soc Gr Dermatol Syphiligr 76:345, 1969*

Tumbu fly larva

Verrucae (condyloma acuminatum) *Tyring p.262–263, 2002; Genital Skin Disorders, Mosby p.11–14, 1998;* subclinical balanitis due to HPV *Genitourin Med 66:251–253, 1990; Acta DV 193:1–85, 1995*

Yaws – secondary (daughter yaws, pianomas, framboesiomas) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws) *Rook p.1268–1271, 1998, Sixth Edition; JAAD 29:519–535, 1993*

## INFILTRATIVE LESIONS

Amyloidosis *J Urol 140:830–831, 1988*

Eosinophilic granuloma

Juvenile xanthogranuloma *J Urol 150:456–457, 1993*

Langerhans cell histiocytosis *Nippon Hinyokika Gakkai Zasshi 81:1904–1907, 1990;* chancre *AD 123:1274–1275, 1987;* eosinophilic granuloma *Bull Soc Fr Dermatol Syphiligr 82:44–45, 1975*

Plasma cell balanitis (Zoon's balanitis) – red plaques *Genital Skin Disorders, Fischer and Margesson, Mosby p.44–45, 1998; Dermatologica 105:1–7, 1952*

Verrucous xanthoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.80, 1998; Urology 23:600–603, 1984; Arch Derm 117:516–518, 1981*

## INFLAMMATORY LESIONS

Balanitis
- Amebic (*Entamoeba histolytica*) *Med J Aust 5:114–117, 1964*
- Aphthae
- Balanoposthitis – red patches and plaques *Genital Skin Disorders, Fischer and Margesson, Mosby p.40–41, 1998*
- Candida *Int J STD AIDS 3:128–129, 1992; Clin Exp Dermatol 7:345–354, 1982*
- Chlamydial *Br J Hosp Med 29:6–11, 1983*
- Circinate – Reiter's
- Erythroplasia of Queyrat
- Fixed drug eruption *Rook p.3190, 1998, Sixth Edition*
- Gram-negative bacteria *Rook p.3189, 1998, Sixth Edition*
- Irritant; smegma, clothing, poor hygiene, detergent, water *Rook p.3188, 1998, Sixth Edition*
- Lichen sclerosus (balanitis xerotica obliterans)
- Mixed infection – fusospirallary, bacterial, yeast *Rook p.3188, 1998, Sixth Edition*
- Mycoplasma *NEJM 302:1063–1067, 1980; Bull Soc Fr Dermatol Syphilol 82:419–422, 1975*
- Plasma cell balanitis (Zoon's balanitis) *J Urol 153:424–426, 1995; Genitourin Med 71:32–34, 1995; BJD 105:195–199, 1981*
- Porokeratosis of Mibelli
- Pseudoepitheliomatous keratotic and micaceous balanitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.84, 1998; Cutis 35:77–79, 1985*
- Relapsing chronic balanitis
- Streptococcal *Int J STD AIDS 3:128–129, 1992*
- Syphilitic balanitis (Follmann) *Br J Vener Dis 51:138–140, 1975*
- Titanium *Dermatologica 176:305–307, 1988*
- Traumatic – post-coital, zippers *Rook p.3189, 1998, Sixth Edition*
- Trichomonal *Ann DV 108:731–738, 1981*
- Vincent's organism *Rook p.3189, 1998, Sixth Edition*

Crohn's disease *Am J Dermatopathol 22:443–446, 2000; J Gastroenterol 32:817–821, 1997; Gut 27:329–333, 1986;* edema of prepuce and scrotum *JAAD:S182–183, 2003*

Erythema multiforme – including Stevens–Johnson syndrome *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.65, 1998; Rook p.3183, 1998, Sixth Edition*

Hidradenitis suppurativa *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.58, 1998*

Pyoderma gangrenosum

Sarcoid *J Cut Med Surg 4:202–204, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.59, 1998; JAAD 44:725–743, 2001; Urology 108:284–289, 1972*

Toxic epidermal necrolysis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.66, 1998*

Ulcerative colitis *Int J STD AIDS 5:72–73, 1994*

## METABOLIC

Anasarca

Androgen excess – hyperpigmentation of areolae, axillae, external genitalia, perineum *Ghatan p.165, 2002, Second Edition*

Calcinosis cutis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.61, 1998;* idiopathic calcinosis cutis *JAAD 51:s118–119, 2004;* calcification of retained smegma

Calciphylaxis – penile necrosis *AD 136:259–264, 2000; J Urol 160:764–767, 1998; AD 131:63–68, 1995*

Cardiac failure – penile edema

Fabry's disease – angiokeratoma corporis diffusum ($\alpha$-galactosidase A) – X-linked recessive; of penis *AD 140:1440–1446, 2004; JAAD 46:161–183, 2002; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.78–79, 1998; JAAD 17:883–887, 1987; NEJM 276:1163–1167, 1967*

Fucosidosis – angiokeratomas *BJD 136:594–597, 1997*

Gout – tophus *AD 134:499–504, 1998*

Hypoproteinemia – penile edema

Male pseudohermaphroditism – ambiguous genitalia *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.109, 1998*

Necrobiosis lipoidica diabeticorum – chronic balanitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.60,1998 Dermatology 188:222–225, 1994*

Pellagra *Rook p.3187, 1998, Sixth Edition*

Renal failure – penile edema

## NEOPLASTIC LESIONS

Abdominal cancer – edema of penis due to pelvic or abdominal cancer *Rook p.2290,2295 1998, Sixth Edition*

Angiosarcoma *Urology 51:130–131, 1998;* arising in Kaposi's sarcoma in AIDS – vascular penile nodule *JAAD 234:790–792, 1991; Cancer 15:1318–1324, 1981*

Apocrine cystadenoma *AD 113:1250–1251, 1977*

Atypical penile melanotic macules *AD 124:1267–1270, 1988*

Basal cell carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.81, 1998; JAAD 20;1094–1097, 1989*

Benign penile lentigo *JAAD 42:640–644, 2000*

Blue nevus *AD 139:1209–1214, 2003;* epithelioid blue nevus *BJD 145:496–501, 2001*

Bowen's disease *Genital Skin Disorders, Mosby p.10, 1998; Rook p.1674–1675,3188, 1998, Sixth Edition*

Bowenoid papulosis – irregular red papules of glans penis mimicking warts, psoriasis, or lichen planus *Tyring p.266, 2002; Genital Skin Disorders, Mosby p.15, 1998;* papules *AD 121:858–863, 1985;* hyperpigmented papules *Ped Derm 2:297–301, 1985; Proc R Soc Med 68:345–346, 1975*

Cysts, calcified *J Dermatol 20:114–117, 1993*

Eccrine syringofibroadenomatosis – balanitis *AD 130:933–934, 1994*

Epidermal nevus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.91, 1998; Rook p.3197, 1998, Sixth Edition*

Epidermoid cysts *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.75–76, 1998*

Epithelioid sarcoma – penile nodule

Erythroplasia of Queyrat *JID 115:396–401, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.82, 1998; Urology 8:311–315, 1976; Bull Soc Fr Dermatol Syphiligr 22:378–382, 1911*

Extramammary Paget's disease – red to brown scaly plaques *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.84, 1998; JAAD 18:115–122, 1988*

Fibroepithelioma of Pinkus *Cutis 31:519–521, 1983*

Fordyce spots (ectopic sebaceous glands) *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.59, 1998;* of prepuce *Acta DV 70:344–345, 1990;* of glans penis *Rook p.1982, 1998, Sixth Edition*

Glomus tumor

Granular cell tumor *Derm Surg 27:772–774, 2001*

Hidrocystoma *Rook p.1703, 1998, Sixth Edition*

Horns *Urology 30:156–158, 1987; JAAD 13:369–373, 1985*

Kaposi's sarcoma – penile lymphedema preceding appearance of Kaposi's sarcoma *BJD 142:153–156, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.85, 1998; J Dermatol 26:240–243, 1999; J Med 27:211–220, 1996; JAAD 27:267–268, 1992; AD 102:461–462, 1970*

Keloids *Ann Plast Surg 39:662–665, 1997*

Keratoacanthoma – ulcerated nodule *JAAD 15:1079–1082, 1986*

Leiomyoma *Rook p.2367, 1998, Sixth Edition*

Leiomyosarcoma *Cancer 29:481–483, 1972*

Lentigines *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.73, 1998; JAAD 22:453–460, 1990; JAAD 20:567–570, 1989;* in the presence of lichen sclerosus *JAAD 50:690–694, 2004*

Leukemia – ulcerative balanoposthitis of the foreskin *Urology 56:669, 2000*

Leukoplakia

Lipoma *Rook p.3182, 1998, Sixth Edition*

Lymphoma – B-cell, angiocentric T-cell lymphoma *JAAD 26:31–38, 1992;* cutaneous T-cell lymphoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.87, 1998;* Hodgkin's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.86, 1998;* primary cutaneous $CD30^+$ lymphoproliferative disorder ($CD8^+/CD4^+$) *JAAD 51:304–308, 2004*

Malignant tumors of the penis *JAAD 35:432–451, 1996; Urol Clin North Am 19:319–324, 1992*

Primary tumors
- Soft tissue tumors
  - Angiosarcoma
  - Clear cell sarcoma
  - Epithelioid sarcoma
  - Fibrosarcoma
  - Hemangioendothelioma
  - Hemangiopericytoma
  - Kaposi's sarcoma
  - Leiomyosarcoma
  - Malignant schwannoma
  - Melanoma *Urol Int 27:66–80, 1972;* melanoma *in situ JAAD 42:386–388, 2000*
  - Myxofibrosarcoma *Am J Surg Pathol 20:391–405, 1996*
  - Rhabdomyosarcoma
  - Undifferentiated sarcoma
- Epithelial tumors
  - *In situ* carcinomas
    - Bowen's disease
    - Bowenoid papulosis
    - Erythroplasia of Queyrat
    - Extramammary Paget's disease
  - Invasive carcinomas
    - Squamous cell carcinomas – preceded by erythroplasia, leukoplakia, or warty papule *Am J Surg Pathol 24:505–512, 2000; Urol Int 62:238–244, 1999; Ann Oncol 8:1089–1098, 1997*
    - Verrucous carcinoma – cutaneous horn *AD 126:1208–1210, 1990*; multinodular verrucous carcinoma *JAAD 29:321–324, 1993*
    - Melanoma *Eur J Surg Oncol 23:277–279, 1997; J Urol 139:813–816, 1988;* including desmoplastic melanoma – exophytic *JAAD 16:619–620, 1987*
    - Other tumors
      - Angiosarcoma *Cancer 47:1318–1324, 1981*
      - Dermatofibrosarcoma protuberans *Ann DV 105:267–274, 1978*
      - Leiomyosarcoma Cancer *132:992–994, 1984; Ann DV 105:267–274, 1978*
    - Leukemic infiltrates
    - Lymphomas *Hinyokika Kiyo 43:371–374, 1997*
    - Malignant hemangioendothelioma *Rook p.3203, 1998, Sixth Edition*
    - Neural tumors (Schwannomas)
    - Undifferentiated sarcoma *Rook p.3203, 1998, Sixth Edition*
- Secondary tumors
  - Metastases – nodules, often ulcerated *J Urol 132:992–993, 1984;* metastatic male breast carcinoma – penile plaque with ulceration *JAAD 38:995–996, 1998;* transitional cell carcinoma of the bladder *J Natl Med Assoc 89:253–256, 1997;* presenting as penile and scrotal edema *JAAD 51:143–145, 2004;* lung cancer *South Med J 88:761–762, 1995;* supraglottic squamous cell carcinoma *J Urol 147:157–160, 1992;* prostate *AD 120:1604–1606, 1984;* rectal cancer *Br J Surg 62:77–79, 1975;* metastatic gastric carcinoma – red swollen penis and scrotum *BJD 144:419–420, 2001*

Melanoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.88, 1998; Mayo Clin Proceed 72:362–366, 1997*

Melanocytic nevus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.74, 1998; Rook p.1722–1723, 1998, Sixth Edition;* in the presence of lichen sclerosus *JAAD 50:690–694, 2004;* divided nevus *BJD 143:1126–1127, 2000*

Melanotic macule *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.73, 1998*

Metastases *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.87, 1998*

Mucoid cysts *J Urol 115:397–400, 1976*

Myofibroma – skin-colored to hyperpigmented nodules of hand, mouth, genitals, shoulders *JAAD 46:477–490, 2002*

Neurinoma of the glans *Dermatologica 137:150–155, 1968*

Neurofibroma *Am J Med Genet 87:1–5, 1999*

Neuroma – solitary (palisaded) encapsulated neuroma *AD 140:1003–1008, 2004; BJD 142:1061–1062, 2000*

Nevus comedonicus *Acta DV (Stockh) 55:78–80, 1975*

Nodular hidradenoma (apocrine hidrocystoma) *Br J Urol 70:574–575, 1992*

Paget's disease *Plast Reconstr Surg 100:336–339, 1997; Ann Plast Surg 23:141–146, 1989*

Pearly penile papules (angiofibromas) *Int STD AIDS 10:726–727, 1999; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.77, 1998; AD 93:56–59, 1966; AD 90:166–167, 1964*

Peyronie's disease – penile fibromatosis; thickened subcutaneous plaque *JAAD 41:106–108, 1999; J Clin Epidemiol 51:511–515, 1998 Rook p.2047, 1998, Sixth Edition*

Pilonidal cyst

Polyfibromatosis syndrome – Dupuytren's contracture, knuckle pads, Peyronie's disease, keloids, or plantar fibromatosis *Rook p.2044, 1998, Sixth Edition;* stimulation by phenytoin *BJD 100:335–341, 1979*

Porokeratosis of Mibelli *BJD 144:643–644, 2001; Dermatology 196:256–259, 1998; JAAD 36:479–481, 1997; Clin Exp Dermatol 19:77–78, 1994*

Pseudoepitheliomatous keratotic and micaceous balanitis

Rhabdomyosarcoma *Ghatan p.64, 2002, Second Edition*

Sebaceous hyperplasia *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.75, 1998;* annular sebaceous hyperplasias of the penis *JAAD 48:149–150, 2003*

Seborrheic keratosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.75–76, 1998; Urology 29:204–206, 1987*

Squamous cell carcinoma – penile nodule *Tyring p.268–269, 2002; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.83, 1998; Rook p.1689–1690, 1998, Sixth Edition;* post PUVA

Syringomas – flesh-colored papules *Clin Exp Dermatol 18:384–385, 1993; AD 123:1391–1396, 1987; AD 103:215–217, 1971*

Trichofolliculomas *Dermatologica 181:68–70, 1990*

Verruciform xanthoma *J Urol (Paris) 93:41–42, 1987; AD 117:516–518, 1981*

Verrucous acanthoma

Verrucous carcinoma (giant condyloma of Buschke–Lowenstein) *Tyring p.274, 2002; JAAD 32:1–21, 1995; AD 126:1208–1210, 1990*; *Int J Derm 18:608–622, 1979; JAAD 14:947–950, 1986*

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis

Balanitis xerotica obliterans (lichen sclerosus of the glans) – non-bullous or bullous *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.56, 1998; World J Urol 18:382–387, 2000; AD 123:1391–1396, 1987;* purpuric *Ped Derm 10:129–131, 1993*

Degos' disease (malignant atrophic papulosis) – penile lesions not rare *BJD 100:21–36, 1979; Ann Dermatol Venereol 79:410–417, 1954*

Ectopic hair of the glans *BJD 153:218–219, 2005*

Elastosis perforans serpininosa *BJU Int 91:427, 2003*

Epidermolytic hyperkeratosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.91, 1998*

Familial dyskeratotic comedones – shaft of penis *BJD 140:956–959, 1999; Eur J Dermatol 9:491–492, 1999; Arch Derm Research 282:103–107, 1990; JAAD 17:808–814, 1987*

Granuloma annulare *Sex Transm Infect 75:186–187, 1999; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.60, 1998; J Cutan Pathol 17:101–104, 1997; Scand J Urol Nephrol 27:549–551, 1993; Genitourin Med 68:47–49, 1992*

Hailey–Hailey disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.68, 1998*

Lamellar ichthyosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.90, 1998*

Lichen aureus – expression of Zoon's balanitis – purpuric eruption of the glans *JAAD 21:805–806, 1989*

Lichen nitidus *Rook p.1926, 1998, Sixth Edition; Cutis 21:634–637, 1978; Urology 33:1–4, 1984*

Lichen planus – papular, annular, erosive lesions *Genital Skin Disorders, Fischer and Margesson, Mosby p.48, 1998; Rook p.3183–3184, 1998, Sixth Edition*

Lichen simplex chronicus

Mucha–Habermann syndrome *Genital Skin Disorders, Fischer and Margesson, Mosby p.53, 1998*

Necrobiotic granulomas *J Cutan Pathol 17:101–104, 1990*

Oid–oid disease – exudative discoid and lichenoid dermatitis *Rook p.3184, 1998, Sixth Edition*

Paraphimosis – penile edema

Pityriasis rosea *Genital Skin Disorders, Fischer and Margesson, Mosby p.52, 1998; JAAD 15:159–167,1986*

Penile nodules *AD 12:1604–1606, 1984*

Piebaldism

Pityriasis rosea – balanitis

Pseudoepitheliomatous, keratotic, micaceous balanitis (verrucous carcinoma) *JAAD 18:419–422, 1988; Cutis 35:77–79, 1985; Bull Soc Fr Dermatol Syphiligr 68:164–167, 1966*

Psoriasis *Genital Skin Disorders, Fischer and Margesson, Mosby p.51, 1998; Rook p.3181, 1998, Sixth Edition*

Seborrheic dermatitis

Vitiligo *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.72, 1998; JAAD 38:647–666, 1998*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

Self-mutilation

## SYNDROMES

Aarskog syndrome – hypoplastic penis *Birth Defects 11:25–29, 1975*

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

Anencephaly – hypoplastic penis *Syndromes of the Head and Neck, p.565, 1990*

Bannayan–Riley–Ruvalcaba syndrome (Ruvalcaba–Myhre–Smith syndrome) (macrocephaly and subcutaneous hamartomas) (lipomas and hemangiomas) – autosomal dominant; hyperpigmented macules of glans and penile shaft, macrocephaly, hamartomatous intestinal polyps, lipid storage

myopathy *JAAD 53:639–643, 2005; AD 132:1214–1218, 1996; AD 128:1378–1386, 1992; Ped Derm 5:28–32, 1988; Eur J Ped 148:122–125, 1988;* lipoangiomas (perigenital pigmented macules, macrocephaly) *AD 128:1378–1386, 1992*

Behçet's disease – balanitis *JAAD 34:745–750, 1996;* ulcerations

Borjeson–Forssman–Lehmann syndrome – hypoplastic penis *Am J Med Genet 19:653–664, 1984*

Carney complex

Carpenter syndrome – hypoplastic penis *Am J Med Genet 28:311–324, 1987*

CHARGE syndrome – hypoplastic penis *Syndromes of the Head and Neck, p.94, 1990*

Chromosomal abnormalities – hypospadias *NEJM 351;2319–2326, 2004*

del (9p) syndrome – hypoplastic penis *Pediatrics 73:670–675, 1984*

del (18p) syndrome – hypoplastic penis *Eur J Pediatr 123:59–66, 1976*

Down's syndrome – hypoplastic penis

Femoral hypoplasia–unusual facies syndrome – hypoplastic penis *J Med Genet 21:331–340, 1984*

Floating–Harbor syndrome (unusual facies, short stature, hypoplastic penis) – hypoplastic penis *Birth Defects 11:305–309, 1975*

Glucagonoma syndrome – erythema of scrotum extending onto shaft of penis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.54, 1998*

Hypereosinophilic syndrome – erosions *JAMA 247:1018–1020, 1982*

Johanson–Blizzard syndrome – hypoplastic penis *J Med Genet 19:302–303, 1981*

Klippel–Trenaunay–Weber syndrome – large penis *Mt Sinai J Med 49:66–70, 1982*

Laugier–Hunziker syndrome – genital maculaes *J Eur Acad Dermatol Venereol 15:574–577, 2001; Clin Exp Derm 15:111–114, 1990*

Lawrence–Seip syndrome (congenital generalized lipodystrophy) – lipoatrophic diabetes; enlarged penis *AD 91:326–334, 1965*

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; Am J Med 60:447–456, 1976; AD 107:259–261, 1973*

Leprechaunism (Donohue's syndrome) – decreased subcutaneous tissue and muscle mass, characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Meckel syndrome – hypoplastic penis *Birth Defects 18:145–160, 1982*

Neurofibromatosis – enlarged penis *Syndromes of the Head and Neck, p.393–399, 1990*

Neu–Laxova syndrome – autosomal recessive; variable presentation; small genitalia; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead, short neck; eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990*

Noonan syndrome – hypoplastic penis *J Med Genet 24:9–13, 1987*

OpitzG/BBB syndrome (hypertelorism–hypospadias syndrome) – X-linked and autosomal dominant forms; hypospadias; hypertelorism, upward-slanting palpebral fissures with epicanthal folds; broad flat nasal bridge, cleft lip with or without cleft palate; cryptorchidism, bifid scrotum, failure to thrive due to laryngotracheal clefts *NEJM 351;2319–2326, 2004*

Pallister–Hall syndrome – hypoplastic penis

Perlman syndrome – micropenis; nephroblastoma, renal hamartoma, facial dysmorphism, fetal gigantism *J Pediatr 83:414–418, 1973*

Peutz–Jegher's syndrome – hyperpigmented macules

Popliteal pterygium syndrome *J Med Genet 36:888–892, 1999; Int J Pediatr Otorhinolaryngol 15:17–22, 1988*

Prader–Willi syndrome – hypoplastic penis *Growth Genet Hormones 2:1–5, 1986*

Reiter's syndrome – circinate balanitis; diffuse balanoposthitis *Genital Skin Disorders, Fischer and Margesson, Mosby p.51–52, 1998; Rook p.2767, 1998; Arthr Rheum 24:844–849, 1981; Semin Arthritis Rheum 3:253–286, 1974*

Robert's pseudothalidomide syndrome – enlarged penis *Hum Genet 61:372–374, 1982*

Robinow syndrome – hypoplastic penis *J Med Genet 23:350–354, 1986*

Rudiger syndrome – thick single palmar crease; somatic retardation, flexion contractures of hands, small fingers and nails, ureterovesical stenosis, micropenis, inguinal hernias, coarse facies, cleft soft palate *J Pediatr 79:977–981, 1971*

Russell–Silver syndrome – genital dysmorphia *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999*

Sakati syndrome – hypoplastic penis *J Pediatr 79:104–109, 1971*

Short rib–polydacytyly syndromes – hypoplastic penis *J Med Genet 22:46–53, 1985*

Smith–Lemli–Opitz syndrome – autosomal recessive; hypospadias; failure to thrive, genital abnormalities in males, microcephaly, syndactyly of second and third toes, polydactyly; epicanthal folds, posteriorly rotated ears, ptosis, small pug nose, broad alveolar ridge, micrognathia; deficiency of 7-dehydrocholesterol reductase *NEJM 351;2319–2326, 2004; Am J Med Genet 66:378–398, 1996; Clin Pediatr 16:665–668, 1977*

Triploidy syndromes – hypoplastic penis *Clin Genet 9:43–50, 1976*

49,XXXXY syndrome – hypoplastic penis *Clin Genet 33:429–434, 1988*

## TOXINS

Chloracne *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.58, 1998*

## TRAUMA

Compression therapy of legs – edema of penis and scrotum *Rook p.2290, 1998, Sixth Edition*

Ecchymoses – tracking back along median raphe *Br J Vener Dis 49:467–468, 1972*

Hair coil strangulation (edema from accidentally wrapped hair around the penis) *Cutis 31:431–432, 1983*

Mechanical trauma *Pediatr Emerg Care 14:95–98, 1998; Scand J Urol Nephrol 30:517–519, 1996*

Penile fracture *Br J Surg 67:680–681, 1980*

Penile venereal edema *AD 108:263, 1973*

Rings

Squeezing of glans penis – petechiae *AD 112:121–122, 1976*

Traumatic urethral diverticulae – compressible nodulocystic lesions of the penile shaft *Br J Urol 37:560–568, 1969*

### VASCULAR LESIONS

Acquired phlebectasia of penis *JAAD 13:824–826, 1985*

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975*

Angiokeratoma of Fordyce *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.78, 1998;* strawberry glans penis due to multiple angiokeratomas *BJD 142:1256–1257, 2000*

Angiolymphoid hyperplasia with eosinophilia – penile papule *JAAD 37:887–920, 1997; Cancer 47:944–949, 1981*

Arteriovenous malformation *J Pediatr Surg 35:1130–1131, 2000*

Dorsal vein thrombosis

Elephantiasis nostras of penis *AD 137:1095–1100, 2001*

Epithelioid hemangioma *Arch Pathol Lab Med 109:51–54, 1985*

Glomus tumor *Int J Urol 7:115–117, 2000;* glans penis *Derm Surg 21:895–899, 1995*

Hemangioendothelioma

Hemangioma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.79, 1998; Urology 56:153, 2000; J Urol 141:593–594, 1989*

Hemolymphangioma

Intravascular papillary endothelial hyperplasia (Masson's tumor) – blue subcutaneous nodule of penile shaft *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.78, 1998*

Lymphangioma – lymphangioma circumscriptum *Cutis 28:642–643, 1981;* acquired lymphangioma *J Dermatol 21:358–362, 1994*

Lymphedema – due to penile strangulation *J Dermatol 23:648–651, 1996;* ambulatory peritoneal dialysis *Surg Gynecol Obstet 170:306–308, 1990;* amputation of limbs *Diabetes Res Clin Pract 21:197–200, 1993;* strangulation, thrombosis, acute necrotizing pancreatitis *J Ultrasound Med 15:247–248, 1996;* streptococcal disease *Clin Inf Dis 24:516–517, 1997*

Non-venereal sclerosing lymphangitis of the penis *Genital Skin Disorders, Fischer and Margesson, Mosby p.45, 1998; Urology 127:987–988, 1982; BJD 104:607–695, 1981; Clin Exp Dermatol 2:65–67, 1977; AD 105:728–729, 1972*

Pyogenic granuloma *Ped Derm 19:39–41, 2002; Sex Transm Infect 76:217, 2000; Sex Transm Infect 74:221–222, 1998*

Retiform hemangioendothelioma *JAAD 38:143–175, 1998*

Spindle cell hemangioendotheliomas *Cutis 62:23–26, 1998*

Symmetric peripheral gangrene – penile necrosis and mummification

Varix *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.77, 1998*

Vascular malformation

Vasculitis – palpable purpura of shaft of penis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.55, 1998;* Henoch–Schönlein purpura

## PENILE ULCERS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Cicatricial pemphigoid *J R Coll Surg Edinb 45:62–63, 2000; Rook p.1874–1875, 1998, Sixth Edition*

Lupus erythematosus *Clin Rheumatol 12:405–409, 1993*

Mixed connective tissue disease – orogenital ulcers *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

Pemphigus vulgaris *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.67, 1998; Rook p.3187–3188, 1998, Sixth Edition*

### CONGENITAL LESIONS

Noma neonatorum – deep ulcers with bone loss, mutilation of nose, lips, intraorally, anus, genitalia; Pseudomonas, malnutrition, immunodeficiency *Textbook of Neonatal Dermatology, p.149, 2001*

### DEGENERATIVE DISEASES

Neurotrophic ulcer

### DRUG-INDUCED

Corticosteroid (topical) abuse *Genital Skin Disorders, Fischer and Margesson, Mosby p.51, 1998*

Drug eruption

Fixed drug eruption *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.62, 1998; Genitourin Med 62:56–58, 1986*

Foscarnet – ulcers and/or erosions *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.63, 1998; Int J Dermatol 32:519–520, 1993; JAAD 27:124–126, 1992*

Papaverine – self-induced injections *Urology 32:416–417, 1988*

### EXOGENOUS AGENTS

Dequalinium (quaternary ammonium antibacterial agent) – necrotizing ulcers of the penis *Trans St John's Hosp Dermatol Soc 51:46–48, 1965*

Nitrogen mustard (chemical warfare) *Genital Skin Disorders, Fischer and Margesson, Mosby p.43, 1998*

Paraffinoma (sclerosing lipogranuloma) *BJD 105:451–456, 1981; Arch Pathol Lab Med 101:321–326, 1977*

### INFECTIONS AND INFESTATIONS

*Absidia corymbifera BJD 148:1286–1287, 2003*

Actinomycosis

AIDS – acute HIV infection *AD 134:1279–1284, 1998;* aphthous ulcer of AIDS

Amebiasis – *Entameba histolytica Derm Clinics 17:151–185, 1999; Urology 48:151–154, 1996;* rupture of prepuce and erosion of shaft *Med J Aust 5:114–117, 1964*

Anaerobic erosive balanitis – ulcerative balanoposthitis – anaerobes and non-treponemal spirochetes *JAAD 37:1–24, 1997*

*Candida* – eroded or fissured candidal balanitis *Int J STD AIDS 3:128–129, 1992; Clin Exp Dermatol 7:345–354, 1982*

Chancriform pyoderma (*Staphylococcus aureus*) – ulcer with indurated base; eyelid, near mouth, genital *AD 87:736–739, 1963*

Chancroid, including phagedenic chancroid (deformity and mutilation) – round or oval ragged undermined ulcer with satellite ulcers *Genital Skin Disorders, Fischer and Margesson, Mosby p.29, 1998; Int J STD AIDS 8:585–588, 1997; JAAD 19:330–337, 1988*

Cryptococcosis *Infect Urol 3:101–107, 1990; Cryptococcus abidus* – ulcer of glans penis *BJD 143:632–634, 2000*

Cytomegalovirus *Ann Intern Med 119:1149, 1993*

Fournier's gangrene *Postgrad Med J 70:568–571, 1994*

Fusospirallary infections – deep ulcers with gangrene *Rook p.3193, 1998, Sixth Edition*

Gonococcemia or gonococcal urethritis *Br J Inf Dis 49:364–367, 1973; Br J Vener Dis 46:336–337, 1970;* erosive balanitis *Genital Skin Disorders, Fischer and Margesson, Mosby p.27–28, 1998*

Granuloma inguinale *Genital Skin Disorders, Fischer and Margesson, Mosby p.31, 1998; JAAD 11:43–47, 1984; JAAD 37:494–496, 1997*

Herpes simplex virus *BJD 138:334–336, 1998; Br J Vener Dis 55:48–51, 1979*

Herpes zoster

Histoplasmosis – penile chancre *Aust N Z J Med 20:175–176, 1990; J Urol 57:781–787, 1947*

Infectious mononucleosis *Tyring p.149, 2002; Can Med Assoc J 129:146–147, 1983*

Leishmaniasis *Eur J Clin Microbiol Infect Dis 17:813–814, 1998; AD 130:1311–1316, 1994; Curr Opin Inf Dis 3:420–426, 1990*

Lymphogranuloma venereum *JAAD 37:1–24, 1997*

Mucormycosis

*Mycobacterium avium-intracellulare Int J STD AIDS 9:56–57, 1998*

*Mycobacterium tuberculosis* – tuberculosis cutis orificialis (acute tuberculous ulcer) – multiple, shallow, crusted ulcers *Rook p.1193,3186, 3193, 1998, Sixth Edition; Ann DV 29:488–205, 1989;* primary tuberculosis *Australas J Dermatol 40:106–107, 1999; Urologica 34:171–175, 1973;* primary TB of glans penis *Tuber Lung Dis 75:319, 1994;* papulonecrotic tuberculid *Dermatologica 172:93–97, 1986; JAAD 12:1104–1106, 1985;* lupus vulgaris *Int J Dermatol 33:272–274, 1994*

*Mycoplasma hominis Sex Transm Dis 10:285–288, 1983*

Myiasis – tumbu fly myiasis

Necrotizing fasciitis – *Bacteroides* spp. in adults; streptococcal and staphylococcal in children

Noma

*Penicillium marneffei Int J Derm 25:393–399, 1996; J Clin Inf Dis 23:125–130, 1996*

Phagedenic ulcer *Genitourin Med 70:218–221, 1994*

*Pseudomonas* – ecthyma gangrenosum-like lesion *J Urol 24:431–432, 1980*

Scabies, with secondary infection

Schistosomiasis

Streptococcal infection – group A beta-hemolytic *South Med J 83:264, 1990;* group B streptococcus – circumferential erosion *AD 120:85–86, 1984*

Syphilis, primary – chancre *Genital Skin Disorders, Fischer and Margesson, Mosby p.23–25, 1998; Rook p.1241–1243, 1998, Sixth Edition;* condyloma lata – fissured and eroded *Rook p.3184, 1998, Sixth Edition;* tertiary (gummas) *Genitourin Med 65:1–3, 1989;* reactivation of chancre in Jarisch–Herxheimer reaction *Acta DV 76:91–92, 1996*

Trichomonas *Br J Med 284:859–860, 1983*

Varicella/zoster *Rook p.3193, 1998, Sixth Edition*

## INFILTRATIVE DISORDERS

Langerhans cell histiocytosis – chancre *AD 123:1274–1275, 1987*

Zoon's balanitis (plasma cell balanitis) *JAAD 37:1–24, 1997*

## INFLAMMATORY DISORDERS

Aphthosis *Rook p.3190, 1998, Sixth Edition*

Balanoposthitis – ulcerative *Genital Skin Disorders, Fischer and Margesson, Mosby p.41, 1998*

Crohn's disese *Cutis 72:432–437, 2003; J Eur Acad Dermatol Venereol 13:224–226, 1999; J Urol 159:506–507, 1998; J Gastroenterol 32:817–821, 1997; Genitourin Med 71:45–46, 1995; Int J STD AIDS 5:230–231, 1994; Gut 27:329–333, 1986; J R Soc Med 77:966–967, 1984; Urology 15:596–598, 1980; Gut 11:18–26, 1970*

Erosive balanoposthitis – due to poor hygiene *Ghatan p.63, 2002, Second Edition*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* Stevens–Johnson syndrome *Rook p.3193, 1998, Sixth Edition*

Hidradenitis suppurativa

Pyoderma gangrenosum *AD 141:1175–1176, 2005; Cutis 72:432–437, 2003; Genital Skin Disorders, Fischer and Margesson, Mosby p.46–47, 1998; Rook p.3194, 1998, Sixth Edition; JAAD 32:912–914, 1995; J Urol 127:547–549, 1982; Int J Derm 9:293–300, 1970*

Ulcerative colitis *Nippon Shokakibyo Gakkai Zasshi 78:13030–1306, 1981*

## METABOLIC DISEASES

Calciphylaxis

Necrobiosis lipoidica diabeticorum *JAAD 49:921–924, 2003; BJD 135:154–155, 1996*

## NEOPLASTIC DISEASES

Basal cell carcinoma *Cutis 61:25–27, 1998*

Erythroplasia of Queyrat

Kaposi's sarcoma *JAAD 27:267, 1992*

Keratoacanthoma – ulcerated nodule *JAAD 15:1079–1082, 1986*

Leukemia cutis

Leukemia – chronic lymphocytic leukemia with ulcerative balanoposthitis of the foreskin *Urology 56:669, 2000*

Lymphoma – primary anaplastic lymphoma *Genitourin Med 73:325, 1997; J Urol 153:1051–1052, 1995;* Hodgkin's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.86, 1998;* primary $CD30^+$ lymphoma *BJD 149:903–905, 2003*

Metastatases – metastatic male breast carcinoma *JAAD 38:995–996, 1998*

Porokeratosis of Mibelli – erosive balanitis *JAAD 36:479–481, 1997*

Squamous cell carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.83, 1998; JAAD 37:1–24, 1997*

### PRIMARY CUTANEOUS DISEASES

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Balanitis xerotica obliterans *JAAD 37:1–24, 1997*

Hailey–Hailey disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.68, 1998*

Keratosis lichenoides chronica *JAAD 49:511–513, 2003*

Lichen planus – erosive lesions *Genital Skin Disorders, Fischer and Margesson, Mosby p.48, 1998; Rook p.3183–3184, 1998, Sixth Edition*

Pilonidal sinus

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis *Rook p.3182, 1998, Sixth Edition*

### SYNDROMES

Behçet's disease *JAAD 51:S83–87, 2004; Acta DV 54:299–301, 1974*

Degos' disease (malignant atrophic papulosis) *BJD 143:1320–1322, 2002*

Hypereosinophilic syndrome *JAMA 247:1018–1020, 1982*

MAGIC syndrome – combination of relapsing polychondritis and Behçet's syndrome *AD 126:940–944, 1990*

Reiter's syndrome – moist red erosion in uncircumcised males *Cutis 71:198–200, 2003; Genital Skin Disorders, Fischer and Margesson, Mosby p.51–52, 1998; Rook p.2767, 1998; Semin Arthritis Rheum 3:253–286, 1974*

### TRAUMA

Condom catheter – gangrene of glans or shaft of penis *JAMA 244:1238, 1980*

Friction *Genital Skin Disorders, Fisher and Margesson, CV Mosby p.8, 1998*

Human bite *Sex Transm Dis 26:527–530, 1999*

Intravenous drug addiction (heroin ulcer) – dorsal vein of penis *Genital Skin Disorders, Mosby p.8, 1998; Cutis 29:62–72, 1981;* heroin ulcer *AD 107:121–122, 1973*

Longitudinal cleavage of the penis – catheter complication *Int Urol Nephrol 21:313–316, 1989*

Mechanical trauma including zipper trauma; penile metallic ring leading to strangulation *Hinyokika Kiyo 39:1179–1181, 1993*

Negative pressure device for erectile impotence *J Urol 146:1618–1619, 1991*

Persistent penile painful fissure *Genital Skin Disorders, Mosby p.9, 1998*

Physical trauma

Postoperative hyperemia of the glans penis with ulcers following revascularization surgery for vascular impotence *Dermatology 184:291–293, 1992*

Pressure necrosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.63, 1998*

Radiation dermatitis

### VASCULAR DISEASES

Cholesterol emboli *BJD 150:1230–1232, 2004*

Sclerosing lymphangitis of the penis

Wegener's granulomatosis – necrotic penile ulcers *Clin Rheumatol 17:239–241, 1998; JAAD 31:605–612, 1994; AD 130:1311–1316, 1994*

## PERIANAL DERMATITIS AND HYPERTROPHIC PLAQUES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – antipruritics, neomycin, caines, quinolones, lanolin, ethylenediamine *Acta DV* (*Stockh*) *60:245–249, 1980; Am J Contact Dermat 10:43–44, 1999; Contact Dermatitis 36:173–174, 1997;* or irritant contact dermatitis – liquid stools *J Wound Ostomy Continence Nurs 23:174–177, 1996;* exogenous agents

Cicatricial pemphigoid, drug-induced *BJD 102:715–718, 1980*

Dermatitis herpetiformis

Dermatomyositis

Linear IgA disease (chronic bullous disease of childhood) – intertriginous and perigenital *JAAD 51:95–98, 2004*

Lupus erythematosus – systemic lupus – perianal erythema *BJD 121:727–741, 1989;* discoid lupus erythematosus; perianal erythema *Rook p.2449, 1998, Sixth Edition; AD 118:55–56, 1982*

Pemphigoid vegetans – perianal hypertrophic plaques *Acta DV 64:450–452, 1984*

Pemphigus vegetans – perianal hypertrophic plaques *Dermatol Clinics 11:429–452, 1993*

### DRUG-INDUCED

Fixed drug eruption

Imiquimod

### EXOGENOUS AGENTS

Caffeine

Danthron (laxative) – irritant contact dermatitis; livedoid pattern *Clin Exp Dermatol 9:95–96, 1984*

Poison ivy oral desensitization

### INFECTIONS AND/OR INFESTATIONS

Actinomycosis – perianal hypertrophic plaques *Ann DV 109:789–790, 1982*

Amebic granuloma – perianal hypertrophic plaques; Entamoeba histolytica; protozoan; common sites are anus and buttocks, penis, and face; ulcer or granuloma; painful ulcer with raised thick borders and undermined edge with purulent exudate; diagnose by repeat stool examinations

Bacterial infection in immunosuppressed patients

Bejel – perianal hypertrophic plaques

Coxsackie group A infection

Candidiasis *Int J Derm 38:618–622, 1999;* perianal hypertrophic plaques

Chancroid – perianal hypertrophic plaques; perianal fissuring; *Haemophilus ducreyi*; Gram-negative facultative anaerobe; incubation period is 3–7 days; soft papule with surrounding erythema progresses to pustular, eroded, ulcerative lesion with ragged and undermined edges; exudative; tender, painful, and multiple; bubo in 50% which may rupture; clinical variants: giant chancroid, large serpiginous ulcer, phagedenic chancroid, transient, follicular, papular (resembles condyloma latum)

Condylomata acuminata – perianal hypertrophic plaques *Ped Derm 20:440–442, 2003; Rook p.3175, 1998, Sixth Edition; BJD 128:575–577, 1993*

Coxsackie A – papular perianal dermatitis *Rook p.3171, 1998, Sixth Edition*

Cryptococcosis – perianal hypertrophic plaques

Cutaneous larva migrans

Dermatophyte infection

Enterobiasis (*Enterobius vermicularis*) (pinworm) – anal and perineal pruritus and dermatitis *Rook p.1390, 1998, Sixth Edition; Am Fam Phys 38:159–164, 1988*

Erythrasma

Filariasis – perianal hypertrophic plaques

Gonococcal infection – perianal fissuring; perianal hypertrophic plaques

Granuloma inguinale (*Calymmatobacterium granulomatis*) – ulcerated papule; perianal hypertrophic, sclerotic, or phagedenic plaques; intracellular Gram-negative rod; primary lesion is papule, nodule or ulcer; nodular variety ulcerates into red granulating surface; ulcerovegetative; hypertrophic, cicatricial; superinfection with fusospirochetees gives necrotic lesions with massive destruction; extragenital lesions around eye, axilla, oral mucosa, GI tract, and bone *Rook p.1072,3176, 1998, Sixth Edition*

Herpes simplex virus – chronic; perianal hypertrophic plaques

Herpes zoster *Acta DV (Stock) 63:540–543, 1983; BJD 89:285–288, 1973*

Histoplasmosis – perianal hypertrophic plaques

Lymphogranuloma venereum (*Chlamydia trachomatis* serovariant L1) – perianal fissuring *Clin Inf Dis 20:576–581, 1995;* vegetating plaques *Rook p.3175, 1998, Sixth Edition*

Malacoplakia – perianal hypertrophic plaques *JAAD 34:325–332, 1996*

Molluscum contagiosum – surrounding dermatitis

Mycetoma – perianal hypertrophic plaques

*Mycobacterium tuberculosis* – acid-fast, weakly Gram-positive non-motile rod; lupus vulgaris mimicking lichen simplex chronicus *J Dermatol 28:369–372, 2001;* tuberculosis verrucosa cutis – perianal fissuring; perianal hypertrophic plaques; solitary plaque

Orf – papules and plaques *JAAD 11:72–74, 1984*

Paracoccidioidomycosis – perianal red plaques *BJD 143:188–191, 2000*

Perianal hypertrophic plaques *Cutis 54:341–342, 1994*

Pinworm (oxyuriasis) – urticaria, pruritus *J Dermatol 21:527–528, 1994*

Recurrent toxin-mediated perineal erythema – associated with *Staphylococcus aureus* or *Streptococcus pyogenes* pharyngitis *AD 132:57–60, 1996; JAAD 39:383–398, 1998*

Rhinosporidiosis – perianal hypertrophic plaques

Scarlet fever

Schistosomal granuloma – perianal papules *AD 138:1245–1250, 2002;* pruritic perianal papules *Br J Vener Dis 55:446–449, 1979;* perianal hypertrophic plaques; perianal fissuring; paragenital granulomas due to *Schistosoma haematobium*; communicating sinuses and fistulae *Br J Vener Dis 55:446–449, 1979*

*Staphyococcus aureus* – perianal dermatitis *Ped Derm 10:297–298, 1993;* staphylococcal scalded skin syndrome

Strongyloidiasis – larva currens

Streptococcal perianal cellulitis – perianal erythema *AD 141:790–792, 2005; Cutis 68:183–184, 2001; JAAD 42:885–887, 2000; Clin Pediatr (Phila) 39:500, 2000; NEJM 342:1877, 2000; Ped Derm 16:23–24, 1999;* perianal streptococcal dermatitis in children *AD 134:1147, 1150, 1998; Ped Derm 7:97–100, 1990; AD 124:702–704, 1988;* in adults *BJD 135:796–798, 1996*

Syphilis – condylomata lata *NEJM 352:708, 2005;* ; perianal hypertrophic plaques; annular verrucous perianal dermatitis in secondary syphilis *BJD 152:1343–1345, 2005*

Tinea cruris

Vaccinia *Ann DV 105:339–341, 1979*

Warts (human papilloma virus)

Yaws – perianal hypertrophic plaques

## INFILTRATIVE

Amyloidosis – pigmented macules and glossy hyperkeratotic lesions fanning out from anus *Jpn J Dermatol 91:398–443, 1981;* tumid amyloidosis – perianal hypertrophic plaques *AD 102:8–19, 1970*

Langerhans cell histiocytosis *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986*; *JAAD 13:481–496, 1985*; eosinophilic granuloma – dermatitis and/or perianal fissuring *Obstet Gynecol 67 (Suppl): 46s–49s, 1986*

Lipoid proteinosis – perianal hypertrophic plaques

## INFLAMMATORY

Crohn's disease (contiguous extension) – dermatitis and/or perianal fissuring, edema, inflammation, edematous skin tags; perianal hypertrophic plaques; non-specific cutaneous lesions include pyoderma gangrenosum, erythema nodosum, aphthous ulcers, signs of malnutrition, and pyostomatitis vegetans; specific lesions include metastatic granulomata, perianal papules or ulcers, sinus tracts *J R Soc Med 75:414–417, 1982; JAAD 5:689–695, 1981*

Diverticulitis *Rook p.3175, 1998, Sixth Edition*

Hidradenitis suppurativa

Hirschsprung disease *Ann DV 123:549–551, 1996*

Sarcoidosis – perianal hypertrophic plaques

Ulcerative colitis – perianal hypertrophic plaques *Rook p.3175, 1998, Sixth Edition*

## METABOLIC DISEASES

Acrodermatitis enteropathica (zinc deficiency)

Hyperhidrosis

Vitamin $B_6$ deficiency *Clinics in Derm 17:457–461, 1999; JAAD 43:1–16, 2000*

## NEOPLASTIC

Anorectal carcinoma – abscess-like *Rook p.3175, 1998, Sixth Edition*

Basal cell carcinoma *Rook p.3180, 1998, Sixth Edition*

Bowen's disease – perianal hypertrophic plaques *Rook p.3180, 1998, Sixth Edition*

Bowenoid papulosis – HPV 16; perianal hypertrophic plaques *AD 125:651–654, 1989*

Epidermal nevi – perianal hypertrophic plaques

Extramammary Paget's disease *Br J Surg 75:1098–1092, 1988; JAAD 13:1009–1014, 1985; AD 115:706–708, 1979; Can Med Assoc J 118:161–162, 1978; BJD 85:476–480, 1971;* underlying adnexal carcinoma, adenocarcinoma of the rectum, cervix, or breast *AD 123:379–382, 1987*

ILVEN (inflammatory linear verrucous epidermal nevus)

Intraepithelial neoplasia, anal – perianal hyperpigmented patches, white and/or red plaques *JAAD 52:603–608, 2005*

Kaposi's sarcoma *Am J Surg 160:681–682, 1990*

Leukoplakia

Lymphoma – cutaneous T-cell lymphoma *Dermatology 190:313–316, 1995*

Melanoma

Porokeratosis – perianal inflammatory verrucous porokeratosis (porokeratosis ptychotropica) *BJD 140:553–555, 1999*

Seborrheic keratoses

Squamous cell carcinoma – perianal hypertrophic plaques anorectal carcinoma (abscess-like); perianal erythema – squamous cell carcinoma *in situ AD 137:14–16, 2001*

Syringomas – milia-like syringomas *Dermatology 191:249–251, 1995*

Verrucous carcinoma (giant condylomata of Buschke and Lowenstein) – perianal hypertrophic plaques

## PARANEOPLASTIC

Acanthosis nigricans – perianal verrucous plaques *BJD 153:667–668, 2005*

Dermatomyositis with epidermal necrosis

Glucagonoma syndrome – alpha cell tumor of the pancreas; 50% of cases have metastasized by the time of diagnosis; periorificial dermatitis, including perianal dermatitis, angular stomatitis, cheilosis, beefy red glossitis, blepharitis, conjunctivitis, alopecia, crumbling nails; rarely, associated with MEN I or IIA syndromes *AD 133:909–912, 1997; JAAD 12:1032–1039, 1985; Ann Intern Med 91:213–215, 1979*

Nummular dermatitis – chronic and resistant to therapy

Paraneoplastic annular erythema – associated with colon cancer

## PRIMARY CUTANEOUS DISEASE

Erythema of Jacquet – erosive diaper dermatitis *Ped Derm 15:46–47, 1998*

Fox–Fordyce disease *Rook p.2002, 1998, Sixth Edition*

Granuloma gluteale infantum – perianal hypertrophic plaques; in adults due to incontinence *AD 114:382–383, 1978*

Infantile systemic hyalinosis – perianal hypertrophic plaques *Ped Derm 11:52–60, 1994*

Intertrigo

Lichen planus – perianal hypertrophic plaques *Rook p.3170, 1998, Sixth Edition*

Lichen sclerosus et atrophicus *AD 134:1118–1120, 1998;* perianal hypertrophic plaques *Rook p.2549–2551, 1998, Sixth Edition; Mod Pathol 11:844–854, 1998*

Lichen simplex chronicus *Trans St John's Hosp Dermatol Soc 57:9–30, 1971;* perianal hypertrophic plaques *Rook p.3168, 1998, Sixth Edition*

Perianal fissuring, idiopathic

Perianal pseudoverrucous papules and nodules in children – perianal hypertrophic plaques; due to leakage of stool and/or urine *Cutis 67:335–338, 2001; AD 128:240–242, 1992*

Perianal (infantile) pyramidal protrusion – manifestation of lichen sclerosus et atrophicus *AD 134:1118–1120, 1998*

Pruritis ani *Postgrad Med 77:56–59, 62, 65, 1985*

Psoriasis – dermatitis and/or perianal fissuring *Cutis 50:336–338, 1992*; perianal hypertrophic plaques

Seborrheic dermatitis – dermatitis and/or perianal fissuring; perianal hypertrophic plaques

Seborrhiasis (sebopsoriasis)

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Baboon syndrome – generalized exanthem with accentuation of buttocks, anogenital area, flexures; systemic contact dermatitis to mercury precipitated often by inhalation of mercury vapor *Ped Derm 21:250–253, 2004*

Behçet's disease – perianal fissuring

Costello syndrome – perianal and vulvar papules; warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995*; *Aust Paediat J 13:114–118, 1977*

Hereditary mucoepithelial dysplasia (dyskeratosis) (Gap junction disease, Witkop disease) – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (palate, gingiva) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; perianal hypertrophic plaques; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Kawasaki's disease – papular or papulovesicular perianal dermatitis, perianal erythema and desquamation *JAAD 39:383–398, 1998; AD 124:1805–1810, 1988*

Olmsted syndrome – perianal hypertrophic plaques; palmoplantar and periorificial keratoderma of early childhood with alopecia universalis, tooth and nail defects, joint laxity, flexion contractures with constriction or autoamputation *BJD 122:245–252, 1990*

## VASCULAR LESIONS

Hemorrhoids – surrounding dermatitis; erosions

# PERIANAL ULCERS, SINGLE OR MULTIPLE

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Bullous pemphigoid

Cicatricial pemphigoid *Rook p.1874–1875, 1998, Sixth Edition; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

Pemphigus vulgaris

Pemphigus vegetans *JAAD 480–485, 1993*

Severe combined immunodeficiency in Athabascan American Indian children *AD 135:927–931, 1999*

## CONGENITAL ANOMALIES

Congenital anorectal malformation (with polypoid lesions) *AD 123:1278–1279, 1987*

## DRUG-INDUCED

Corticosteroids – topical corticosteroid atrophy with ulceration *Cutis 69:67–68, 2002*

Ergotism *Hautarzt 48:199–202, 1997; AD 128:1115–1120, 1992*

Nicorandil (potassium channel activator) *BJD 152:1360–1361, 2005; BJD 152:809–810, 2005; BJD 150:394–396, 2004*

Sweet's syndrome – red plaques, nasal ulcers, perianal ulcers – celecoxib *JAAD 45:300–302, 2001*

## EXOGENOUS AGENTS

Irritant contact dermatitis

Paraffinoma – injection for hemorrhoids; nodule, plaque, sinus *BJD 115:379–381, 1986*

## INFECTIONS AND INFESTATIONS

Actinomycosis *Ann DV 109:789–790, 1982*

Amebic ulcers (*Entamoeba histolytica*) – serpiginous ulcer *Ped Derm 10:352–355, 1993; Am J Proctol 17:58–63, 1966*

*Bacteroides*

*Campylobacter jejuni*

Candidiasis – erosive candidiasis

Cellulitis *AD 124:702–704, 1988;* streptococcal *JAAD 18:586–588, 1988*

Chancroid, including phagedenic chancroid (deformity and mutilation) – round or oval ragged undermined ulcer with satellite ulcers *Int J STD AIDS 8:585–588, 1997; JAAD 19:330–337, 1988*

*Chlamydia trachomatis* lymphogranuloma venereum serovariant L1 – anal fissures *Clin Inf Dis 20:576–581, 1995*

Clostridial and non-clostridial gangrene *Surgery 86:655–662, 1979*

Cytomegalovirus *AD 140:877–882, 2004; Tyring p.315, 2002; Cutis 67:43–46, 2001; Am J Clin Path 47:124–128, 1967; JAAD 38:349–351, 1998*

Ecthyma gangrenosum *Am J Med 80:729–734, 1986;* due to *Citrobacter freundii JAAD 50:S114–117, 2004*

Fournier's gangrene *Rook p.3176, 1998, Sixth Edition*

Gonorrhea with rectal discharge – round or oval ulcers *Rook p.1140,3174, 1998, Sixth Edition;* perianal fissuring

Granuloma inguinale (*Calymmatobacterium granulomatis*) – papule or nodule breaks down to form ulcer with overhanging edge; deep extension may occur; or serpiginous extension with vegetative hyperplasia; pubis, genitalia, perineum; extragenital lesions of nose and lips, or extremities *JAAD 32:153–154, 1995; JAAD 11:433–437, 1984*

Herpes simplex infection *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.132; J Clin Microbiol 36:848–849, 1998*

Herpes zoster *Acta DV* (*Stock*) *63:540–543, 1983; BJD 89:285–288, 1973*

Histoplasmosis *Mayo Clinic Proc 67:1089–1108, 1992*

HIV disease – idiopathic perianal ulcer *Dis Colon Rectum 42:1598–1601, 1999*

*Klebsiella pneumoniae* – necrotizing fasciitis *Indian J Pediatr 64:116–118, 1997*

Leishmaniasis *AD 141:1161–1166, 2005*

Meleney's synergistic gangrene (synergistic necrotizing gangrene) *Rook p.2266, 1998, Sixth Edition; Surgery 86:655–662, 1979; Arch Surg 9:317–364, 1924*

*Mycobacterium kansasii JAAD 18:1146–1147, 1988*

*Mycobacterium tuberculosis* – primary TB – indolent, irregular painful ulcers *BJD 142:186–187, 2000;* fistulae, abscesses; lupus vulgaris, verrucous TB *Prensa Med Argent 56:622–623, 1969;* tuberculosis cutis orificialis (acute tuberculous ulcer) *Dis Colon Rectum 42:110–112, 1999; J R Soc Med 89:584, 1996; Dis Colon Rectum 23:54–55, 1980*

Necrotizing anorectal and perineal infections – *Clostridium perfringens*, other clostridia, aerobic and anaerobic streptococci, *Pseudomonas* species *Rook p.3177, 1998, Sixth Edition; J Urol 124:431–432, 1980*

Orf *JAAD 11:72–74, 1984*

Paracoccidioidomycosis *J Clin Inf Dis 23:1026–1032, 1996*

Perirectal abscess

*Pseudomonas* sepsis in infants – perineal gangrenous changes (noma neonatorum) *Lancet 2:289–291, 1978*

*Schistosoma haematobium*

*Streptococcus* – cellulitis; group B streptococcal disease – decubitus ulcers *Clin Inf Dis 33:556–561, 2001*

Syphilis – primary chancre – ulcerated nodule, anal fissure *Rook p.1241–1243, 1998, Sixth Edition; Proc R Soc Med 49:629–631, 1966;* secondary (condyloma lata), endemic (bejel); perianal rhagades in congenital syphilis *Ped Derm 9:329–334, 1992;* tertiary (gummas) *Genitourin Med 65:1–3, 1989*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis – childhood *Acta DV 80:49–51, 2000;* adult *AD 129:1261–1264, 1993; Dermatologica 155:283–291, 1977*; eosinophilic granuloma *AD 141:1161–1166, 2005*

## INFLAMMATORY DISEASES

Crohn's disease *JAAD 10:33–38, 1984; J R Soc Med 75:414–417, 1982; JAAD 5:689–695, 1981*

Erythema multiforme, including Stevens–Johnson syndrome *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.183; Rook p.3179, 1998, Sixth Edition*

Hidradenitis suppurativa

Malakoplakia *JAAD 34:325–332, 1996*

Perianal fissures, idiopathic *Rook p.3173, 1998, Sixth Edition*

Pilonidal sinus tracts

Pyoderma fistulans sinifica (fox den disease) *Clin Inf Dis 21:162–170, 1995*

Pyoderma gangrenosum of adults or infants *Textbook of Neonatal Dermatology, p.171, 2001; Ped Derm 11:10–17, 1994*

Sterile abscesses

Toxic epidermal necrolysis *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.184*

### METABOLIC DISEASES

Acrodermatitis enteropathica; acquired zinc deficiency

Biotinidase deficiency

Essential fatty acid deficiency

Kwashiorkor – perianal erosions *Cutis 67:321–327, 2001*

Liver disease, chronic (cirrhosis) – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987*

Necrolytic migratory erythema

Riboflavin deficiency

### NEOPLASTIC DISEASES

Bowenoid papulosis

Cloacogenic carcinoma – perianal nodule *JAAD 23:1005–1008, 1990*

Extramammary Paget's disease – perianal plaque *AD 123:379–382, 1987*

Leukemia – acute myelogenous leukemia

Lymphoma – angiocentric lymphoma *Dig Dis Sci 38:1162–1166, 1993*

Metastatic squamous cell carcinoma in pilonidal cyst *JAAD 29:272–274, 1993*

Mucinous carcinoma

Perianal polyps *Pathology 140:275–330, 1983*

Salivary ectopia – perianal skin tag *AD 123:1277–1278, 1987*

Squamous cell carcinoma, including anal squamous cell carcinoma *in situ J Clin Inf Dis 21:603–607, 1995*

Verrucous carcinoma (Buschke–Lowenstein tumor) *Dis Colon Rectum 37:950–957, 1994*

### PRIMARY CUTANEOUS DISEASES

Diaper dermatitis, erosive

Epidermolysis bullosa, recessive dystrophic – perianal ulcers resulting in anal stenosis *Rook p.1834–1836, 1998, Sixth Edition; Epidermolysis Bullosa:Basic and Clinical Aspects. New York: Springer, 1992:135–151*

Erythema of Jacqet

Hailey–Hailey disease

Lichen planus *BJD 136:479, 1997*

Lichen sclerosus et atrophicus – anal fissures *Rook p.3173, 1998, Sixth Edition*

Lichen simplex chronicus – anal fissures *Rook p.3173, 1998, Sixth Edition*

Perianal pseudoverrucous papules and nodules in children *AD 128:240–242, 1992*

Psoriasis – anal fissures *Rook p.3173, 1998, Sixth Edition*

Seborrheic dermatitis

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

### SYNDROMES

Ankyloblepharon, ectrodactyly, cleft lip and palate syndrome (AEC syndrome) *Ped Derm 10:434–440, 1993*

Behçet's syndrome – inguinal fissures *JAAD 30:869–873, 1994;* fissures of anal margin *Br J Vener Dis 139:15–17, 1963*

Goltz's syndrome – perianal papillomas *JAAD 28:829–843, 1993*

### TRAUMA

Anal fistulae, fissures, ulcerated hemorrhoids in homosexuals *Br J Surg 76:1064–1066, 1989*

Child abuse

Decubitus ulcers

Fissure

Fistula

Mechanical trauma

Sadomasochism

Thermal burn

### VASCULAR

Hemangioma, including infantile perianal hemangioma *Textbook of Neonatal Dermatology, p.341, 2001; AD 138:126–127, 2002; AD 137:365–370, 2001*

Hemorrhoids with perianal fissures *Rook p.3173, 1998, Sixth Edition*

Wegener's granulomatosis *Dis Colon Rectum 33:427–430, 1990; Gut 25:1296–1350, 1984*

## PERIORBITAL EDEMA/ERYTHEMA/DERMATITIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – cosmetics, aerosol sprays, matches, plants, occupational exposures, topical medicines, nickel *Rook p.2290, 1998, Sixth Edition; Surv Ophthalmol 24:57–88, 1989*; airborne allergic contact dermatitis; airborne allergen blepharitis *Clin Therap 17:800–810, 1995;* swimming goggles *JAAD 43:299–305, 2000;* epoxy resin in immersion oil *JAAD 47:954–955, 2002*

Angioedema *JAAD 53:373–388, 2005; Rook p.2290,2983, 1998, Sixth Edition*

Dermatomyositis – periorbital edema as presenting sign *JAAD 48:617–619, 2003; JAAD 47:755–765, 2002; Ped Derm 16:43–45, 1999; Curr Opin Rheum 11:475–482, 1999;* heliotrope *Rook p.2558–2560, 1998, Sixth Edition;* association with toxoplasmosis *Am J Med 75:313–320, 1983;* bleomycin *BJD 133:455–459, 1995*; associated with carcinomas of lung, breast, female genital tract, stomach, rectum, kidney,

testis, nasopharyngeal carcinoma; lymphomas, thymoma, leukemias *Rook p.2556, 1998, Sixth Edition*; Kaposi's sarcoma *AD 110:605–607, 1974;* myeloma, salivary pleomorphic adenoma *J R Soc Med 76:787–788, 1983;* dysgerminoma *Arthritis Rheum 26:572–573, 1983*

Graft vs. host reaction *AD 126:1324–1329, 1990;* including sclerodermatous graft vs. host reaction – periorbital papules *JAAD 26:49–55, 1992;* periorbital lichenoid graft vs. host reaction, chronic *AD 134:602–612, 1998*

Juvenile rheumatoid arthritis (Still's disease)

Lupus erythematosus – systemic *BJD 143:679–680, 2000; BJD 134:601–602, 1996; J Rheumatol 20:2158–2160, 1993;* chronic cutaneous LE *JAAD 26:334–338, 1992;* DLE – acute periorbital mucinosis *JAAD 41:871–873, 1999;* eyelid plaques *AD 129:495, 1993;* bullous LE; lupus profundus *Rook p.2451, 1998, Sixth Edition; BJD 129:96–97, 1993; JAAD 24:288, 1991; Clin Exp Dermatol 13:406–407, 1988;* neonatal *JAAD 40:675–681, 1999*

Orbital myositis and giant cell myocarditis *JAAD 35:310–312, 1996; Ophthalmology 101:950–954, 1994*

Pemphigus vulgaris, erythematosus, foliaceus – erythema and erosions *JAAD 33:312–315,1995*

Scleroderma – progressive systemic sclerosis and linear scleroderma resembling heliotrope *JAAD 7:541–544, 1982; Ann Intern Med 80:273, 1974*

Serum sickness

Urticaria – systemic, contact, physical *JAAD 47:755–765, 2002*

## CONGENITAL DISORDERS

Congenital mucocoele

Dermoid cyst *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.159, 1999*

## DEGENERATIVE DISORDERS

Blepharochalasis

Loss of fenestration of the orbital septum *Rook p.2984, 1998, Sixth Edition*

## DRUG-INDUCED

Aspirin – unilateral periorbital edema *Ann Allergy Asthma Immunol 79:420–422, 1997*

Atacurium

Calcium channel blockers *JAAD 21:132–133, 1989*

Chemotherapy-induced eccrine neutrophilic hidradenitis – resembles periorbital cellulitis *JAAD 40:367–398, 1999*

Contrast medium *Clin Radiol 40:108, 1989*

Corticosteroids – periorbital dermatitis and conjunctivitis *Eye 12:148–149, 1998;* methylprednisolone *AJ Ophth 113:588–590, 1992*

Diltiazem – periorbital edema *Arch Opthalmol 111:1027–1028, 1993*

Erythropoietin

Fixed drug eruption *Int J Derm 37:833–838, 1998*

Hydantoin *Arch Derm 114:1350, 1978*

Ibesartan *J Drugs Dermatol 3:329–303, 2002*

Interleukin-4

Mannitol

Nifedipine *Am J Cardiol 55:1445, 1985*

Piroxicam (Feldene) photodermatitis

Quinidine – photo-induced lichen planus

Rifampin

Thiazide diuretic – photoallergic dermatitis

Toxic epidermal necrolysis

Vaccination – post-influenza vaccination *Can Med Assoc J 116:724, 1977*

Yellow mercuric oxide *Contact Dermatitis 35:61, 1996*

## EXOGENOUS AGENTS

Cocaine – nasolacrimal duct obstruction and orbital cellulitis due to chronic intranasal cocaine abuse *Arch Ophthalmol 117:1617–1622, 1999*

Iododerma in chronic renal failure – edema of eyelids; pustulovesicular eruption, pustules, pseudovesicles, marked edema of face and eyelids, vegetative plaques *AD 140:1393–1398, 2004; JAAD 36:1014–1016, 1997; Clin Exp Dermatol 15:232–233, 1990; BJD 97:567–569, 1977*

Irritant contact dermatitis – eye shadow, eye shadow setting creams, eye-liners, mascaras, artificial eyelashes, eyebrow pencils, eye makeup removers *JAAD 47:755–765, 2002; The Clinical Management of Itching; Parthenon; p.117, 2000*

Milk intolerance *Clin Pediatr (Phil) 34:265–267, 1995*

Food – rice *Allerg Immunopathol 20:171–172, 1992;* peanut allergy *Cutis 65:285–289, 2000*

Matches – recurrent facial eczema due to 'strike anywhere' matches (phosphorus sesquisulphide) *BJD 106:477, 1982*

Ochronosis – exogenous ochronosis due to topical hydroquinone application

Paraffinoma – orbital and palpebral *Ophthal Plast Reconstr Surg 11:39–43, 1995; JAAD 26:833–835, 1992*

Silicone granulomas *JAAD 52:S53–56, 2005;* silicone breast implant – silicone granulomas, chronic eyelid edema *Ophthal Plast Reconstr Surg 14:182–188, 1998;* metastatic silicone granuloma – eyelid papules, eyelid edema *AD 138:537–538, 2002*

Sulfite hypersensitivity *J Korean Med Sci 11:356–357, 1996*

## INFECTIONS AND INFESTATIONS

Abscess, bacterial *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.171, 1999;* subgaleal abscess *Ann Emerg Med 18:785–787, 1989*

Acute hemorrhagic conjunctivitis

Anthrax *Ped Derm 20:93–94, 2003; Eur J Ophthalmol 11:171–174, 2001; Rook p.2984, 1998, Sixth Edition*; preseptal cellulitis and cicatricial ectropion *Acta Ophthalmol Scand 79:208–209, 2001; Br J Opthalmol 76:753–754, 1992; Ophthalmic Physiol Opt 10:300–301, 1990*

Apical tooth abscess with unilateral periorbital edema

Ascariasis – unilateral eyelid edema *Klin Oczna 97:346–347, 1995* (*Polish*)

Aspergillosis – orbital cellulitis *NEJM 341:265–273, 1999;* retrobulbar *Tyring p.344, 2002*

*Bacillus cereus BMJ 4:24, 1975*

Blister beetle periorbital dermatitis and keratoconjunctivitis *Eye 12:883–885, 1998*

Cat scratch disease *Rook p.2984, 1998, Sixth Edition*

Caterpillar dermatitis – urticarial papules surmounted by vesicles, urticaria, eyelid edema, bruising in children; conjunctivitis *Rook p.1450, 1998, Sixth Edition*

Cavernous sinus thrombosis, septic *Arch Neurol 45:567–572, 1988*

Cellulitis, erysipelas – usually streptococcal, occasionally staphylococcal – eyelid erythema, edema *JAAD 48:617–619, 2003; Rook p.1113–1114, 2290,2984, 1998, Sixth Edition;* association with sinusitis *J Eur Acad Dermatol Venereol 11:74–77, 1998*

Chagas' disease – American trypanosomiasis; Romana's sign – unilateral edema of the eyelids and inflammation of the lacrimal gland *Rook p.1409–1410, 1998, Sixth Edition*

*Chlamydia*

Congestion of vessels of globe due to infection

*Conidiobolus incongruus* – cellulitis *Pharmacotherapy 21:351–354, 2001*

Cowpox *Tyring p.52, 2002*

Cutaneous larva migrans

Dacryocystitis – lacrimal gland inflammation *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.189, 1999*

Dengue fever

Dental abscess

Dermatophytosis, tinea faciei

Dirofilariasis

Dracunculosis

Echinococcosis (hydatid cyst)

Epidemic keratoconjunctivitis

Filariasis *Rook p.2983, 1998, Sixth Edition*

*Fusarium* – of sinuses *JAAD 47:659–666, 2002*

Gnathostomiasis – migratory subcutaneous swellings; red and painful; upper body and periorbitally *Clin Inf Dis 16:33–50, 1993*

Gonorrheal conjunctivitis – profuse purulent discharge; swollen hemorrhagic eyelids *Rook p.2998, Sixth Edition*

*Haemophilus influenzae* periorbital cellulitis of children – violaceous erythema with edema *Pediatrics 62:492–493, 1978*

Herpes simplex infection *Tyring p.80, 2002;* eczema herpeticum (Kaposi's varicelliform eruption) *Rook p.1028, 2984, 1998, Sixth Edition; Arch Dis Child 60:338–343, 1985*

Herpes zoster *Rook p.2984, 1998, Sixth Edition*

Impetigo

Infectious mononucleosis – periorbital edema *Tyring p.149, 2002; Cutis 47:323–324, 1991; Pediatrics 75:1003–1010, 1985*

Insect bites *Rook p.2984, 1998, Sixth Edition*

Intraocular infections *Rook p.2984, 1998, Sixth Edition*

Jellyfish envenomaton

Lacrimal gland, chronic enlargement

Lassa fever

Leishmaniasis – *Leishmania aethiopica* – nasal infiltration with edema but no destruction *Trans R Soc Trop Med Hyg 63:708–737, 1969*

Lepidopterism

Leprosy

Loiasis – *Loa loa*; *Chrysops* (deer fly, horse fly, mangrove fly) – adult worms in conjunctiva with unilateral palpebral edema *AD 108:835–836, 1973;* calabar swellings

Lyme disease *Ann Intern Med 99:76–82, 1983;* dermatomyositis associated with Lyme disease *Clin Inf Dis 18:166–171, 1994*

Lymphogranuloma venereum

Malaria *Rook p.2983, 1998, Sixth Edition*

Measles

Millipede spray – periorbital edema, periorbital mahogany hyperpigmentation, conjunctivitis, keratitis *JAAD 50:819–842, 2004*

Molluscum contagiosum

*Moraxella* species – preseptal cellulitis and facial erysipelas *Clin Exp Dermatol 19:321–323, 1994*

Mucormycosis (rhino-orbital) (zygomycosis) *NEJM 341:265–273, 1999; Sarcoidosis 12:143–146, 1995; AD 122:329–334, 1986*

Myiasis – *Dermatobia hominis* – edema and erythema of eyelid *Ped Inf Dis 21:82–83, 2002*

*Mycobacterium haemophilum BJD 149:200–202, 2003*

*Mycobacterium tuberculosis* – tuberculous chancre – edema and irritation *Pakistan J Ophthalmol 4:37–40, 1988; Lancet i:1286–1289, 1955;* scrofula

Myospherulosis *Am J Rhinol 11:345–347, 1997*

Necrotizing fasciitis (streptococcal gangrene) *AD 140:664–666, 2004; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.171, 1999; Eye 5:736–740, 1991; Ann Ophthalmol 19:426–427, 1987*

Newcastle disease (fowlpox) – conjunctival inflammatory disease

Onchocerciasis *Rook p.2983, 1998, Sixth Edition*

Ophthalmia neonatorum – conjunctival inflammatory disease

Orbital cellulitis – emanating from infection of skin, teeth, nasolacrimal apparatus, paranasal sinuses (*Haemophilus influenzae*, *Streptococcus pneumoniae*, *Moraxella catarrrhalis*, *Staphylococcus aureus*, *Streptococcus pyogenes*, *Streptococcus viridans Am J Otolaryngol 4:422–423, 1983*) *NEJM 341:265–273, 1999; Rook p.2984, 1998, Sixth Edition*

Papular urticaria

*Pasteurella multocida* – periocular abscess and cellulitis *Am J Ophthalmol 128:514–515, 1999*

Periorbital cellulitis *Head Neck Surg 9:227–234, 1987*

Phaeoacremonium inflatipes – fungemia in child with aplastic anemia; swelling and necrosis of lips, periorbital edema, neck swelling *Clin Inf Dis 40:1067–1068, 2005*

Pre-auricular cyst, infected

Preseptal cellulitis *NEJM 341:265–273, 1999*

Roseola infantum (exanthem subitum) – human herpesvirus 6 – periorbital edema prior to onset of rash *Pediatrics 93:104–108, 1994; Ped 25:1034, 1960*

Ruptured frontal sinusitis

Russell's viper bite

Scabies

Scarlet fever

*Schistosoma mansoni* – purpura, urticaria, periorbital edema 4–6 weeks after penetration of the cercaria *Cutis 73:387–389, 2004; AD 112:1539–1542, 1976*

*Shewanella putrefaciens J Clin Inf Dis 25:225–229, 1997*

Sinusitis, bacterial, acute or chronic *Rook p.2984, 1998, Sixth; Edition;* pansinusitis and bilateral cavernous sinus thrombosis

Sparganosis – *Spirometra mansonoides* – subcutaneous nodule, conjunctivitis, periorbital edema *Derm Clinics 17:151–185, 1999*

Stye (hordeolum) *Rook p.2984,2992–2993, 1998, Sixth Edition*

Staphylococcal scalded skin syndrome

Subgaleal abscess *Ann Emerg Med 18:785–787, 1989*

Subperiosteal abscess – eyelid edema and erythema as sole sign *Br J Ophthalmol 73:576–578, 1989*

Syphilis – primary (chancre), secondary *Rook p.2984, 1998, Sixth Edition;* gumma with orbital cellulitis *NEJM 341:265–273, 1999*

Tarantula urticating hairs – generalized itchy rash, conjunctivitis and periorbital edema; tarantula flicks hundreds of hairs off its abdomen *Arch Dis Child 75:462–463, 1996*

Toxocariasis

Toxoplasmosis – heliotrope rash *Ghatan p.246, 2002, Second Edition*

Trichinosis – periorbital edema, conjunctivitis; transient morbilliform eruption, splinter hemorrhages *Can J Public Health 88:52–56, 1997; Postgrad Med 97:137–139, 143–144, 1995; South Med J 81:1056–1058, 1988*

*Trypanosoma cruzi* – Romana's sign *Rook p.2983, 1998, Sixth Edition*

Tularemia – *Franciscella tularensis*; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; toxemic stage heralds generalized morbilliform eruption, erythema multiforme-like rash, crops of red nodules on extremities *Cutis 54:279–286, 1994; Medicine 54:252–269, 1985*

Ocular vaccinia *JAAD 50:495–528, 2004*

Verrucae planae (flat warts)

Yellow fever

## INFILTRATIVE DISEASES

Amyloidosis – diffuse eyelid swelling *J Dermatol 19:113–118, 1992*

Colloid milium

Langerhans cell histiocytosis

Mucinosis, cutaneous

Orbital pseudotumor (eosinophilic or basophilic granulomas) (pseudotumor of orbit) *Ann Allergy 69:101–105, 1992*

Scleredema – periorbital edema *JAAD 52:S41–44, 2005*

Scleromyxedema *JAAD 928–930, 1996*

Self-healing juvenile cutaneous mucinosis *JAAD 50:S97–100, 2004*

Xanthogranuloma, adult *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.141, 1999*

Juvenile xanthogranuloma *JAAD 14:405–411, 1986*

Xanthoma disseminatum – periorbital papules *JAAD 15:433–436, 1991*

## INFLAMMATORY DISEASES

Blepharitis granulomatosa – edema *AD 120:1141–1142, 1984*

Chronic dacryoadenitis *Jpn J Ophthalmol 43:109–112, 1999*

Cytophagic histiocytic panniculitis *Ped Derm 21:246–249, 2004*

Erythema multiforme, including Stevens–Johnson syndrome *Rook p.2999, 1998, Sixth Edition*

Keratitis

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – eyelid edema *Ped Derm 18:403–405, 2001; Ann DV 126:826–828, 1999; JAAD 36:342–346, 1997*

Neutrophilic eccrine hidradenitis – red/violaceous periorbital plaques *AD 139:531–536, 2003; JAAD 38:1–17,1998; AD 131:1141–1145, 1995; JAAD 28:775, 1993*

Nodular fasciitis *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.147, 1999*

Orbital inflammation

Orbital myositis *Curr Opinion Rheumatol 9:504–512, 1997*

Orbital pseudotumor – eyelid swelling, proptosis, ophthalmoplegia *NEJM 341:265–273, 1999*

Orofacial granulomatosis – facial edema with swelling of lips, cheeks, eyelids, forehead, mucosal tags, mucosal cobblestoning, gingivitis, oral aphthae *BJD 143:1119–1121, 2000*

Periorbital cellulitis, myositis, vitiligo

Pruritic linear urticarial rash, fever, and systemic inflammatory disease of adolescents – urticaria, linear lesions, periorbital edema and erythema, and arthralgia *Ped Derm 21:580–588, 2004*

Relapsing polychondritis – bilateral eyelid edema *JAAD 41:299–302, 1999*

Rosai–Dorfman syndrome – eyelid edema, periorbital edema *BJD 145:323–326, 2001*

Sarcoid *AD 118:356–357, 1982;* Parinaud's oculoglandular syndrome – conjunctival inflammatory disease

Scleritis

## METABOLIC DISEASES

Acrodermatitis enteropathica

Acromegaly – edematous thick eyelids *Rook p.2704, 1998, Sixth Edition*

Carcinoid syndrome *JAAD 46:161–183, 2002*

Cardiac disease – congestive heart failure *Rook p.2983, 1998, Sixth Edition*

Cushing's syndrome

Hepatic disease *Rook p.2290, 1998, Sixth Edition*

Hypoalbuminemia *JAAD 48:617–619, 2003; Rook p.2983, 1998, Sixth Edition*

Pellagra – eyelid edema *Cutis 69:96–98, 2002*

Pregnancy – eyelid edema *Rook p.3270, 1998, Sixth Edition*

Renal failure – glomerulonephritis, nephrotic syndrome *Rook p.2290, 1998, Sixth Edition*

Thyroid disease – hypothyroidism (myxedema) – puffy edema of eyelids *JAAD 26:885–902, 1992;* hyperthyroidism, Graves' disease (endocrine exophthalmos), myxedema *Semin Neurol 20:43–54, 2000; Semin Ophthalmol 14:52–61, 1999;* hyperthyroidism – unilateral eyelid edema *JAAD 48:617–619, 2003*; Grave's disease – periorbital edema *NEJM 341:265–273, 1999; Rook p.3010, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Actinic keratosis *Rook p.2988, 1998, Sixth Edition*

Aldosterone-producing tumors – heliotrope rash *Ghatan p.246, 2002, Second Edition*

Angiosarcoma of face and scalp (Wilson Jones angiosarcoma) – eyelid edema *BJD 143:660–661, 2000; Hautarzt 51:419–422, 2000; JAAD 38:143–175, 1998; Am J Ophthalmol 125:870–871, 1998; Aust N Z J Ophthalmol 23:69–72, 1995;* eyelid edema *Hautarzt 51:419–422, 2000;* eyelid papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins, 1999, p.125; nodule AD 121:549–550, 1985;* yellow plaques of eyelids *JAAD 34:308–310, 1996; nodule AD 121:549–550, 1985*

Atypical lymphoid hyperplasia *JAAD 37:839–842, 1997*

Basal cell carcinoma *Rook p.2988, 1998, Sixth Edition*

Benign and malignant ectodermal and mesodermal tumors (orbital tumors)

Blue nevus, cellular *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.90–91, 1999*

Bowen's disease *Rook p.2988, 1998, Sixth Edition*

Chalazion *Rook p.2984, 1998, Sixth Edition*

Dermoid cyst

Embryonal rhabdomyosarcoma – tumor of orbit, nasopharynx, nose; eyelid edema *AD 138:689–694, 2002; Rook p.2369, 1998, Sixth Edition*

Epidermal inclusion cyst

Eruptive hidradenoma – papules *Cutis 46:69–72, 1990*

Ethmoid sinus mucocele

Fibrosarcoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.148, 1999*

Fibrous histiocytoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.148, 1999*

Hidrocystoma

Juvenile fibromatosis *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.14, 1999*

Kaposi's sarcoma *NEJM 333:799–800, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.122, 1999*

Keratoacanthoma *Rook p.2988, 1998, Sixth Edition*

Leiomyoma, retroperitoneal – periorbital and peripheral edema *Can J Surg 25:79–80, 1982*

Leukemia, including HTLV-1, acute myelogenous leukemia – papules *JAAD 40:966–978, 1999;* heliotrope as presentation of acute myelomonocytic leukemia *Leuk Lymphoma 25:393–398, 1997*

Lymphoma – cutaneous T-cell or B-cell lymphoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.129, 1999*; CTCL mimicking facial erysipelas *BJD 152:1381–1383, 2005;* Epstein–Barr virus-associated T-cell lymphoma – eyelid edema and intramuscular infiltration mimicking dermatomyositis *BJD 147:1244–1248, 2002;* angiocentric lymphoma *Can J Ophthalmol 32:259–264, 1997;* B-cell lymphoma; nasal lymphoma *JAAD 38:310–313, 1998;* large cell B-cell lymphoma; midline granuloma presenting as orbital cellulitis *Graefes Arch Clin Exp Ophthalmol 234:137–139, 1996;* HTLV-1 lymphoma

Melanoma – primary orbital melanoma of infancy *Ped Derm 21:1–9, 2004;* congenital melanoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.93, 1999*

Merkel cell tumor

Metastases – breast cancer – periorbital edema and erythema *Cutis 70:291–293, 2002; BJD 146:919, 2002;* eyelid enlargement *JAAD 37:362–364, 1997;* also seen with gastrointestinal, lung, skin, and genitourinary tract malignancies

Myeloma – cutaneous crystalline deposits *AD 130:484–488,1994*

Myxomas – periorbital cutaneous myxomas *JAAD 34:928–930, 1995*

Neuroblastoma, metastatic – periorbital ecchymoses mimics child abuse *Pediatr Radiol 25Suppl1:S90–92, 1995*

Neurofibroma, plexiform *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.97, 1999*

Orbital tumors *NEJM 341:265–273, 1999;* ethmoid sinus carcinoma *Rook p.2984, 1998, Sixth Edition*

Phakomatous christoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.181, 1999*

Plasmacytoma – retrobulbar *NEJM 345:1917, 2001*

Rhabdomyosarcoma – rapid growth with explosive exophthalmos *Ped Derm 21:1–9, 2004; NEJM 350:494–502, 2004*

Sebaceous gland carcinoma

Seborrheic keratosis

Primary sweat gland carcinoma

Squamous cell carcinoma *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.35, 1999*

Squamous cell carcinoma of the eyelid *Rook p.2988, 1998, Sixth Edition*; of the lacrimal sac *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.185, 1999*

Syringomas

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – periorbital edema *Ped Derm 21:551–554, 2004*

Trichoepithelioma

Vellus hair cysts

## PARANEOPLASTIC DISORDERS

Necrobiotic xanthogranuloma with paraproteinemia *BJD 144:158–161, 2001; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.141, 1999*

Paraneoplastic pemphigus – erythema and erosions *JAAD 33:312–315, 1995*

## PHOTODERMATITIS

Actinic granuloma (annular elastolytic giant cell granuloma) – periorbital *Graefes Arch Clin Exp Ophthalmol 236:646–651, 1998*

Chronic actinic dermatitis

Photoaging *Rook p.2290, 1998, Sixth Edition*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acne rosacea *JAAD 37:346–348, 1997; AD 121:87, 1985;* rosacea lymphedema *AD 131:1069–1074, 1995;* periorbital chronic edema *Rook p.2104–2110, 1998, Sixth Edition*; *Arch Ophthalmol 108:561–563, 1990*; rosacea lymphedema (solid facial edema) *J Dermatol 27:214–216, 2000; AD 131:1069–1074, 1995, Cutis 61:321–324, 1998*

Acne vulgaris – central forehead, periorbital skin, cheeks *Cutis 61:215–216, 1998; JAAD 22:129–130, 1990; AD 121:87–90, 1985;* ruptured acne cyst

Alopecia mucinosa

Atopic dermatitis

Blepharitis granulomatosa *AD 120:1141, 1984*

Epidermolysis bullosa – junctional epidermolysis bullosa letalis (laminin 5 defect) – perioral and periorbital erosions

Granuloma annulare

Lichen planus of eyelids – heliotrope *JAAD 27:638, 1992*

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Orbital fat herniation

Psoriasis

Seborrheic dermatitis

Vitiligo and sunburn

## PSYCHOCUTANEOUS

Delusions of parasitosis

Factitial dermatitis *Rook p.2984, 1998, Sixth Edition*

## SYNDROMES

Anhidrotic ectodermal dysplasia

Ascher's syndrome – periorbital edema; edema of lips, double lip, blepharochalasis *AD 139:1075–1080, 2003; Rook p.2984, 1998, Sixth Edition; Klin Monatsbl Augenheilkd 65:86–97, 1920*

Ehlers–Danlos type VIIc (dermatosparaxis) – puffy around the eyes

Episodic angioedema associated with eosinophilia

Fabry's disease (angiokeratoma corporis diffusum ($\alpha$-galactosidase A)) – X-linked recessive; upper eyelid edema *NEJM 276:1163–1167, 1967;* edema of hands, arms, eyelids *AD 140:1526–1527, 2004; Arch Ophthal 74:760, 1965*

Familial sea-blue histiocytosis – autosomal recessive; patchy gray pigmentation of face, upper chest, shoulders; eyelid edema, facial nodules *Dermatologica 174:39–44, 1987*

Hypereosinophilic syndrome

I-cell disease (mucolipidosis II) – puffy eyelids; small orbits, prominent eyes, fullness of lower cheeks; small telangiectasias; fish-mouth appearance, short neck; gingival hypertrophy *Textbook of Neonatal Dermatology, p.445, 2001; Birth Defects 5:174–185, 1969*

Kawasaki's disease

Lipoid proteinosis

Lymphedema–distichiasis syndrome – periorbital edema, vertebral abnormalities, spinal arachnoid cysts, congenital heart disease, thoracic duct abnormalities, hemangiomas, cleft palate, microphthalmia, strabismus, ptosis, short stature, webbed neck *Ped Derm 19:139–141, 2002*

Melkersson–Rosenthal syndrome – granulomatous blepharitis *BJD 149:222–224, 2003; AD 139:1075–1080, 2003; Dermatol Clin 14:371–379, 1996*

Multiple symmetric lipomatosis

NAME/LAMB syndromes

Neurofibromatosis – plexiform neuromas *Ped Derm 21:1–9, 2004*

Niemann–Pick disease, Type B *Metab Ped Syst Ophthal 15:16–20, 1992*

Noonan's syndrome – periorbital lymphedema *BJD 129:190–192, 1993*

Sly syndrome

Sweet's syndrome *JAAD 24:140–141, 1991;* in acute myelogenous leukemia *JAAD 45:590–595, 2001*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55kDa TNF receptor *AD 136:1487–1494, 2000*

Williams syndrome – puffy eyelids *Pediatrics 75:962–968, 1985*

Yellow nail syndrome *Rook p.2290, 1998, Sixth Edition*

Zellweger (cerebrohepatorenal syndrome) syndrome – puffy eyelids *J Neurol Sci 69:9–25, 1985*

## TOXINS

Arsenic poisoning – acute *BJD 149:757–762, 2003*

Alkali burn

Eosinophilia myalgia syndrome *J Rheumatol 17:1527–1533, 1990*

## TRAUMA

Child abuse *Optom Clin 5:125–160, 1996*

Coma bullae – eyelid edema *Cutis 69:265–268, 2002*

Cryosurgery

Subcutaneous emphysema *AD 134:557–559, 1998;* of eyelid due to communication between paranasal space and eyelid *Rook p.2988, 1998, Sixth Edition*

Physical trauma

Radiation blepharopathy – *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.21, 1999*

Subperiosteal hematomas *NEJM 341:265–273, 1999*

Surgery – after Mohs' surgery of nose – raccoon eyes; elephantiasis of the eyelids following repeated craniotomy *J Neurosurg 47:293–296, 1977*

Valsalva maneuver

## VASCULAR DISEASES

Acute hemorrhagic edema of infancy – eyelid edema *Cutis 68:127–128, 2001*

Angiolymphoid hyperplasia with eosinophilia *Ped Derm 15:91–96, 1998*; *Ann Allergy 69:101–105, 1992*

Carotid–cavernous sinus fistula – eyelid edema *JAAD 48:617–619, 2003*

Cavernous sinus thrombosis *NEJM 341:265–273, 1999; Arch Neurol 45:567–572, 1988*

Churg–Strauss disease – non-pitting periorbital edema *Medicine 78:26–37, 1999*

Congestive heart failure – eyelid edema *JAAD 48:617–619, 2003*

Disseminated intravascular coaguation *BJ Ophth 72:3417–379, 1988*

Dural arteriovenous malformation – eyelid edema *JAAD 48:617–619, 2003*

Elephantiasis

Hemangiomas – rapid growth with explosive exophthalmos *Ped Derm 21:1–9, 2004; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.106–111, 1999*

Henoch–Schönlein purpura (anaphylactoid purpura) *Arthritis Rheum 40:859–864, 1997;* hemorrhagic vesicles and bullae *Ped Derm 12:314–317, 1995;* C4 deficiency *JAAD 7:66–79, 1982;* eyelid and facial edema due to intracerebral hemorrhage *Brain and Development 24:115–117, 2002;* upper eyelid ecchymoses and edema *Arch Ophthalmol 117:842–843, 1999*

Lymphatic malformation *Ped Derm 21:1–9, 2004*

Lymphedema *Rook p.2983, 1998, Sixth Edition*

Neonatal hemangiomatosis

Nevus flammeus *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.116, 1999*

Pyogenic granuloma

Recurrent cutaneous necrotizing eosinophilic vasculitis *AD 130:1159–1166, 1994*

Sturge–Weber syndrome

Superior vena cava syndrome *JAAD 31:281–283, 1994*

Temporal arteritis *Acta Ophth 57:362–368, 1979*

Thrombotic thrombocytopenic purpura (TTP)

Vascular malformations *Ped Derm 21:1–9, 2004*

Wegener's granulomatosis *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999;* pseudotumor orbiti in Wegener's granulomatosis

# PHOTOERUPTION AND/OR SEBORRHEIC DERMATITIS-LIKE ERUPTION

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – vitamin E, poison ivy, mango; bufexamac *Dermatology 197:183–186, 1998;* benzophenone *JAAD 49:S259–261, 2003;* oxybenzone – photoallergic contact dermatitis *BJD 131:124–129, 1994;* photoallergic contact dermatitis to plant and pesticide allergens *AD 135:67–70, 1999*

Bruton's hypogammaglobulinemia – dermatomyositis-like syndrome *Rook p.2749, 1998, Sixth Edition*

Bullous pemphigoid – UVA provoked *Acta DV 74:314–316, 1994;* seborrheic dermatitis-like *Clin Dermatol 5:6–12, 1987; Hautarzt 31:18–20, 1980;* photoexacerbation *BJD 126:91–92, 1992*

Complement deficiency-associated lupus erythematosus – homozygous C2 deficiency *J Clin Invest 58:853–861, 1976;* discoid lesions of lupus erythematosus *Arthritis Rheum 19:517–522, 1976;* C4 deficiency discoid LE-like lesions *Acta DV (Stockh) 64:552–554, 1984; JAAD 7:66–79, 1982;* C5, C6, C7, C8, and C9 – SLE, DLE *Medicine 63:243–273, 1984*

C1q deficiency – discoid LE-like lesions *BJD 142:521–524, 2000; Clin Exp Dermatol 48:353–358, 1982*

C1 esterase inhibitor deficiency – angioedema with discoid LE-like lesions *Am J Med 56:406–411, 1974*

C3 deficiency – discoid LE-like lesions *BJD 121:809–812, 1989*

C4 deficiency –

C5 deficiency – discoid LE-like lesions *JCI 57:1626–1634, 1976*

$CD4^+$ lymphocytopenia – photoaccentuated erythroderma with $CD4^+$ T lymphocytopenia *JAAD 35:291–294, 1996*

Chronic granulomatous disease – seborrheic dermatitis-like *AD 130:105–110, 1994;* seborrheic dermatitis of scalp *Dermatol Therapy 18:176–183, 2005; AD 103:351–357, 1971;* DLE and LE-like skin lesions and stomatitis in female carriers of X-linked chronic granulomatous disease – photosensitivity, chilblain lupus of fingertips and toes, rosacea-like lesions of face, lupus profundus, red plaques, stomatitis *Ped Derm 3:376–379, 1986; BJD 104:495–505, 1981;* autosomal recessive *Clin Genet 30:184–190, 1986*

Common variable hypogammaglobulinemia with polymorphic light eruption *Clin Exp Dermatol 24:273–274, 1999*

Dermatomyositis *Curr Opin Rheum 11:475–482, 1999; BJD 139:1116–1118, 1998; BJD 131:205–208, 1994; JAAD 24:959–966, 1991;* juvenile dermatomyositis *Ped Derm 2:207–212, 1985*

DiGeorge's syndrome – seborrheic dermatitis *Rook p.498, 1998, Sixth Edition*

Epidermolysis bullosa acquisita – photoexacerbation *BJD 142:517–520, 2000*

Fogo selvagem *JAAD 20:657–659, 1989;* endemic pemphigus of El Bagre region of Colombia with photosensitivity resembling Senear–Usher syndrome *JAAD 49:599–608, 2003*

Graft vs. host reaction

Hyper-IgE syndrome

Immunodeficiency and DNA repair defects *Clin Exp Immunol 121:1–7, 2000*

Lichen planus pemphigoides

Lupus erythematosus – systemic lupus erythematosus *Ped Derm 15:342–346, 1998; BJD 136:699–705, 1997; BJD 135:355–362, 1996; JID 100:58S-68S, 1993;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; DLE in children *Ped Derm 20:103–107, 2003;* subacute cutaneous lupus erythematosus – annular and polycyclic lesions of face, chest, arms *JAAD 38:405–412, 1998; Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988*; bullous, neonatal *Clin Exp Dermatol 26:105–106, 2001; Clin Exp Dermatol 26:184–191, 2001; Lupus 9:3–10, 2000; JAAD 40:675–681, 1999; Ped Derm 3:417–424, 1986; Medicine 63:362–378, 1984;* tumid lupus *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition*; drug-induced lupus erythematosus – various medications including hydralazine, procainamide, tiopronin *JAAD 31:665–667, 1994;* 6-demethyl, 6-deoxy, 4-dedimethylaminotetracycline (COL-3) *AD 137:471–474, 2001*

Mixed connective tissue disease *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Pemphigus erythematosus – both photodistributed and seborrheic distribution *JAAD 10:215–222, 1984;* induced by penicillamine, propranolol, captopril, pyritinolol, thioprionine *Rook p.2477, 1998, Sixth Edition*

Pemphigus foliaceus – starts in seborrheic distribution (scalp, face, chest, upper back) *Rook p.1860–1861, 1998, Sixth Edition; AD 83:52–70, 1961*

Pemphigus vulgaris – photoexacerbation *J Dermatol 23:559–563, 1996; J Cutan Pathol 7:429–430, 1980*

Severe combined immunodeficiency *Birth Defects 19:65–72, 1983*

Sjögren's syndrome – annular erythema *BJD 147:1102–1108, 2002*

Severe combined immunodeficiency syndrome *Dermatol Therapy 18:176–183, 2005; Ped Derm 17:91–96, 2000*

Urticaria, including solar urticaria

## DRUG-INDUCED

***JAAD 33:551–573, 1995; Semin Dermatol 8:149–157, 1989***

ACE-inhibitors-induced SCLE *Hum Pathol 28:67–73, 1997*

Aceclofenac – photoallergic contact dermatitis *Contact Dermatitis 45:170, 2001*

Acyclovir cream – photoallergic *Ann DV 128:184, 2001; Contact Dermatitis 41:54–55, 1999*

Afloqualone – photoleukomelanodermatitis (Kobori) *J Dermatol 21:430–433, 1994*

Alprazolam (Xanax) – phototoxic *JAAD 40:832–833, 1999; Dermatologica 181:75, 1990*

Amantidine – UVA *Contact Dermatitis 9:165, 1983*

Amiodarone – UVA *Ann Pharmacother 34:1075, 2000; Circulation 92:1665, 1995; Acta DV 67:76–79, 1987; BJD 115:253–254, 1986; AD 120:1591–1594, 1984; BJD 110:451–456, 1984*

Amitryptiline *Am J Hematol 53:49–50, 1996*

Amlodipine – photo-induced telangiectasia *BJD 142:1255–1256, 2000*

Ampicillin

Ampiroxicam *Dermatology 195:409–410, 1997; Contact 34:298–299, 1996*

Antidepressants

Antifungals (topical)
- Jadit *Med J Aust 1 (13):651–652, 1973; BJD 82:224–229, 1970*
- Multifungin *AD 95:287–291, 1967*
- Fentichlor *AD 95:287–291, 1967*

Argyria – slate-gray pigmentation of sun-exposed areas (forehead, nose, hands) *Am J Kidney Dis 37:1048–1051, 2001; BJD 104:19–26, 1981; AD 114:373–377, 1978*

Arsenic *Ghatan p.255, 2002, Second Edition*

Aspirin – UVA

Atabrine (mepacrine) – greenish–yellow pigmentation of face, hands, feet; then diffuse *Am J Med Sci 192:645–650, 1936*

Atenelol-induced lupus erythematosus *JAAD 37:298–299, 1997*

Azeperone – UVA

Azapropazone

Azathioprine – pellagrous dermatitis *JAAD 46:597–599, 2002*

Bendroflumethiazide – UVA

Benoxaprofen (NSAID) – UVA and UVB; persistent photosensitivity *BJD 121:551–562, 1989; BJD 115:515–516, 1986; JAAD 7:689–690, 1982;* photo-onycholysis *JAAD 7:678–680, 1982*

Benzidamine hydrochloride (NSAID) – UVA

Benzocaine – photocontact allergy *AD 117:77–79, 1981*

Benzodiazepines – UVB

Beta blockers

Calcipotriene and UVB *AD 131:1305–1307, 1995*

Calcium channel blockers – felodipine, nifedipine, amlodipine, diltiazem – photodistributed telangiectasias *JAAD 45:323–324, 2001; BJD 136:974–975, 1997; J Allergy Clin Immunol 97:852–855, 1996*

Capecitabine (Xeloda) *JAAD 47:453, 2002*

Captopril – including drug-induced SCLE *Lancet 345:398, 1995;* LE-like *Ann DV 115:167–169, 1988; Acta DV 65:447–448, 1985*

Carbamazepine – pellagrous dermatitis *JAAD 46:597–599, 2002*

Carprofen – UVA

Cefazolin – photo-recall reaction *Cutis 73:79–80, 2004*

Ceftazidime *Lancet 341 (8854):1221–1222, 1993*

Cetuximab – seborrheic dermatitis-like eruption *J Clin Oncol 18:904–914, 2000*

Chloramphenicol – pellagrous dermatitis *JAAD 46:597–599, 2002*

Chlordiazepoxide *AD 91:362–363, 1965*

Chloroquine *AD 118:290, 1982;* phototoxicity leading to vitiligo *J R Army Med Corps 144:163–165, 1998*

Chlorpromazine – phototoxicity and photoallergy *AD 98:354–363, 1968;* lichenoid dermatitis *Dermatologica 159:46–49, 1979;* immediate and delayed photoallergy *AD 111:1469–1471, 1975*

Chlorpropamide *Dermatologica 146:25–29, 1973* Chlorthiazide

Chrysotherapy – drug-induced SCLE *JAAD 35:147–169, 1996;* gold (chrysiasis) – slate-blue hyperpigmentation around the eyes and in sun-exposed areas *JAAD 39:524–525, 1998;* oral gold therapy with laser therapy *AD 131:1411–1414, 1995;* seborrheic dermatitis-like eruption *Ghatan p.23, 2002, Second Edition*

Cilazapril-induced SCLE *Lancet 345:398, 1995*

Cimetidine – seborrheic dermatitis-like eruption *AD 117:65–66, 1981*

Cinchocaine (dibucaine) – photocontact dermatitis *Contact Dermatitis 39:139–140, 1998*

Cinnarizine – drug-induced SCLE *Lupus 7:364–366, 1998*

Ciprofloxacin – photo-recall *JAAD 44:1054–1058, 2001*

Clinoril

Clioquinol

Clomipramine *Am J Psychiatry 146:552–553, 1989*

Clobazam – photo-induced TEN *BJD 135:999–1002, 1996*

Clorazepate dipotassium – photo-onycholysis *JAAD 21:1304–1305, 1989*

Clozapine *J Clin Psychiatry 56:589, 1995*

COL-3 – non-antibiotic tetracycline derivative anti-cancer agent – drug-induced lupus erythematosus *AD 137:471–474, 2001*

Corticosteroids – steroid perioral dermatitis

Dacarbazine – UVA/?UVB – phototoxicity *JAAD 50:783–785, 2004; JAAD 40:367–398, 1999; Photodermatol 6:140–141, 1989; JAAD 4:541–543, 1981*

Dapsone *Eur J Dermatol 11:50–53, 2001; Z Hautkr 63:53–54, 1988 (German); Lepr Rev 58:425–428, 1987*

Demeclocycline – phototoxic and photolichenoid eruptions *AD 109:97–98, 1974*

Dermatomyositis-like drug reaction
- BCG *Scand J Rheumatol 8:187–191, 1979*
- Carbamazepine *Br Med J ii:1434, 1966*
- Hydroxyurea – acral dermatomyositis lesions *JAAD 21:797–799, 1989*
- NSAIDS (niflumic acid and diclofenac) *Dermatologica 178:58–59, 1989*
- Penicillamine *J Rheumatol 14:997–1001, 1987*

Desipramine – blue–gray photo-pigmentation *AD 129:474–476, 1993*

Desoximetasone – UVA

Diazepam

Diflunisal – UVA – lichenoid photoreactive epidermal necrosis *JAAD 20:850–851, 1989*

Diltiazem *JAAD 38:201–206, 1998;* reticulated, blue–gray, photodistributed hyperpigmentation *AD 137:179–182, 2001;* drug-induced SCLE *Hum Pathol 28:67–73, 1997*

Diphenhydramine – UVB *AD 110:249–252, 1974;* photoallergic contact dermatitis *Contact Dermatitis 38:282, 1998*

Doxepin cream *JAAD 34:143–144, 1996*

Doxycycline *Rook p.1960, 1998, Sixth Edition; Contact Dermatitis 37:93–94, 1997; Clin Exp Dermatol 18:425–427, 1993;* papular photosensitivity *AD 108:837–838, 1973;* photo-onycholysis *Rook p.1960, 1998, Sixth Edition*

D-penicillamine *JAAD 35:147–169, 1996*

Droxicam *Int J Dermatol 36:318–320, 1997*

Efavirenz – in HIV disease *JAAD 49:159–160, 2003; AIDS 15:1085–1086, 2001*

Enalapril – photolichenoid eruption *Dermatology 187:80, 1993*

Enoxacin *Photodermatol Photoimmunol Photomed 9:159–161, 1993;* photoallergy *Photodermatol 6:57–59, 1989*

Ethionamide – pellagrous dermatitis *JAAD 46:597–599, 2002*

Etoposide and cyclophosphamide – ultraviolet recall *Clin Exp Dermatol 18:452–453, 1993*

Etretinate – UVA/?UVB

Farmorubicin – erythematobullous photoeruption *Contact Dermatitis 30:303–304, 1994*

Felodipine-induced photodistributed facial telangiectasia *JAAD 45:323–324, 2001*

Fenofibrate *JAAD 35:775–777, 1996; Photodermatol Photoimmunol Photomed 7:136–137, 1990*

Fibric acid derivatives – UVA/UVB *JAAD 27:204–208, 1992*

Fleroxacin *Clin Exp Dermatol 21:46–47, 1996*

Fluorescein dye, IV *Retina 20:370–373, 2000; Photodermatol Photoimmunol Photomed 11:178–179, 1995*

Fluoroqinolones – lomafloxacin (UVA/?UVB) *AD 130:808–809, 1994;* ofloxacin *Int J Dermatol 32:413–416, 1993;* ciprofloxacin *BJD 123:9–20, 1990;* norfloxacin *J Dermatol Sci 18:1–10, 1998; Contact Derm 26:5–10, 1992; AD 130:261, 1994;* sparfloxacin *JAAD 38:945–949, 1998;* drug-induced porphyria cutanea tarda due to fluoroquinolone *Dermatol Clinic 4:291–296, 1986*

5-fluorocytosine *JAAD 8:229–235, 1983*

5-fluorouracil – phototoxicity *JAAD 40:367–398, 1999; JAAD 25:905–908, 1991; Cutis 22:609–610, 1978;* photo-distributed hyperpigmentation *Bolognia p.978, 2003;* topical *JAAD 4:633–649, 1981*

Fluoxetine *J Clin Psychiatry 56:486, 1995*

Flutamide *Photodermatol Photoimmunol Photomed 12:216–218, 1996; Eur J Dermatol 8:427–429, 1998;* with residual vitiligo *Contact Dermatitis 38:68–70, 1998*

Fluvoxamine *Australas J Dermatol 37:62, 1996*

Furosemide – phototoxic blisters *BJD 94:495–499, 1976*

Glyburide *Photodermatol 5:42–45, 1988*

Griseofulvin *Photodermatol 5:272–274, 1988;* drug-induced SCLE *JAAD 21:343–346, 1989; J Dermatol 15:76–82, 1988;* exacerbation of lupus erythematosus *Cutis 17:361–363, 1976*

Hydantoin – pellagrous dermatitis *JAAD 46:597–599, 2002*

Hydroxychloroquine *Ann DV 128:729–731, 2001*

Hydrochlorthiazide – drug-induced SCLE *Ann Intern Med 103:49–51, 1985*

Hydroxyurea *JAAD 36:178–182, 1997;* hydroxyurea-associated squamous dysplasia – photodistributed red scaly patches *JAAD 51:293–300, 2004*

Ibuprofen – UVA *JAAD 26:114–116, 1992*

Imipramine – brown, slate-gray, or purple hyperpigmentation *JAAD 40:159–166, 1999; JAMA 254:357–358, 1985*

Indomethacin, topical *BJD 90:91–93, 1974*

Interferon-$\alpha$ and ribavirin *BJD 147:1142–1146, 2002*

Interferon-$\beta$ – drug-induced SCLE *Lancet 352:1825–1826, 1998*

Isoniazid – photo-lichenoid eruption *Photodermatol Photoimmunol Photomed 14:77–78, 1998;* pellagrous dermatitis *JAAD 46:597–599, 2002*

Isotretinoin – UVA/?UVB

Itraconazole – photodermatitis and retinoid-like dermatitis *J Eur Acad Dermatol Venereol 14:501–503, 2000; J Eur Acad DV 14:444, 2000*

Ketoconazole *Clin Exp Dermatol 13:54, 1988*

Ketoprofen – UVA, photocontact dermatitis *Am J Contact Dermatitis 12:180–181, 2001; Contact Dermatitis 43:16–19, 2000;* prolonged photosensitivity *Dermatology 201:171–174, 2000*

Lichen planus-like photoeruptions *JAAD 33:551–73, 1995*
- Chloroquine
- Demeclocycline
- Enalapril
- Ethambutol *JAAD 33:675–676, 1995*
- Hydrochlorthiazide – UVA
- Hydroxychloroquine
- Quinidine
- Quinine
- Sulfonamides
- Sulfonylureas
- Tiopronin *JAAD 31:66–67, 1994*

Lupus erythematosus – drug-induced lupus erythematosus – phenytoin, cimetidine, oral contraceptives, hydralazine, methyldopa, penicillins, procainamide, sulfonamides, tetracycline, thiouracil, tiopronin, trimethadone *Ghatan p.232, 2002, Second Edition; JAAD 31:665–667, 1994;* drug-induced subacute cutaneous LE – photodistributed erythema, annular scaly lesions – $\alpha$-methyl dopa, carbamazepine *AD 141:103–104, 2005;* chlorpromazine, cotrimoxazole, phenytoin, ethosuximide, gold salts, isoniazide, lithium, methylthiouracil, minocin, naproxen *JAMA 268:51–52, 1992;* oral contraceptives, para-amino salicylic acid, penicillin, penicillamine, phenylbutazone, phenylethylacetylurea, practolol, propylthiouracil, quinidine, reserpine, rifampin *Clin Exp Dermatol 26:260–262, 2001;* streptomycin, sulfasalazine, sulfonamides, terbinafine *BJD 139:1132–1133, 1998;* tetracycline, trimethadone *Ghatan p.233, 2002, Second Edition;* pravastatin, simvastatin, hydrochlorthiazide, enalapril, lisinopril, diltiazem, nifedipine, interferon-$\alpha$, griseofulvin, oxprenolol, procainamide, etanercept, infliximab *AD 139:45–49, 2003; Lancet 359:579–580, 2002*

Melofenamic acid – UVA

6-mercaptopurine

Mesalazine *Am J Gastroenterol 94:3386–3387, 1999*

Methotrexate photorecall *Cutis 66:379–382, 2000; JAAD 40:367–398, 1999; Photodermatol Photoimmunol Photomed 11:55–56, 1995; AD 117:310–311, 1981; Arch Int Med 115:285–293, 1965*

Methyldopa *AD 124:326–327, 1988*

Methylene blue *Pediatrics 97:717–721, 1996*

Minoxidil – UVA

Nabumetone – UVA; pseudo-PCT *J Rheumatol 27:1817–1818, 2000; JAAD 40:492–493, 1999*

Nalidixic acid – UVA *Photochem Photobiol 39:57–61, 1984;* bullous photoreaction *Am J Med 58:576–580, 1975; BJD 91:523–528, 1974*

Naproxen – UVA – pseudoporphyria *Scand J Rheumatol 24:108–111, 1995;* drug-induced SCLE *JAAD 35:147–169, 1996*

Nicotinamide

Nifedipine – UVB *JAAD 38:201–206, 1998;* photodistributed facial telangiectasia *BJD 129:630–633, 1993; Dermatologica 182:196–198, 1991;* drug-induced SCLE *Hum Pathol 28:67–73, 1997*

Oral contraceptives *Am Fam Physician 4:68–74, 1971; Med Ann Dist Columbia 40:501–503, 1971; Obstet Gynecol Surv 25:389–401, 1970; AD 101:181–186, 1970; BJD 81:946–949, 1969; JAMA 203:980–981, 1968*

Oxaprozin – pseudoporphyria *AD 132:1519–1520, 1996*

Oxyphenbutazone – UVA

Paraquat – due to percutaneous absorption *Contact Dermatitis 29:163–164, 1993*

Pellagrous dermatitis – antidepressants, sulfonamides *Ghatan p.231, 2002, Second Edition;* phenytoin, INH, 5-fluorouracil, chloramphenicol, pyrazinamide, azathioprine, ethionamide, phenobarbital, 6-mercaptopurine *Semin Dermatol 10:282–292, 1991* (all of the above – also seborrheic dermatitis-like) *BJD 96:99–106, 1977*

Phenofibrate – photolichenoid dermatitis *Photodermatol Photoimmunol Photomed 9:156–158, 1993*

Phenothiazines

Phenylbutazone – UVA

Photodynamic therapy

Olaquindox – UVA and UVB

Oxolinic acid *Photochem Photobiol 39:57–61, 1984*

Oxyprenolol – drug-induced SCLE *JAAD 35:147–169, 1996*

Pellagrous dermatitis – carbamazepine, phenobarbital, hydantoins, INH, azathioprine, chloamphenicol, ethionamide, protionamide *JAAD 46:597–599, 2002*

Phenelzine *Photodermatol 5:101–102, 1988*

Phenobarbital – pellagrous dermatitis *JAAD 46:597–599, 2002*

Phenothiazines (promethazine, chlorpromazine) – UVA *AD 111:1364–1365, 1975*

Photorecall eruption – Bufferin *Eur J Dermatol 8:280–282, 1998;* cefazolin and gentamicin *Cutis 46:59–61, 1990*

Piketoprofen *Contact Dermatitis 43:315, 2000*

Pilocarpine – UVA – photocontact dermatitis *Contact Dermatitis 25:133–134, 1991*

Piperacillin – photo-recall *JAAD 44:1054–1058, 2001*

Piroxicam (NSAID) – UVA *JAAD 23:479–483, 1990*; *JAAD 20:706–707, 1989; Contact Dermatitis 17:73–79, 1987; JAAD 15:1237–1241, 1986;* drug-induced SCLE *JAAD 35:147–169, 1996*

Plaquenil

Procainamide – drug-induced LE and drug-induced SCLE *JAAD 35:147–169, 1996*

Propionic acid derivatives (NSAIDS) – pseudo-PCT *J Cut Med Surg 3:162–166, 1999*

Protionamide – pellagrous dermatitis *JAAD 46:597–599, 2002*

Protryptiline

Pseudolymphoma, drug induced – anticonvulsants *Rook p.2401–2402, 1998, Sixth Edition*; captopril, enalapril *J Clin Pathol 39:902–907, 1986;* atenolol *Clin Exp Dermatol 115:119–120, 1990;* ACE-inhibitors, amitryptiline *Curr Probl Dermatol 19:176–182, 1990*

Psoralens – UVA *JAAD 36:183–185, 1997*; *Curr Probl Dermatol 15:25–38, 1986;* bath PUVA *Acta DV 77:385–387, 1997*

Pyridoxine (vitamin $B_6$) *Dermatology 201:356–360, 2000; JAAD 35:304–305, 1996, JAAD 39:314–317, 1998; JAAD 35:304–305, 1996;* photoallergic *J Dermatol 23:708–709, 1996*

Pyrimethamine

Pyrizinamide – lichenoid photodermatitis *JAAD 40:645–646, 1999*

Quinidine *Cutis 17:72–74, 1976; AD 1221:525–528, 1985; AD 119:39–43, 1983;* photo-induced lichen planus *Cutis 29:595–597, 600, 1982*; photo-livedoid reticularis *JAAD 12:332–336, 1985; Dermatologica 148:371–376, 1974; AD 108:100–101, 1973*

Quinine dermatitis – UVA *Clin Exp Dermatol 19:246–248, 1994; Contact Dermatitis 26:1–4, 1992; BJD 117:631–640, 1987; AD 122:909–911, 1986;* persistent light reactivity *Photodermatol Photoimmunol Photomed 7:166–168, 1990;* photo-onycholysis *Clin Exp Dermatol 14:335, 1989;* lichenoid or eczematous photodermatitis *Dermatologica 174:285–289, 1987*

Ranitidine *Dermatology 201:71–73, 2000; Clin Exp Dermatol 20:146–148, 1995;* drug-induced SCLE *J Cutan Pathol 26:95–99, 1999*

Retinoids *Pharmacol Ther 40:123–135, 1989; BJD 115:275–283, 1986*

Ribavarin – photoallergic *Am J Gastroenterol 94:1686–1688, 1999*

Rilmenidine *Photodermatol Photoimmunol Photomed 14:132–133, 1998*

Risperidone *Postgrad Med J 74:252–253, 1998*

Saquinavir *Genitourin Med 73:323, 1997*

Drug eruptions mimicking seborrheic dermatitis
- Alpha methyl dopa
- Chlorpromazine
- Cimetidine

Simvastatin *Contact Dermatitis 33:274, 1995;* chronic actinic dermatitis *Contact Dermatitis 38:294–295, 1998;* phot-recall *Clin Oncol (R Coll Radiol) 7:325–326, 1995*

Spironolactone – drug-induced SCLE *JAAD 35:147–169, 1996*

Stilbenes

Sulfanilamides

Sulfapyridine – pellagrous dermatitis *Ghatan p.147, 2002, Second Edition*

Sulfonamides – UVB; sulfisoxazole ointment (phototoxic) *Arch Ophthalmol 100:1286–1287, 1982; Arch Ophthalmol 99:609–610, 1981*

Sulfanilamide

Sulfonylureas, including drug-induced SCLE *JAAD 35:147–169, 1996*

Suprofen (NSAID) – UVA photocontact dermatitis *J Dermatol 21:352–357, 1994*

Suramin-induced sun exposed keratoses *AD 131:1147–1153, 1995*

Taxotere photorecall

Tegafur (chemotherapy) – phototoxicity *JAAD 40:367–398, 1999*

Terbinafine – drug-induced SCLE *BJD 148:1056, 2003; JAAD 44:925–931, 2001; AD 137:1196–1198, 2001*

Tetracycline – UVA; phototoxic sunburn; solar urticaria *Australas J Dermatol 41:181–184, 2000; BJD 132:316–317, 1995;* photo-onycholysis *J Am Pod Med Assoc 75:658–660, 1985; Acta DV 63:555–557, 1983; J Am Podiatry Assoc 68:172–177, 1978;* porphyria cutanea tarda and erythropoietic protoporphyria-like changes *AD 112:661–666, 1976*

Tetrazapam *Dermatology 197:193–194, 1998*

Thiabendazole – photoaggravated allergic contact dermatitis *Contact Dermatitis 28:243–244, 1993*

Thiazide diuretics – photoallergic dermatitis *AD 125:1355–1358, 1989; BJD 116:749–760, 1987; AD 121:522–524, 1985; J Dermatol 7:293–296, 1980;* including thiazide-induced lupus erythematosus *J Toxicol Clin Toxicol 33:729–733, 1995; Ann Intern Med 103:49–51, 1985*

Thioridazine – photoallergy *Contact Dermatitis 17:241, 1987*

Tiaprofenic acid (NSAID) – UVA – systemic or topical *Contact Dermatitis 20:270–273, 1989; Br J Rheumatol 22:239–242, 1983*

Tiopronin – photoinduced lichen planus *JAAD 31:66–67, 1994*

Tobramycin – photo-recall *JAAD 44:1054–1058, 2001*

Tolbutamide *J Indian Med Assoc 82:289–291, 1984*

Torsemide (loop diuretic) – photolichenoid reaction *Mayo Clin Proc 72:930–931, 1997*

Triamterene *Contact Dermatitis 17:114–115, 1987*

Tricyclic antidepressants – UVA/?UVB – dermal pigmentation *JAAD 40:290–293, 1999*

Triflusal *J Eur Acad DV 14:219–221, 2000*

Trimethoprim *J Infect Dis 153:1001, 1986*

Valsartan *Pharmacotherapy 18:866–868, 1998*

Verapamil – drug-induced SCLE *Hum Pathol 28:67–73, 1997*

Vinblastine – UVB phototoxicity *JAAD 40:367–398, 1999; AD 111:1168–1170, 1975*

Voriconazole – photodermatitis with acute and chronic changes of sun damage *JAAD 52:S81–85, 2005;* photodermatitis and retinoid-like dermatitis *Ped Derm 21:675–678, 2004; Pediatr Infect Dis J 21:240–248, 2002; Clin Exp Dermatol 26:648–653, 2001*

## EXOGENEOUS AGENTS

Acriflavine (dye) (acridine derivative) *Rook p.796, 1998, Sixth Edition*

Aloe vera *Int J Dermatol 31:372, 1992*

Anabolic steroid abuse – worsening seborrhea *Cutis 44:30–35, 1989*

Anthracene

Anthraquinone (dye) *Contact Dermatitis 18:171–172, 1988*

Benzalkonium chloride – allergic reaction simulating dermatomyositis *Contact Dermatitis 31:50, 1994*

Benzydamine hydrochloride – photocontact dermatitis *Contact Dermatitis 23:125–126, 1990*

Bergamot aromatherapy oil – bullous phototoxic reactions *JAAD 45:458–461, 2001*

Bithionol *JAMA 199:89–92, 1967*

Buttercup – phytophotodermatitis *Ghanan p.260, 2002, Second Edition*

Cadmium reaction in tattoos – mercury-cadmium photoallergic reaction in red pigment *Ann Intern Med 67:984–989, 1967;* yellow *South Med J 55:792–795, 1962; AD 88:267–271, 1963*

Celery soup *BJD 135:334, 1996*

Chloracne – porphyria-like changes *Br J Ind Med 50:699–703, 1993*

Chromate and cobalt – contact allergy with immediate and delayed photoaggravation *Contact Dermatitis 33:282–284, 1995*

Chromium *BJD 97:411–416, 1977*

Cobalt salts – photocontact dermatitis *Contact Dermatitis 8:383–388, 1982;* in a bricklayer *Contact Dermatitis 7:154–155, 1981*

Compositae family *Acta DV Suppl (Stockh) 134:69–76, 1987; Contact Dermatitis 7:129–136, 1981; JAAD 2:417–424, 1980*

Creosote bush (*Larrea*) *JAAD 14:202–207, 1986*

Diallyl disulfide – photoallergic contact dermatitis *Contact Dermatitis 45:179, 2001*

Diaminodiphenylmethane – occupational photosensitivity *Contact Dermatitis 9:488–490, 1983*

Dill – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Dioxins – hyperpigmentation in sun-exposed areas *Bolognia p.980, 2003*

Disperse blue 35 – textile phototoxic dermatitis in factory workers *BJD 85:264–271, 1971;* bikini dermatitis *AD 112:1445–1447, 1976*

Eosin

Epoxy resin – persistent photsensitivity *AD 115:1307–1310, 1979*

Ethylenediamine – photocontact dermatitis *Contact Dermatitis 15:305–306, 1986*

Etofenamate *Contact Dermatitis 37:139–140, 1997*

Fennel – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Fentichlor – photoallergic contact dermatitis *Contact Dermatitis 18:3180320, 1988*

Fepradinol – photoallergic contact dermatitis *Contact Dermatitis 39:194–195, 1998*

Fig – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

'Florida water' or 'Kananga water' – phytophotodermatitis due to oil of bergamot *Cutis 70:29–30, 2002*

Flufenamic acid – photoallergic contact dermatitis *Contact Dermatitis 37:139–140, 1997*

Fluorescent lamps *BJD 89:351–359, 1973; BJD 81:420–428, 1969*

Flupenthixol *Photodermatol Photoimmunol Photomed 13:159–161, 1997*

Food allergy – seborrheic dermatitis-like eruption

Fragrances – musk ambrette *Contact Dermatitis 5:251–260, 1979*

Fungicide – mancozeb – photoallergic contact dermatitis *Contact Dermatitis 35:183, 1996;* Jadit *Arch Klin Exp Dermatol 233:287–295, 1966*

Furocoumarins

Garden carrot – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Halogen lamp *Dermatology 193:207–211, 1996*

Halogenated salicylanilides – photocontact dermatitis *AD 113:1372–1374, 1977; JID 54:145–149, 1970; AD 97:136–244, 1968* bath soaps *Am J Hosp Pharm 29:856–860, 1972; NEJM 278:81–84, 109, 1968; AD 94:255–262, 1966*

Hexachlorophene – persistent light reaction *JAAD 24:333–334, 1991*

Kombucha tea – pellagra *JAAD 53:S105–107, 2005*

Lemon – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Lichens *Contact Dermatitis 3:213–214, 1977*

Lime and Persian lime – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Methylene blue

Mercury-cadmium photoallergic reaction in red pigment of tattoos *Ann Intern Med 67:984–989, 1967*

6-methyl coumarin (fragrance) – photocontact dermatitis *JAAD 2:124–127, 1980; Contact Dermatitis 4:283–288, 1978*

Mineral oil – photoallergic contact dermatitis *Contact Dermatitis 20:291–294, 1989*

Musk ambrette – contact photoallergy *Australas J Dermatol 27:134–137, 1986; BJD 114:667–675, 1986;* pigmented photoallergic contact dermatitis *Contact Dermatitis 24:229–231, 1991; AD 117:432–434, 1981*

Mustard – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Nonoxynol – antiseptic preparation; contact photosensitivity *Photodermatol Photoimmunol Photomed 10:198–201, 1994*

Oakmoss *Contact Dermatitis 18:240–242, 1988*

Occlusive dressings – photosensitivity following treatment of occlusive dressings *AD 102:276–279, 1970*

PABA – allergic contact photodermatitis *Contact Dermatitis 6:230–231, 1980; AD 114:1665–1666, 1978*

Parsley – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Parsnip – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Parthenium hysterophorus – photocontact dermatitis *Dermatologica 157:206–209, 1978*

Persistent light reactions to photoallergens due to:
- Fragrances – musk ambrett, 6-methylcoumarin – UVA
- Halogenated salicylanilides – UVA/?UVB
- Sunscreens
- Optical whiteners

Pesticides – maneb and fenitrothion – airborne photocontact dermatitis *Contact Dermatitis 40:222–223, 1999*

Phenothiazines – photocontact dermatitis in pharmacist *Tohoku J Exp Med 176:249–252, 1995*

Phytophotodermatitis *J Cutan Med Surg 3:263–279, 1999; Am J Contact Dermat 10:89–93, 1999; Clin Dermatol 15:607–613, 1997; Clin Dermatol 4:102–121, 1986;* meadow dermatitis (Umbelliferae) *Rook p.796, 1998, Sixth Edition;* limes *Am J Epidemiol 125:509–514, 1987;* celery *Int J Dermatol 33:116–118, 1994;* parsnip *J Accid Emderg Med 16:453–454, 1999; NEJM 276:1484–1486, 1967;* parsley *Practioner 229:673–675, 1985; Ruta graveolens* (garden rue or common rue) *Contact Dermatitis 41:232, 1999; Citrus hystrix BJD 140:737–738, 1999;* figs *Cutis 48:151–152, 1991;* celery *AD 127:912–913, 1991; AD 126:1334–1336, 1990;* angelica *Photodermatol Photoimmunol Photomed 8:84–85, 1991;* chlorella *Int J Dermatol 23:263–268, 1984;* mokihana fruits in Hawaiian lei *Contact Dermatitis 10:224–226, 1984;* gas plant (*Dictamnus albus*) *Can Med Assoc J 130:889–891, 1984; NEJM 276:1484–1486, 1967;* sweet oranges (exocarp) – photo-cheilitis *Contact Dermatitis 9:201–204, 1983*

Primula photodermatitis *Contact Dermatitis 25:265–266, 1991*

Psorolea corylifolia (babchi) *JAAD 53:S105–107, 2005*

Quinine and tonic water *BJD 1331:734–735, 1994*

Rhubarb wine – photoallergic contact dermatitis *Photodermatol 1:43–44, 1984*

Rivanol (dye) (acridine derivative) *Rook p.796, 1998, Sixth Edition*

Rose bengal

Rue (*Ruta montana*) – photocontact dermatitis *Contact Dermatitis 33:284, 1995*

Saccharin *JAAD 8:565, 1983*

Sandalwood oil – photoallergy *AD 96:62–63, 1967*

Shiitake mushroom toxicoderma – seborrheic dermatitis-like eruption *JAAD 24:64–66, 1991*

Soaps and detergents – photoallergic contact dermatitis *Clin Dermatol 14:67–76, 1996*

Sodium ferrous citrate *Contact Dermatitis 34:77, 1996*

Solar urticaria

St John's wort (*Hypericum perforatum*) *Med J Aust 172:302, 2000*

Sulfite food derivatives – UVB

Sunscreen ingredients – UVA *Contact Dermatitis 37:221–232, 1997; Contact Dermatitis 13:473–481, 1995*
- PABA derivatives
- Benzophenones – oxybenzone *Photodermatol Photoimmunol Photomed 10:144–147, 1994; BJD 131:124–129, 1994; AD 125:801–804, 1989*
- Dibenzoylmethanes – Parsol 1789 (4-*tert*.butyl-4′-methoxydibenzoylmethane *Contact Dermatitis 32:251–252, 1995; Contact Dermatitis 26:177–181, 1992; Contact Dermatitis 21:109–110, 1989; Photodermatol 3:140–147, 1986*
- Cinnamates – Parsol MCX (ethylhexyl-*p*-methoxycinnamate) *Contact Dermatitis 32:304–305, 1995;* 2-ethoxyethyl-*p*-methoxycinnamate *Contact Dermatitis 16:296, 1987; Contact Dermatitis 8:190–192, 1982*
- Camphor derivatives
- Benzocaine

Tars – coal tar smarting reaction *Curr Opin Pediatr 9:377–387, 1997; JID 84:268–271, 1985; AD 113:592–595, 1977;* bitumen *Contact Dermatitis 35:188–189, 1996;* phototoxic keratoconjunctivitis frome coal tar pitch volatiles *Science 198:841–842, 1977*

Textiles – phototoxic (bikini dermatitis) *AD 112:1445–1447, 1976*

Thiourea – photocontact dermatitis *BJD 116:573–579, 1987*

Tosylamide/formaldehyde resin – contact dermatitis with photosensitivity *Contact Dermatitis 42:311–312, 2000*

Ultraviolet-cured ink *AD 113:770–775, 1977*

Vitamin $B_6$ – occupational and systemic contact dermatitis *Contact Dermatitis 44:184, 2001*

Weed trimming *AD 127:1419–1420, 1991*

Wild carrot – phytophotodermatitis *Ghatan p.260, 2002, Second Edition*

Yohambine – lupus-like syndrome *JAAD 53:S105–107, 2005*

Zabon (citrus maxima) – phytophotodermatitis *JAAD 46:S146–147, 2002*

## INFECTIONS AND INFESTATIONS

AIDS – seborrheic dermatitis *Tyring p.347, 2002; Rook p.1065, 1998, Sixth Edition;* photodermatitis, and/or hyperpigmentation, photolichenoid eruption of AIDS *Tyring p.361, 2002; AD 130:609–613, 1994;* as presenting sign *AD 130:618–623, 1994;* photodistributed hypertrophic lichen planus *Cutis 55:109–111, 1995;* chronic actinic dermatitis *BJD 137:431–436, 1997*

*Candida* – chronic mucocutaneous candidiasis – seborrheic dermatitis-like

Coxsackie virus – photodistributed exanthem *Tyring p.460, 2002*

Dermatophyte infection – widespread dermatophyte infection mimicking photosensitivity *JAAD 23:855–857, 1990*; tinea faciei – photodistributed or mimicking seborrheic dermatitis *Ped Derm 22:243–244, 2005; NEJM 314:315–316, 1986;* corporis/capitis (seborrheic dermatitis-like) *Dermatologica 177:65–69, 1988; AD 114:250–252, 1978; Cutis 17:913–915, 1976; Cutis 17:913–915, 1976;* tinea corporis mimicking Casal's necklace; tinea incognito

Epstein–Barr virus – association with hydroa vacciniforme *BJD 140:715–721, 1999*

Erysipelas

Favus – seborrheic dermatitis-like

Hepatitis A *Dermatology 200:266–269, 2000*

Herpes simplex – recurrent *JID 65:341–346, 1975;* including eczema herpeticum

HIV-1 dermatitis – lichenoid photodermatitis *JAAD 28:167–173, 1993*

Infectious eczematoid dermatitis with photodistributed absorption reaction

Leishmaniasis – in AIDS presenting with dermatomyositis-like eruption *JAAD 35:316–319, 1996*

Leprosy *Int J Lepr Other Mycobact Dis 45:67, 1977*

Lyme disease – malar erythema *NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*

Lymphogranuloma venereum – photo-induced papular, urticarial and plaques in subacute stage of LGV *Int J Dermatol 15:26–33, 1976*

*Nocardia asteroides BJD 144:639–641, 2001*

Parvovirus B19 – erythema infectiosum (fifth disease) *Hum Pathol 31:488–497, 2000; J Clin Inf Dis 21:1424–1430, 1995;* lupus-like rash *Hum Pathol 31:488–497, 2000;* dermatomyositis-like facial and upper extremity erythema *Hum Pathol 31:488–497, 2000*

Rubella – congenital rubella syndrome – seborrhea, cutis marmorata, hyperpigmentation *JAAD 46:161–183, 2002*

Scabies, crusted (Norwegian) – including seborrheic-like dermatitis of scalp *Tyring p.331, 2002; Cutis 61:87–88, 1998*

Syphilis – secondary – mimicking seborrheic dermatitis over central face and along hairline (corona veneris) *Rook p.1248, 1998, Sixth Edition*

Tinea versicolor – mimics seborrheic dermatitis *Semin Dermatol 4:173–184, 1985*

Toxoplasmosis – dermatomyositis-like eruption *AD 115:736–737, 1979; BJD 101:589–591, 1979*

Tularemia *Photodermatol 2:122–123, 1985*

Varicella *BJD 142:584–585, 2000; Cutis 62:199–200, 1998; Pediatr Infect Dis J 15:921–922, 1996; JAAD 26:772–774, 1992; Ped Derm 3:215–218, 1986; Ped Derm 3:215–218, 1986; AD 107:628, 1973*

Viral exanthems *Pediatrics 59:484, 1977; Pediatrics 54:136–138, 1974*

## INFILTRATIVE DISEASES

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991*

Jessner's lymphocytic infiltrate *Rook p.2401, 1998, Sixth Edition; AD 124:1091–1093, 1988*

Langerhans cell histiocytosis – seborrheic dermatitis-like papules, crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986*; *JAAD 13:481–496, 1985*

Mastocytosis – telangiectasia macularis eruptiva perstans *Ghatan p.253, 2002, Second Edition*

## INFLAMMATORY DISEASES

Erythema multiforme *Photodermatol 4:52–54, 1987; Photodermatol 2:176–177, 1985; JAAD 9:419–423, 1983; AD 116:477, 1980*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – resembles lupus erythematosus or polymorphic light eruption *Ped Derm 18:403–405, 2001*

Lymphocytoma cutis *Rook p.2400, 1998, Sixth Edition; Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982; BJD 84:25–31, 1971*

Sarcoidosis – mimicking lupus erythematosus, polymorphic light eruption *Rook p. 2693, 1998, Sixth Edition; Clin Derm 4:35–46, 1986*

## METABOLIC DISEASES

Biotinidase deficiency (juvenile form of multiple carboxylase deficiency) – seborrheic dermatitis-like rash *Ped Derm 21:231–235, 2004*

Central nervous system disorders – seizures, Parkinson's disease – seborrheic dermatitis *Ghatan p.255, 2002, Second Edition*

Chronic active hepatitis – lupus-like eruptions *Ghatan p.167, 2002, Second Edition*

Folic acid deficiency – gray–brown photo-hyperpigmentation *JAAD 12:914–917, 1985*

Hartnup's disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999;* presenting in adulthood *Clin Exp Dermatol 19:407–408, 1994*

Hydroxykynureninuria *Ghatan p.267, 2002, Second Edition*

Kwashiorkor

Kynureninase deficiency (xanthurenicaciduria) – pellagrous dermatitis

Malabsorption *Ghatan p.255, 2002, Second Edition*

Mitochondrial disorders – erythematous photodistributed eruptions followed by mottled or reticulated hyperpigmentation; alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Multiple carboxylase deficiency – holocarboxylase deficiency; neonatal form; seborrheic rash of scalp, eyebrows, eyelashes, then spreads to periorificial areas *Ped Derm 21:231–235, 2004*

Panhypopituitarism *Ghatan p.266, 2002, Second Edition*

Pellagra (niacin deficiency) – red pigmented sharply marginated photodistributed rash, including drug-induced pellagra-like dermatitis – 6-mercaptopurine, 5-fluorouracil,INH (all of the above – also seb derm-like); resembles Hartnup disease *Cutis 68:31–34, 2001; Ped Derm 16:95–102, 1999; BJD 125:71–72, 1991;* associate with celiac disease *Yale J Biol Med 72:1518, 1999*

Phenylketonuria – phenylalanine hydroxylase deficiency; fair skin and hair with light sensitivity *Rook p.2645, 1998, Sixth Edition*

Porphyrias *Semin Cut Med Surg 18:285–292, 1999; Clin Dermatol 16:251–264, 1998; Annu Rev Med 41:457–469, 1990*

- Abnormal porphyrin profile and sideroblastic anemia *JAAD 27:287–292, 1992*
- Congenital erythropoietic porphyria *Semin Liver Dis 2:154–63, 1982*
- Erythropoietic porphyria *Dermatol Clin 4:291–296, 1986; Int J Biochem 9:921–926, 1978; BMJ 3* (*5984*):*621–623, 1975*
- Erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*
- Hereditary coproporphyria *BJD 96:549–554, 1977; Q J Med 46:229–241, 1977; BJD 84:301–310, 1971*
- Hepatoerythropoietic porphyria *AD 138:957–960, 2002; JAAD 11:1103–1111, 1984; AD 116:307–311, 1980*
- Porphyria cutanea tarda – weatherbeaten appearance; vesicles, bullae, crusts, skin fragility, atrophic scars, milia *Tyring p.361, 2002; Rook p.2589–2590, 1998, Sixth Edition;* associated with hepatic tumors *J Dermatol 9:131–137, 1982;* hepatitis *Clin Exp Dermatol 10:169–173, 1985*
- Sideroblastic anemia, abnormal porphyrins, and photosensitivity *JAAD 27:287–292, 1992*

Variegate porphyria – weatherbeaten appearance *Skin Pharmacol Appl Skin Physiol 11:310–320, 1998; Postgrad Med J 69:781–786, 1993; AD 96:98–100, 1967;* homozygous variegate porphyria – erosions, photosensitivity, short stature *BJD 144:866–869, 2001*

Porphyria cutanea tarda-like dermatitis (pseudoporphyria) associated with:
AIDS *Int J Derm 31:474–479, 1992; AD 130:630–633, 1994*
Amiodarone *Photodermatol 5:146–147, 1988*
Bumetanide *Rook p.2592, 1998, Sixth Edition*
Chlorthalidone *Rook p.2592, 1998, Sixth Edition*
Etretinate *Clin Exp Dermatol 14:437–438, 1989*
Fluoroquinolone *Dermatologic Clinics 4:291–296, 1986*
Furosemide *Rook p.2592, 1998, Sixth Edition*
Hemodialysis in chronic renal failure *NEJM 299:292–294, 1978*
Isotretinoin *Rook p.2592, 1998, Sixth Edition*
Nalidixic acid *Rook p.2592, 1998, Sixth Edition*
Naproxen *J Pediatr 117:660–664, 1990; Arthritis Rheum 33:903–908, 1990*
Peritoneal dialysis and erythropoietin therapy *J Pediatr 121:749–752, 1992*
Status post-liver transplant *AD 130:614–617, 1994*
Sunbed use *Acta DV 70:354–356, 1990*
Tetracycline *Rook p.2592, 1998, Sixth Edition*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; AD 127:124–125, 1991*

Sprue *Ghatan p.255, 2002, Second Edition*

Tuftsin deficiency – seborrheic dermatitis *Ped Derm 17:91–96, 2000*

Vitamin $B_1$ deficiency *Clin Derm 17:457–461, 1999*

Vitamin $B_2$ deficiency (riboflavin deficiency) – conjunctivitis and periorificial dermatitis; seborrheic dermatitis-like eruption *Ped Derm 16:95–102, 1999; Clin Derm 17:457–461, 1999; JAAD 21:1–30, 1989*

Vitamin $B_6$ deficiency (pyridoxine deficiency) – periorificial dermatitis (seborrheic dermatitis-like) *Ped Derm 16:95–102, 1999; JAAD 15:1263–1274, 1986*

Vitamin E deficiency *JAAD 43:1–16, 2000*

Zinc deficiency, chronic – seborrheic dermatitis-like changes *Rook p.2670, 1998, Sixth Edition*

## NEOPLASTIC

Acanthomas – eruptive acanthomas following sunburn *BJD 133:493–494, 1995*

Actinic cheilitis *Dermatologica 135:465–471, 1967*

Actinic keratoses *JAAD 44:1052–1053, 2001*

Basal cell carcinomas

Bowen's disease *Ghatan p.266, 2002, Second Edition*

Ephelides

Epstein–Barr virus associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Keratoacanthomas *Oral Surg Oral Med Oral Pathol 38:918–927, 1974;* multiple self-healing keratoacanthomas of Ferguson–Smith *JAAD 49:741–746, 2003*; *BJD 46:267–272, 1934*

Large cell acanthomas

Lichen planus-like keratoses simulating photodermatitis *JAAD 13:201–206, 1985*

Lymphoma – cutaneous T-cell lymphoma (plaque type) mimicking actinic reticuloid *BJD 113:497–500, 1985;* chronic actinic dermatitis with adult T-cell leukemia *JAAD 52:S38–40, 2005;* angiocentric CTCL of childhood (hydroa vacciniforme-like lymphoma) (atypical hydroa vacciniforme in childhood) – Latin America and Asia associated with Epstein–Barr virus *Clin Exp Dermatol 26:242–247, 2001; JAAD 40:283–284, 1999; AD 133:1081–1086, 1997; JAAD 38:574–579, 1998*; lymphomatoid granulomatosis (angiocentric lymphoma)

Lymphomatoid papulosis – hydroa vacciniforme-like *JAD 32:378–381, 1995*

Melanocytic nevi *Dermatol Clin 13:595–603, 1995*

Melanoma

Metastases – gastric carcinoma – personal observation

Porokeratosis – disseminated superficial actinic porokeratosis *Cutis 67:286, 296–298, 2001; Australas J Dermatol 9:335–344, 1968;* actinic porokeratosis

Squamous cell carcinoma

Tumors of the follicular infundibulum, multiple – papules in sun-exposed areas *JAAD 39:853–857, 1998*

## PARANEOPLASTIC DISORDERS

Carcinoid syndrome – pellagrous dermatitis (skin fragility, erythema, and hyperpigmentation over knuckles), flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *BJD 152:71–75, 2005; Rook p.2659, 1998, Sixth Edition; AD 77:86–90, 1958; Am Heart J 47:795–817, 1954*

Glucagonoma syndrome (necrolytic migratory erythema) *JAAD 12:1032–1039, 1985*

Renal cell carcinoma – discoid lupus erythematosus-like syndrome and hypercalcemia associated with renal cell carcinoma *Cutis 26:402–403, 1980*

## PHOTODERMATOSES

Actinic cheilitis granulomatosa *J Dermatol 19:556–562, 1992*

Actinic comedones (Favre–Racouchot syndrome) *Rook p.2028, 1998, Sixth Edition*; *Cutis 60:145–146, 1997;* actinic comedonal plaque *Clin Exp Dermatol 18:156–158, 1993; JAAD 3:633–636, 1980*

Actinic prurigo *JAAD 44:952–956, 2001; Australas J Dermatol 42:192–195, 2001; Photodermatol Photoimmunol Photomed 15:183–187, 1999; Int J Dermatol 34:380–384, 1995; JAAD 26:683–692, 1992; JAAD 5:183–190, 1981; Clin Exp Dermatol 2:365–372, 1977;* familial, in Native Americans in North America *Int J Dermatol 10:107–114, 1971;* in Caucasians *BJD 144:194–196, 2001;* polymorphic light eruption of Native Americans; occurrence in others *JAAD 34:612–617, 1996;* Southeast Asian*; Photodermatol Photoimmunol Photomed 9:225–228, 1992;* lower lip *Oral Surg Oral Med Oral Pathol 65:327–332, 1988*

Actinic reticuloid (chronic actinic dermatitis) – chronic photosensitivity disorder associated with CTCL; sensitive to UVB *Int J Dermatol 38:335–342, 1999; JAAD 38:877–905, 1998; Semin Diagn Pathol 8:109–116, 1991; JAAD 21:205–214, 1989; JAAD 21:1134–1137, 1989; AD 118:672–675, 1982; Sem Derm 161, Sept 1982; AD 115:1078–1083, 1979;* erythrodermic actinic reticuloid *AD 131:1298–1303, 1995; Arch Dermatol Res 277:159–166, 1985; AD 115:1078–1083, 1979*

Actinic superficial folliculitis *BJD 139:359–360, 1998; BJD 138:1070–1074, 1998; Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

Benign summer light eruption *JAAD 17:690–691, 1987*

Chronic actinic dermatitis – acute, subacute, or chronic dermatitis with lichenification, papules, plaques, erythroderma, stubby scalp and eyebrow hair *BJD 152:784–786, 2005; AD 136:1215–1220, 2000; AD 130:1284–1289, 1994; JAAD 28:240–249, 1993; AD 126:317–323, 1990;* sensitization by sesquiterpene lactone mix *BJD 132:543–547, 1995;* associated with musk ambrette *Cutis 54:167–170, 1994; JAAD 3:384–393, 1980*

Cutis rhomboidalis nuchae

Dermatoheliosis (solar elastosis) (sun damage – basophilic alteration of collagen) *Rook p.2027, 1998, Sixth Edition*

Diffuse elastoma of Dubreullh *Ghatan p.266, 2002, Second Edition*

Hydroa aestivale

Hydroa vacciniforme – red macules progress to tender papules, hemorrhagic vesicles or bullae, umbilication and crusting; pock-like scars *BJD 144:874–877, 2001; JAAD 42:208–213, 2000; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; JAAD 25:401–403, 1991; BJD 118:101–108, 1988; BJD 118:101–108, 1988; AD 118:588–591, 1982;* familial *BJD 140:124–126, 1999; AD 114:1193–1196, 1978; AD 103:223–224, 1971;* late onset *BJD 144:874–877, 2001*

Melasma

Photallergic contact dermatitis

Photo-onycholysis, spontaneous *BJD 113:605–610, 1985*

Poikiloderma of Civatte *Derm Surg 26:823–827, 2000*

Polymorphic light eruption – papules, plaques, and vesicles *BJD 144:446–447, 2001; JID 115:467–470, 2000; JAAD 42:199–207, 2000; Eur J Dermatol 8:554–559, 1998; Photodermatol Photoimmunol Photomed 13:89–90, 1997; Int J Dermatol 33:233–239, 1994; Photodermatol Photoimmunol Photomed 7:186–191, 1990; Dermatol Clin 4:243–251, 1986; JAAD 3:329–343, 1980;* papulovesicular variant *AD 121:1286–1288, 1985; Acta DV 62:237–240, 1982;* exacerbation with exposure to photocopier *AD 117:373–374, 1981*

Riehl's melanosis

Solar pruritus *Acta DV 75:488–489, 1995*

Solar purpura – in PMLE *Photodermatol Photoimmunol Photomed 11:31–32, 1995;* in EPP *Dermatologica 167:220–222, 1983*

Solar urticaria *Am J Contact Dermat 11:89–94, 2000; BJD 142:32–38, 2000; Int J Dermatol 38:411–418, 1999; AD 134:71–74, 1998; JAAD 21:237–240, 1989;* PCT presenting as solar urticaria *BJD 141:590–591, 1999;* in an infant *BJD 136:105–107, 1997*

## PRIMARY CUTANEOUS DISEASES

Acantholytic dyskeratotic epidermal nevus (unilateral Darier's disease) – induced by ultraviolet B radiation *JAAD 39:301–304, 1998*

Acne aestivalis *Ghatan p.266, 2002, Second Edition*

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998; JID 88:56s-60s, 1987;* lupus miliaris disseminata faciei (granulomatous rosacea) *Int J Dermatol 9:173–176, 1970*

Acne vulgaris *Rook p.1949–1951, 1998, Sixth Edition;* exacerbation of acne vulgaris by ultraviolet light *AD 114:221–223, 1978*

Actinic folliculitis *Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

Actinic granuloma – annular elastolytic giant cell granuloma *AD 137:1647–1652, 2001; Cutis 62:181–187, 1998;* periorbital *Graefes Arch Clin Exp Ophthalmol 236:646–651, 1998*

Actinic rhinophyma *Cutis 57:389–392, 1996*

Albinism

Alopecia mucinosa

Annular atrophic plaques of the face *AD 100:703–716, 1969*

Atopic dermatitis – UV light as aggravating factor *Dermatology Online J 4:10, 1998;* with chronic actinic dermatitis *BJD 142:845, 2000*

Brachioradial pruritus *JAAD 41:656–658, 1999; Dermatology 195:414–415, 1997; BJD 135:486–487, 1996; BJD 115:177–180, 1986*

Confluent and reticulated papillomatosis

Darier's disease (keratosis follicularis) – seborrheic distribution; photoexacerbated *Ann DV 121:393–395, 1994; Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992*; *AD 120:1484–1487, 1984*

Dyshidrosis – photo-induced dyshidrosis *JAAD 50:55–60, 2004;* piroxicam photosensitivity and dyshidrosis *JAAD 15:1237–1241, 1986*

Elastotic nodules of ears *Ghatan p.266, 2002, Second Edition*

Eosinophilic pustular folliculitis of Ofuji – circinate and serpiginous plaques with overlying papules and pustules in seborrheic areas; pustules are follicular *J Dermatol 16:388–391, 1989; Acta DV 50:195–203, 1970*

Epidermolytic hyperkeratosis – persistent actinic epidermolytic hyperkeratosis *J Cutan Pathol 6:272–279, 1979*

Erythema elevatum diutinum *G Ital DV 117:31–34, 1982*

Erythromelanosis follicularis faciei *JAAD 32:863–866, 1995*

Erythrosis pigmentata faciei (erythrose peribuccale pigmentaire of Brocq) *Ghatan p.60,253, 2002, Second Edition*

Frictional lichenoid dermatitis of childhood (Sutton's summer prurigo) *Acta DV 58:549–61, 1978*

Granuloma annulare, photo-induced in AIDS *AD 126:830–831, 1990; AD 122:39–40, 1986*

Granuloma faciale

Grover's disease – transient or persistent acantholytic dermatosis *Z Hautkr 62:369–370, 375–378, 1987 (German); BJD 102:515–520, 1980*

Hailey–Hailey disease *Bolognia p.1379, 2003*

Juvenile spring eruption *N Z Med J 109:389, 1996; BJD 125:402, 1991; BJD 124:375–378, 1991; Int J Dermatol 29:284–286, 1990; Clin Exp Dermatol 14:462–463, 1989*

Keratosis lichenoides chronica – seborrheic dermatitis-like eruption *JAAD 49:511–513, 2003; JAAD 38:306–309, 1998*

Leiner's disease *Dermatol Therapy 18:176–183, 2005; Ghatan p.255, 2002, Second Edition*

Lichen nitidus *AD 134:1302–1303, 1998; Ped Derm 8:94–95, 1991*

Lichen planus, including actinic lichen planus *Cutis 72:377–381, 2003; JAAD 20:226–231, 1989; Clin Exp Dermatol 14:65–68, 1989; JAAD 4:404–411, 1981;* facial erythema of actinic lichen planus *BJD 1032–1034, 2002;* actinic lichen planus mimicking melasma *JAAD 18:275–278, 1988;* tropical lichen planus (lichenoid melanodermatitis) *BJD 101:651–658, 1979;* lichen planus/DLE overlap syndrome

Lichen simplex chronicus

Periorbital dermatitis (periorbital variant of perioral dermatitis) – idiopathic or topical corticosterioid-associated; distributed around nasolabial folds in seborrheic distribution *Rook p.2110–2111, 1998, Sixth Edition;* including facial Afro-Caribbean childhood eruption (FACE) *BJD 91:435–438, 1976*

Pityriasis rosea – mimicking seborrheic dermatitis

Pityriasis rubra pilaris – seborrheic dermatitis-like eruption *Ped Derm 3:446–451, 1986;* early or late may resemble severe explosive seborrheic dermatitis; photoexacerbated *Photodermatol Photoimmunol Photomed 10:42–45, 1994; AD 102:603–612, 1970*

Psoriasis – photosensitive (photoexacerbated) psoriasis *Semin Dermatol 11:267–268, 1992; Photodermatol 6:241–243, 1989; Ann DV 115:47–50, 1988; JAAD 17:752–758, 1987; Acta DV Suppl (Stockh) 131:1–48, 1987; Photodermatol 3:317–326, 1986;* psoriasis in seborrheic distribution or mimicking seborrheic dermatitis (scalp, eyebrows, ears) *Rook p.1604, 1998, Sixth Edition;* photo-exacerbated; pustular psoriasis

Seborrheic dermatitis *Rook p.640, 1998, Sixth Edition*
- Blepharitis
- Cradle cap
- Dandruff
- Dermatitic plaques
- Erythrodermic
- Facial
- Flexural (intertrigo)
- Follicular
- Petaloid
- Pityriasiform

Vitiligo *Ghatan p.266, 2002, Second Edition*

## SYNDROMES

Acrokeratosis marginalis *Ghatan p.266, 2002, Second Edition*

Alagille syndrome *Gastroenterology 99:831–835, 1990*

Apert's syndrome – seborrhea with severe acne; cutaneous and ocular hypopigmentation; craniosynostosis, midface malformation, syndactyly *Ghatan p.200, 2002, Second Edition*

Ataxia–telangiectasia – seborrheic dermatitis and photosensitivity *Dermatol Therapy 18:176–183, 2005; JAAD 10:431–438, 1984*

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; blisters of nose and cheeks; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Curr Prob Derm 14:41–70, 2002; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; AD 114:755–760, 1978; Clin Genet 12:85–96, 1977; Am J Hum Genet 21:196–227, 1969; Am J Dis Child 116:409–413, 1968; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Bronze baby syndrome – gray–brown pigmentation after phototherapy for hyperbilirubinemia in neonates *JAAD 12:325–328, 1985*

Cardio-facio-cutaneous syndrome (Noonan–like short stature syndrome) (NS) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Chediak–Higashi syndrome – photosensitivity

Cockayne syndrome – photosensitivity *Ped Derm 20:538–540, 2003; Hum Mutat 14:9–22, 1999; JAAD 39:565–570, 1998; JAAD 30:329–335, 1994; Am J Dermatopathol 7:387–392, 1985; J Med Genet 18:288–293, 1981; Pediatrics 60:135–139, 1977;* and xeroderma pigmentosum *Neurology 55:1442–1449, 2000; Am J Hum Genet 50:677–589, 1992*

Degos–Touraine syndrome – incontinentia pigmenti with poikiloderma in photodistribution, bullae of face, extremities; chronic erythroderma with subsequent hyperpigmentation *Soc Gr Dermatol Syph 68:6–10, 1961*

DeSanctis–Cacchione syndrome (variant of XP with neurologic manifestations) *Hum Mol Genet 9:1171–1175, 2000; Indian J Pediatr 64:269–272, 1997; AD 115:676, 1979; Neurol Psychiatr (Bucur) 16:47–51, 1978; AD 113:1561–1563, 1977; JID 63:392–396, 1974*

Down's syndrome – seborrheic dermatitis *Ghatan p.130, 2002, Second Edition*

Dubowitz's syndrome

Ectodermal dysplasia – ankyloblepharon, absent lower eyelashes, hypoplasia of upper lids, coloboma, seborrheic dermatitis, cribriform scrotal atrophy, ectropion, lacrimal duct hypoplasia, malaligned great toenails, gastroesophageal reflux, ear infections, laryngeal cleft, dental anomalies, scalp hair coarse and curly, sparse eyebrows, xerosis, hypohidrosis, short nose absent philtrum, flat upper lip *BJD 152:365–367, 2005*

Elejalde syndrome – autosomal recessive; silvery hair, profound central nervous system dysfunction, normal immune function, photo-hyperpigmentation (bronze coloration) *Ped Derm 21:479–482, 2004*

Haber's syndrome – autosomal dominant; photo-aggravated rosacea-like rash of face; papules, pustules, scarring and telangiectasia; reticulate keratotic plaques on trunk and extremities *Australas J Dermatol 38:82–84, 1997*

Hartnup's disease

Hereditary acrokeratotic poikiloderma *AD 103:409–422, 1971*

Hermansky–Pudlak syndrome

Hypereosinophilic syndrome – presenting as solar urticaria *Int J Dermatol 38:234, 1999*

IFAP syndrome – ichthyosis, keratotic follicular papules, alopecia, photophobia *JAAD 46:S156–158, 2002*

Kindler's syndrome – photosensitivity, cigarette paper atrophy, atrophied gingiva, poikiloderma *AD 140:939–944, 2004; BJD 144:1284–1286, 2001; AD 132:1487–1490, 1996; Ped Derm 13:397–402, 1996; Ped Derm 6:91–101, 1989; Ped Derm 6:82–90, 1989*

Lipoid proteinosis – severely scarred and photoaged skin *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002*

Multicentric reticulohistiocytosis *JAAD 11:713–723, 1984;* mimicking dermatomyositis *JAAD 48:S11–14, 2003*

Neutral lipid storage disease (Chanarin–Dorfman disease) – autosomal recessive; focal or diffuse alopecia; congenital non-bullous ichthyosiform erythroderma, collodion baby; seborrheic dermatitis-like rash of face and scalp; leukonychia; erythrokeratoderma variabilis-like presentation; mutation in ABHD5 which encodes protein of esterase/lipase/thioesterase subfamily *BJD 153:838–841, 2005*

Noonan's syndrome – extreme cradle cap

Pachydermoperiostosis – seborrhea *J Dermatol 27:106–109, 2000*

Pigmented xerodermoid – late onset; clinically resembles xeroderma pigmentosum *Bull Cancer 65:347–350, 1978*

Pseudohypoaldosteronism type I – pustular miliaria, acneform eruptions, extensive scaling of the scalp *Ped Derm 19:317–319, 2002*

Reiter's syndrome

REM (reticular erythematous mucinosis) syndrome *JAAD 27:825–828, 1992; Ped Derm 7:1–10, 1990; Z Hautkr*

*63:986–998, 1988 (German); JAAD 19:859–868, 1988; AD 115:1340–1342, 1979; BJD 91:191–199, 1974; Z Hautkr 49:235–238, 1974*

Rothmund–Thomson syndrome – poikiloderma, photosensitivity *Curr Prob Derm 14:41–70, 2002; BJD 139:1113–1115, 1998; Ped Derm 6:325–328, 1989; Ped Derm 6:321–324, 1989; JAAD 17:332–338, 1987;* mutations in DNA helicase gene RECQL4 *Nat Genet 22:82–84, 1999*

Schinzel–Giedion syndrome – widespread seborrheic rash *JAAD 48:161–179, 2003*

Sjögren's syndrome – erythema of nose and cheeks *Rook p.2572, 1998, Sixth Edition*

Smith–Lemli–Opitz syndrome – autosomal recessive; deficiency of 7-dehydrocholesterol-7-reductase (converts 7-DHC to cholesterol) – photosensitivity to UVA, syndactyly of 2nd and 3rd toes, mental retardation, failure to thrive, dysmorphic facies, cleft palate, congenital heart disease, hypospadias *BJD 153:774–779, 2005; BJD 144:143–145, 2001; Photodermato Photoimmunol Photomed 15:217–218, 1999; BJD 141:406–414, 1999; JAAD 41:121–123, 1999; Am J Hum Genet 53:817–821, 1993; J Pediatr 64:210–217, 1964*

Sweet's syndrome *BJD 149:675–678, 2003; AD 137:1106–1108, 2001; J Dermatol 12:191–194, 1985*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – photosensitivity, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Trends Genet 17:279–286, 2001; Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001; Hum Mutat 14:9–22, 1999; JAAD 28:820–826, 1993; Ped Derm 9:369–370, 1992; JAAD 22:705–717, 1990; JAAD 13:683–686, 1985*

Turner's syndrome

Universal dyschromatosis with photosensitivity and neurosensory hearing defect *AD 126:1659–1660, 1990*

Unusual facies, vitiligo, canities, and progressive spastic paraplegia – hyperpigmentation of exposed areas *Am J Med Genet 9:351–357, 1981*

Uvs syndrome – new syndrome with defective DNA repair *Am J Hum Genet 56:1267–1276, 1995*

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

### TOXINS

Mercury exposure – anorexia, weight loss, photosensitivity, sweaty palms *Lancet 336:1578–1579, 1990*

### TRAUMA

Air bag dermatitis *AD 138:1383–1384, 2002*

Radiation therapy – radiation recall; post-radiation activation of actinic keratoses

Spinal cord injury – development of seborrheic dermatitis *AD 83:379–385, 1961*

Sunburn

### VASCULAR DISEASES

Acute hemorrhagic edema of infancy (Finkelstein's disease) *AD 139:531–536, 2003; Cutis 68:127–129, 2001; J Dermatol 28:279–281, 2001; Cutis 61:283–284, 1998; AD 130:1055–1060, 1994*

Emboli – from cardiac myxomas; red–violet malar flush *BJD 147:379–382, 2002*

Livedo reticularis, photosensitive *AD 108:100–101, 1973*

Mitral stenosis – malar flush

Primary pulmonary hypertension

Superior vena cava obstruction – suffusion of face

Takayasu's arteritis

Temporal arteritis *BJD 76:299–308, 1964*

Vasculitis

## PITYRIASIS ROSEA-LIKE ERUPTIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bone marrow transplant *JAAD 31:348–351, 1994*

Lupus erythematosus – subacute cutaneous lupus erythematosus *JAAD 35:147–169, 1996*

### DRUG-INDUCED

Lichen planus-like drug eruption

Pityriasis rosea-like drug reactions *Rook p.3370, 1998, Sixth Edition; JAAD 31:348–351, 1994; JAAD 15:159–167, 1986*
- Arsenicals
- Barbiturates
- BCG (bacillus Calmette–Guerin) therapy *Cutis 57:447–450, 1996; Isr J Med Sci 25:570–572, 1989*
- Beta blockers
- Bismuth
- Captopril *AD 118:186–187, 1982.*
- Chloroquine
- Clonidine
- Pooled gamma globulin
- Gold
- Graft vs. host disease
- Griseofulvin
- Hepatitis B vaccination *Clin Exp Rheumatol 18:81–85, 2000*
- Imatinib mesylate *JAAD 53:S240–243, 2005*
- Isotretinoin dermatitis *Cutis 34:297–300, 1984*
- Ketotifen
- Levamisole
- Organic mercurials
- Methoxypromazine
- Metronidazole
- Omeprazole *BJD 135:660661, 1996*
- Penicillamine
- Penicillin
- Pyribenzamine
- Quinidine
- Ranitidine

Salvarson
Thiazides
Tripelennamine
Vasotec

### INFECTIONS AND INFESTATIONS

Brucellosis *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

Gianotti–Crosti syndrome – mimics inverse papular PR

HIV – pityriasis rosea-like exanthem *Mayo Clin Proc 67:1089–1108, 1992*

Leishmaniasis *Tyring p.335, 2002*

Leprosy *Clin Inf Dis 35:1388–1389, 2002; JAAD 15:204–208, 1986*

Syphilis, secondary – macular syphilid *Rook p.1245, 1998, Sixth Edition;* morbilliform or papular (copper red) *Rook p.1246–1247, 1998, Sixth Edition; J Clin Inf Dis 21:1361–1371, 1995*

Tinea corporis – *Trichophyton rubrum, T. megninii, Epidermophyton floccosum Rook p.1302, 1998, Sixth Edition; T. verrucosum* – extensive annular lesions of trunk and neck *AD 94:35–37, 1966*

Tinea versicolor *Semin Dermatol 4:173–184, 1985*

Viral exanthem

Yaws – secondary pianides *Rook p.1272, 1998, Sixth Edition*

### INFILTRATIVE DISEASES

Amyloid elastoidosis *AD 121:498, 1985*

Lymphocytoma cutis

### INFLAMMATORY DISEASES

Erythema multiforme

Lymphocytoma cutis

Sarcoid

### NEOPLASTIC DISEASES

Familial cutaneous collagenoma *JAAD 40:255–257, 1999*

Kaposi's sarcoma *Cutis 31, 1982;* HIV associated Kaposi's sarcoma *Rook p.1064, 1998, Sixth Edition*

Leiomyomas *AD 120:1618–1620, 1984*

Lymphoma – acute lymphoblastic leukemia with T-cell lymphoma; cutaneous T-cell lymphoma *AD 133:649–654, 1997;* Hodgkin's disease *AD 133:649–654, 1997*

Lymphomatoid papulosis

Metastases, signet ring cancer of bladder *Cutis 49:324, 1992;* bronchogenic carcinoma *AD 133:649–654, 1997*

Plasmacytomas – disseminated cutaneous plasmacytomas *Atlantic Derm Meeting, May 1994; Atlantic Derm Meeting, May 2000; JAAD 31:897–900, 1994*

Seborrheic keratoses *J Dermatol 25:272–274, 1998*

### PRIMARY CUTANEOUS DISEASES

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *The Clinical Management of Itching; Parthenon; p.137, 2000; AD 123:1335–1339, 1987; AD 118:478, 1982*

Anetoderma of Jadassohn *AD 120:1032–1039, 1984*

Annular lichenoid dermatitis of youth *JAAD 49:1029–1036, 2003*

Digitate dermatosis (small plaque parapsoriasis) (persistent superficial dermatitis) *Rook p.663–664, 1998, Sixth Edition*

Erythema annulare centrifugum

Erythema dyschromicum perstans *Acta Derm Ven 54:69*

Lichen planus *Rook p.1910, 1998, Sixth Edition*

Nummular eczema

Parakeratosis variegata

Parapsoriasis en plaque *Rook p.2382, 1998, Sixth Edition; JAAD 5:373–395, 1981*

Pityriasis alba

Pityriasis lichenoides chronica *The Clinical Management of Itching; Parthenon; p.137, 2000; Ped Derm 15:1–6, 1998*

Pityriasis rosea *JAAD 15:159–167, 1986;* atypical pityriasis rosea

Pityriasis rubra pilaris

Post-inflammatory hyperpigmentation after pityriasis rosea

Psoriasis, guttate

Seborrheic dermatitis

Sebo-psoriasis (seborrhiasis)

Surrounding nevi – Meyerson's phenomenon

### SYNDROMES

Epidermodysplasia verruciformis – pityriasis rosea-like appearance *Tyring p.275, 2002; BJD 145:669–670, 2001*

### VASCULAR DISEASES

Purpura annularis telangiectoides

## PLANTAR ERYTHEMA

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Angioedema

Bullous pemphigoid

Dermatomyositis

Graft vs. host reacton

Lupus erythematosus – systemic

Rheumatoid arthritis, including rheumatoid neutrophilic dermatitis

### CONGENITAL ANOMALIES

Syringomyelia

### DEGENERATIVE DISEASES

Acral localized acquired cutis laxa *JAAD 21:33–40, 1989*

Neurotrophic erythema

### DRUG-INDUCED

Acral erythema of proximal nail fold and onychodermal band due to cyclophosphamide and vincristine *Cutis 52:43–44, 1993*

Bromocriptine ingestion mimicking erythromelalgia *Neurology 31:1368–1370, 1981*

Chemotherapy-induced acral dysesthesia syndrome (palmoplantar erythrodysesthesia syndrome) *JAAD 24:457–461, 1991; AD 122:1023–1027, 1986*

Chemotherapy-induced Raynaud's phenomenon

Dermatomyositis-like lesions associated with long term hydroxyurea administration *JAAD 21:797–799, 1989*

Drug eruption

Hydantoin (Dilantin) hypersensitivity syndrome

Nifedipine ingestion mimicking erythromelalgia *JAAD 21:797–799, 1989*

Oral contraceptives

## EXOGENOUS AGENTS

Contact dermatitis

## INFECTIONS AND INFESTATIONS

Cellulitis

Clostridial sepsis

Endocarditis, including acute and subacute bacterial endocarditis

Erysipelas

Erythrasma

HIV – acute HIV infection – acral erythema *Cutis 40:171–175, 1987*

Leprosy

Measles – atypical measles

Meningococcemia

Parvovirus B19 (erythema infectiosum) *Hum Pathol 31:488–497, 2000;* including papular pruritic petechial glove and sock syndrome *Tyring p.300–301, 2002; Cutis 54:335–340, 1994*

Pitted keratolysis – painful plaque-like pitted keratolysis *Ped Derm 9:251–254, 1992*

*Pseudomonas* hot-foot syndrome – 1–2-cm plantar nodules; spontaneous resolution in 14 days *NEJM 345:335–338, 2001*

Rat bite fever

Rocky Mountain spotted fever

Scabies

Septic emboli

Syphilis – secondary

Tinea pedis *Rook p.2081, 1998, Sixth Edition*

Toxic shock syndrome, either staphylococcal or streptococcal – erythema and edema of the palms and soles *JAAD 39:383–398, 1998*

Viral exanthem

## INFILTRATIVE DISORDERS

Mastocytosis

## INFLAMMATORY DERMATOSES

Erythema multiforme

Erythema nodosum *Dermatology 199:190, 1999; JAAD 29:284, 1993; AD 129:1064–1065, 1993*

Goodpasture's syndrome – annular erythematuous macule *AD 121:1442–1444, 1985*

Lipoatrophic panniculitis *AD 123:1662–1666, 1987*

Neutrophilic eccrine hidradenitis

## METABOLIC DISEASES

Acrodermatitis enteropathica

Antiphospholipid antibody syndrome

Cold agglutinins

Cryofibrinogenemia

Cryoglobulinemia

Diabetes mellitus

Hyperestrogenic states – liver disease, exogenous estrogens

Hyperthyroidism

Polycythemia vera – acral ischemia with lividity

Pregnancy

Pseudoglucagonoma syndrome due to malnutrition *AD 141:914–916, 2005*

Thrombocythemia – acral ischemia with lividity, livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Leuk Lymphoma 22 Suppl 1:47–56, 1996; Br J Haematol 36:553–564, 1977; AD 87:302–305, 1963*

## NEOPLASTIC DISEASES

Angioimmunoblastic lymphadenopathy

Atrial myxoma *Br Heart J 36:839–840, 1974*

Eccrine angiomatous hamartoma (painful) *AD 125:1489–1490, 1989*

Leukemia – chronic myelogeous leukemia with leukostasis (livedo) *AD 123:921–924, 1987*

Plantar fibromatosis *JAAD 12:212–214, 1985*

Waldenström's macroglobulinemia

## PARANEOPLASTIC DISEASES

Bazex syndrome

## PRIMARY CUTANEOUS DISEASES

Atopic foot dermatitis *Rook p.2081, 1998, Sixth Edition*

Circumscribed palmar or plantar hypokeratosis – red atrophic patch *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Epidermolytic hyperkeratosis

Erythroderma

Erythrokeratolysis hiemalis (Oudtshoorn disease) (keratolytic winter erythema) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Erythrokeratoderma variabilis

Follicular mucinosis, erythrodermic

Granuloma annulare, generalized *JAAD 20:39–47, 1989*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – red hands and feet; hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *Ped Derm 20:272–275, 2003; Cutis 65:141–145, 2000*

Juvenile plantar dermatosis

Lamellar ichthyosis

Lichen planus

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Palmoplantar pustulosis

Pityriasis rubra pilaris

Progressive symmetric erythrokeratoderma

Psoriasis

Symmetrical lividity of the soles *BJD 37:123–125 1985; BJD 37:123–125, 1925*

### SYNDROMES

Eosinophilia myalgia syndrome *JAAD 23:1063–1069, 1990*

Familial Mediterranean fever (erysipelas-like lesions)

Hereditary lactatate dehydrogenase M-subunit deficiency – annually recurring acroerythema *JAAD 27:262–263, 1992*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – palmoplantar erythema; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Ped Derm 12:195, 1995; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Kawasaki's disease *JAAD 39:383–398, 1998*

Netherton's syndrome

Reflex sympathetic dystrophy *JAAD 50:456–460, 2004; JAAD 22:513–520, 1990*

Schopf–Schulz–Passarge syndrome – psoriasiform plantar dermatitis (palmoplantar keratoderma); eyelid cysts (apocrine hidrocystomas), hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Wells' syndrome – red plaques of soles *Cutis 72:209–212, 2003*

### TOXINS

Infantile acrodynia (erythema with or with out exfolation) *AD 124:107–109, 1988*

### TRAUMA

Chilblains (perniosis) *JAAD 23:257–262, 1990*

Cold erythema *JAMA 180:639–42, 1962*

Delayed pressure urticaria

Frostbite, recovery phase

Heat exposure

Reflex sympathetic dystrophy (causalgia), stage 1 *JAAD 22:513–520, 1990*

Traumatic plantar urticaria (delayed pressure urticaria) *JAAD 18:144–146, 1988*

Vibratory urticaria

### VASCULAR DISEASES

Acquired progressive lymphangioma – plantar red plaques *JAAD 49:S250–251, 2003*

Acrocyanosis

Acrocyanosis with atrophy *AD 124:263–268, 1988*

Angiodyskinesia – dependent erythema after prolonged exercise or idiopathic *Surgery 61:880–890, 1967*

Angioimmunoblastic lymphadenopathy

Arteriosclerotic peripheral vascular disease – dependent erythema of the dorsum of the foot (Buerger's sign) *JAAD 50:456–460, 2004; Caputo p.186, 2000; Rook p.2231, 1998, Sixth Edition*

Emboli – cholesterol, septic

Erythrocyanosis

Erythromelalgia – associations include essential thrombocythemia, polycythermia vera, diabetes mellitus, peripheral neuropathy, systemic lupus erythematosus, rheumatoid arthritis, hypertension, frostbite, colon cancer, gout, calcium channel blockers, bromocriptine *JAAD 50:456–460, 2004;* all types exacerbated by warmth; may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130, 1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000*; following influenza vaccine *Clin Exp Rheumatol 15:111–113, 1997;* erythromelalgia with thrombocythemia *JAAD 24:59–63, 1991*

Differential diagnosis of erythromelalgia *JAAD 23:166, 1990*

(1) Arterial insufficiency (peripheral vascular diseae, arteriosclerosis obliterans
(2) Recovery phase of frostbite
(3) Hyperperfusion phase of Raynaud's disease
(4) Reflex sympathetic dystrophy
(5) Neuropathy associated acral aparesthesia and vasodilatation

Fat emboli

Polyarteritis nodosa

Port wine stain

Raynaud's phenomenon

Thromboangiitis obliterans

Vasculitis – leukocytoclastic, other

Venous gangrene (erythema) *AD 123:933–936, 1987*

Venous stasis

## POIKILODERMAS OF CHILDHOOD

Acrogeria (Gottron's syndrome) – micrognathia, atrophy of tip of nose, atrophic skin of distal extremities with telangiectasia, easy bruising, mottled pigmentation or poikiloderma of extremities, dystrophic nails; acro-osteolysis, shortened fingers *BJD 151:497–501, 2004; BJD 103:213–223, 1980; Arch Dermatol Syphiligr 181:571–583, 1941*

Ataxia telangiectasia

Atopic dermatitis – poikiloderma-like lesions of the neck *J Dermatol 17:85–91, 1990*

Blau syndrome – poikilodermatous dermatitis; granulomatous arthritis, synovial cysts, iritis, rash; autosomal dominant; resembles childhood sarcoid – red papules, uveitis; chromosome 16p12-q21 *JAAD 49:299–302, 2003*

Bloom's syndrome

Cockayne's syndrome (cachectic dwarfism) – xerosis with rough, dry skin, anhidrosis, erythema of hands, hypogonadism; autosomal recessive; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *Am J Hum Genet 50:677–689, 1992; J Med Genet 18:288–293, 1981*

Congenital poikiloderma with unusual hypopigmentation and acral blistering at birth *J Eur Acad Dermatol Venereol 12:54–58, 1999*

Congenital poikiloderma with verruciform hyperkeratoses (Dowling type) *Hautarzt 49:586–590, 1998*

COPS syndrome (calcinosis cutis, osteoma cutis, poikiloderma, with skeletal abnormalities) *Eur J Pediatr 150:343–346, 1991*

Degos–Touraine syndrome – incontinentia pigmenti with poikiloderma in photodistribution, bullae of face, extremities; chronic erythroderma with subsequent hyperpigmentation *Soc Gr Dermatol Syph 68:6–10, 1961*

Dermatomyositis (poikilodermatomyositis) *Lancet 355 (9197):53–57, 2000;* reticulate telangiectatic erythema in older lesions with hyper- and hypopigmentation *Rook p.2559–2560, 1998, Sixth Edition*

Dermatopathia pigmentosa reticularis

Diffuse and macular atrophic dermatosis – generalized poikilodermatous prematurely aged (sun-damaged) appearance *Clin Exp Dermatol 5:57–60, 1980*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) *Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Fanconi's anemia

Franceschetti–Jadassohn syndrome

Graft vs. host disease, chronic *AD 138:924–934, 2002; JAAD 38:369–392, 1998; AD 134:602–612, 1998*

Greither's syndrome – poikiloderma of face and extremities; warty keratoses over hands, feet, and legs; plantar keratoderma; normal nails and hair *Hautarzt 9:364–369, 1958*

Hallerman–Streiff syndrome

Hereditary (bullous) acrokeratotic poikiloderma of Weary (acrokeratotic poikiloderma) – autosomal dominant; vesiculopustular eruption of hands and feet in infancy and childhood; extensive dermatitis in childhood, persistent poikiloderma sparing face, scalp and ears, verrucous papules of hands, feet, elbows and knees *AD 103:409–422, 1971;* pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997*

Hereditary sclerosing poikiloderma of Weary – autosomal dominant; generalized poikiloderma; sclerosis of palms and soles; linear hyperkeratotic and sclerotic bands in flexures of arms and legs *BJD 140:366–368, 1999; Ann DV 122:618–620, 1995; AD 125:103–106, 1989; AD 100:413–422, 1969; AD 100:413–422, 1969*

Kindler's syndrome – acral blistering at birth; progressive poikiloderma; cigarette paper atrophy of hands and feet, atrophied gingiva, photosensitivity *AD 140:939–944, 2004; BJD 144:1284–1286, 2001; AD 132:1487–1490, 1996; AD 133:1111–1117, 1997; Ped Derm 6:82–90, 1989*

Lupus erythematosus – subacute cutaneous lupus erythematosus *JAAD 42:286–288, 2000;* neonatal lupus erythematosus *Ped Derm 15:38–42, 1998*

Mandibulo acral dysplasia *JAAD 33:900–2, 1995*

Mendes de Costa syndrome (X-linked epidermolysis bullosa) – poikiloderma, retarded growth *Proc R Soc Med 66:234–236, 1973*

Mitochondrial DNA syndrome *JAAD 39:819–823, 1998*

Pangeria (Werner's syndrome)

Pearson's syndrome (mitochondrial syndrome) – exocrine pancreatic insufficiency, renal tubular dysfunction

Poikiloderma and megaloblastic anemia *AD 107:231–236, 1973*

Poikiloderma of Civatte *Plast Reconstr Surg 107:1376–1381, 2001; J Cutan Laser Ther 1:45–48, 1999; AD 126:547–548, 1990*

Poikiloderma, alopecia, retrognathism, and cleft palate (PARC syndrome) *Dermatologica 181:142–144, 1990*

Poikiloderma vasculare atrophicans *AD 124:366–372, 1988; BJD 115:383–385, 1986; Cutis 17:938–941, 1976; BJD 87:405–411, 1972*

Progeria (Hutchinson–Gilford syndrome) *AD 125:540–544, 1989*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive *Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; Arch Ophthalmol (German) 4:159, 1887*

Schopf–Schulz–Passarge – facial poikiloderma

Scleroatrophic syndrome of Huriez – poikiloderma of the nose, scleroatrophy of the hands *BJD 137:114–118, 1997; Ped Derm 15:207–209, 1998*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation (autism) *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Xeroderma pigmentosum

## POIKILODERMAS OF ADULTHOOD

Acquired brachial cutaneous dyschromatosis – a form of dermatoheliosis *JAAD 42:680–684, 2000*

Amyloidosis – poikiloderma-like cutaneous amyloidosis *J Dermatol 25:730–734, 1998;* macular amyloidosis – presenting as poikiloderma *J Korean Med Sci 15:724–726, 2000; Int J Dermatol 31:277–278, 1992;* primary cutaneous amyloid *Dermatologica 155:301–309, 1977*

COPS syndrome – poikiloderma, calcinosis cutis, osteoma cutis, skeletal abnormalties

Dermatomyositis

Fascioscapular muscular dystrophy *AD 107:115–117, 1973*

Graft vs. host disease, chronic *JAAD 38:369–392, 1998; AD 134:602–612, 1998*

Heat and infrared radiation (erythema ab igne) *Rook p.937, 1998, Sixth Edition*; cold

Granulomatous slack skin syndrome – cutaneous T-cell lymphoma *AD 133:231–236, 1997*

Hydroxyurea – atrophic, scaling, poikilodermatous patches with erosions on the backs of the hands, sides of the feet (dermatomyositis-like) *JAAD 45:321–322, 2001; JAAD 36:178–182, 1997*

Lupus erythematosus – SCLE – generalized poikiloderma *JAAD 42:286–288, 2000*

Lyme borreliosis (*Borrelia burgdorferi*) – acrodermatitis chronica atrophicans – red to blue nodules or plaques; tissue-paper-like wrinkling; pigmented; poikilodermatous; hands, feet, elbows, knees *BJD 121:263–269, 1989: Int J Derm 18:595–601, 1979*

Lymphoma, including cutaneous T-cell lymphoma *Semin Cutan Med Surg 19:91–99, 2000; Clin Exp Dermatol 21:205–208, 1996*

Parakeratosis variegata *Rook p.2383, 1998, Sixth Edition*

Poikiloderma vasculare atrophicans *Rook p.2383, 1998, Sixth Edition*

Poikiloderma of Civatte *Ann Dermatol Syphilol 9:381–420, 1938*

Radiation dermatitis, chronic *Acta DV 49:64–71, 1969*
Rothmund–Thomson syndrome

Scleroderma (progressive systemic sclerosis)

Werner's syndrome

Xeroderma pigmentosum

## POLIOSIS – LOCALIZED OR GENERALIZED (CANITIES)

Alezzandrini's syndrome – facial vitiligo *JAAD 26:496–497, 1992*

Alopecia areata *Bolognia p.958, 2003*

Book's syndrome – autosomal dominant, bicuspid aplasia, hyperhidrosis, premature whitening of hair

Chediak–Higashi syndrome – silvery-gray hair

Chloroquine *An Bras Dermatol 41:57–68, 1966*

Cyclosporine *Med Clin (Barc) 97:39, 1991*

Fanconi's syndrome – fair hair

Fisch's syndrome – deafness, early graying of hair

Griscelli's syndrome – silvery-gray hair

Hair dyes in blacks – pseudo-white forelock *Cutis 52:273–279, 1993*

Halo nevus *Bolognia p.958, 2003*

Isolated white forelock *Bolognia p.958, 2003*

Isolated occipital white lock (X-linked recessive) *Bolognia p.958, 2003*

Latanoprost – bilateral poliosis and granulomatous anterior uveitis *Eye 15:347–349, 2001*

Marfan's syndrome *Cutis 12:479–484, 1991*

Melanocytic nevi – poliosis may be associated with congenital intradermal nevi *AD 129:1333, 1336, 1993;* halo nevi *AD 135:859–861, 1999;* scalp nevi *BJD 140:1182–1184, 1999;* giant congenital nevus *AD 135:859–861, 1999*

Melanoma *AD 131:618–619, 1995; AD 114:439–441, 1978*

Migratory poliosis *JAAD 42:1076–1077, 2000*

Myotonia dystrophica – autosomal dominant, canities in 2nd or 3rd decade, cataracts, lugubrious physiognomy, myotonia, premature frontal balding, severe muscle wasting

Neurofibroma *AD 98:631–633, 1968*

Neurofibromatosis *AD 135:859–861, 1999*

Nevus comedonicus *Bolognia p.958, 2003*

Piebaldism – autosomal dominant, hyperpigmented macule within amelanotic macule, medial eyebrows and eyelashes usually white, no other health associations, triangular or diamond shaped forehead macule, white forelock *JAAD 44:288–292, 2001; AD 135:859–861, 1999*

Poliosis – deafness, unilateral tapetoretinal degeneration

Post-inflammatory *Bolognia p.958, 2003*

Post-traumatic *Bolognia p.958, 2003*

Progeria – gray hair, sparse

Robert's syndrome – hypomelia–hypotrichosis–facial hemangioma syndrome – silvery blond hair

Rothmund–Thomson syndrome – autosomal dominant, cataracts, erythema, hypogonadism, photosensitivity, poikiloderma, premature canities, short stature, small skull

Seckel's syndrome – autosomal recessive, bird-head profile, hypodontia, pancytopenia, premature graying, skeletal defects, trident hands

Siccardi's syndrome – silver hair

Tuberous sclerosis – poliosis occurs and can be independent of hypomelanotic macule *AD 135:859–861, 1999*

Vitiligo

Vogt–Koyanagi–Harada syndrome – alopecia, dysacusia, poliosis, uveitis, vitiligo *JAAD 44:129–131, 2001*

Waardenburg's syndrome – autosomal dominant, congenital deafness, heterochromic irides, hypomelanotic macule, lateral displacement of the inner canthi and lacrimal punctae, prominence of nasal root and medial eyebrows, white forelock *AD 135:859–861, 1999*

Werner's syndrome – autosomal recessive, graying hair by age of 20

White forelock with osteopathia striata (autosomal or X-linked dominant) *Bolognia p.958, 2003*

White forelock with multiple malformations (autosomal or X-linked recessive) *Bolognia p.958, 2003*

White hairs also seen in association with neurofibromas or nevi, postinflammatory hypopigmentation (e.g., X-ray therapy), region of hair regrowth in alopecia areata

Woolf's syndrome – autosomal recessive, piebaldism and deafness

Ziprkowkski–Margolis syndrome – deafness, heterochromic irides, piebald-like hypomelanosis skin and hair

Other graying hair syndromes
- Chediak–Higashi syndrome
- Down's syndrome
- Hallerman–Streiff syndrome
- Homocystinuria
- Menkes' kinky hair syndrome
- Oasthouse disease
- Phenylketonuria
- Pierre–Robin syndrome
- Treacher Collins syndrome
- Tyrosinuria
- Vitiligo

## POLYDACTYLY

Acrocallosal syndrome (Greig cephalopolysyndactyly syndrome) – abnormal upper lids, frontonasal dysostosis, callosal agenesis, cleft lip/palate, redundant skin of neck, grooved chin, bifid thumbs, polydactyly, syndactyly *Am J Med Genet 43:938–941, 1992*

Braegger syndrome – proportionate short stature, intrauterine growth restriction (IUGR), ischiadic hypoplasia, renal dysfunction, craniofacial anomalies, postaxial polydactyly, hypospadias, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Cleft lip/palate, preaxial and postaxial polydactyly of hands and feet, congenital heart defect, and genitourinary anomalies *Syndromes of the Head and Neck, p.751, 1990*

Cleft palate, absent tibiae, preaxial polydactyly of the feet, and congenital heart defect *Am J Dis Child 129:714–716, 1975*

Ellis–van Creveld syndrome (chondroplastic dwarf with defective teeth and nails, and polydactyly) – autosomal recessive; chondrodysplasia, polydactyly, peg-shaped teeth or hypodontia, short upper lip bound down by multiple frenulae; nail dystrophy, hair may be normal or sparse and brittle; cardiac defects; ichthyosis, palmoplantar keratoderma *Ped Derm*

*18:485–489, 2001; Ped Derm 18:68–70, 2001; J Med Genet 17:349–356, 1980; Arch Dis Child 15:65–84, 1940*

Epidermal (sebaceus) nevus syndrome *Bolognia p.930, 2003*

Goltz's syndrome (focal dermal hypoplasia) – linear alopecia *Cutis 53:309–312, 1994; J Dermatol 21:122–124, 1994;* asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow-red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Kaufman–McKusick syndrome – hydrometrocolpos, postaxial polydactyly, congenital heart defect *Eur J Pediatr 136:297–305, 1981*

Macrocephaly–CMTC syndrome *Bolognia p.930, 2003*

Meckel syndrome – microcephaly, microphthalmia, congenital heart defects, postaxial polydactyly, polycystic kidneys, cleft lip/palate *J Med Genet 8:285–290, 1971*

Nevoid basal cell carcinoma syndrome *Bolognia p.930, 2003*

Oral–facial–digital syndrome type I (Papillon–Leage syndrome) – X-linked dominant; short upper lip, hypoplastic alanasi, hooked pug nose, hypertrophied labial frenulae, bifid or multilobed tongue with small tumors within clefts, clefting of hard and soft palate, teeth widely spaced, trident hand or brachydactyly, syndactyly, or polydactyly; hair dry and brittle, alopecic, numerous milia of face, ears, backs of hands, mental retardation *Ped Derm 9:52–56, 1992*

Patau's syndrome (trisomy 13) – polydactyly, simian crease of hand, loose skin of posterior neck, parieto-occipital scalp defects, abnormal helices, low-set ears, hyperconvex narrow nails *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Polyonychia *Clinical Dermatology. Demis; Vol 1; 3–2, p.1*

Postaxial polydactyly–dental–vertebral syndrome *J Pediatr 90:230–235, 1977*

Proteus syndrome *Caputo p.52–53, 2000*

Rudimentary polydactyly (supernumerary digits) *Ped Derm 20:108–112, 2003; Textbook of Neonatal Dermatology, p.119, 2001; Caputo p.172, 2000; Arch Pediatr Adolesc Med 149:1284, 1995*

Smith–Lemli–Opitz syndrome – autosomal recessive; hypospadias; failure to thrive, genital abnormalities in males, microcephaly, syndactyly of second and third toes, polydactyly; epicanthal folds, posteriorly rotated ears, ptosis, small pug nose, broad alveolar ridge, micrognathia; deficiency of 7-dehydrocholesterol reductase *NEJM 351;2319–2326, 2004; Am J Med Genet 66:378–398, 1996; Clin Pediatr 16:665–668, 1977*

Ulnar–mammary syndrome *Bolognia p.930, 2003*

# PORE

***AD 125:827–832, 1989***

Aggregated dilated pores *J Dermatol 26:332–333, 1999*

Basal cell carcinoma (trichoid basal cell carcinoma) *JAAD 47:727–732, 2002;* within a dilated pore of Winer *Dermatol Surg 26:874–876, 2000*

Comedone

Dental sinus

Dermoid cyst of the nose

Dilated pore of Winer – infundibuloma *JAAD 47:727–732, 2002; Am J Dermatopathol 23:246–253, 2001; JID 23:181–188, 1954;* in external auditory canal *Auris Nasus Larynx 28:349–352, 2001*

Dilated pore nevus (variant of nevus comedonicus) *Am J Dermatopathol 15:169–171, 1993*

Epidermoid cyst

Epidermolytic hyperkeratosis *J Dermatol 14:286–288, 1987*

Fistula of dorsum of nose *AD 109:227–229, 1974*

Furunculoid myiasis

Hair cortex comedo *Am J Dermatopathol 18:322–325, 1996*

Nevus comedonicus *JAAD 43:927–929, 2000*

Pilar sheath acanthoma *JAAD 47:727–732, 2002; Yonsei Med J 30:392–395, 1989; Dermatologica 167:335–338, 1983; AD 114:1495–1497, 1978*

Pilonidal sinus

Pits of lower lip – mucous secreting labial glands

Post-inflammatory scar

Preauricular fistula

Sacrococcygeal pore with underlying spinal defects (spinal dysraphism)

Scars *JAAD 47:727–732, 2002*

Sebaceous hyperplasia *JAAD 47:727–732, 2002*

Sebaceous trichofolliculoma *J Cut Pathol 7:394–403, 1980*

Trichofolliculoma *AD 125:827, 830, 1989; AD 81:922–930, 1960*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – pre-auricular pits, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *Ped Derm 14:441–445, 1997; JAAD 44:891–920, 2001*

# PORT WINE STAIN

***Ped Derm 14:466–469, 1997***

Beckwith–Wiedemann syndrome – nevus flammeus of central forehead and upper eyelids, macroglossia, macrosomia, omphalocele or other umbilical anomalies, linear grooves of the ear lobes *Syndromes of the Head and Neck 1990:323–328*

Bonnet–Dechaume–Blanc syndrome (Wyburn–Mason syndrome) – facial port wine stain, unilateral retinal arteriovenous malformation with ipsilateral intracranial arteriovenous malformation *Brain 66:163–203, 1943*

Bregea's syndrome – angiomatosis of the eye and orbit, port wine stain in scalp and contralateral forehead, and ipsilateral thalamoencephalic angiomatosis

Butterfly-shaped mark – red–violet triangular or rhomboidal vascular mark on sacrum *Pediatrics 85:1069–1071, 1990*

Cobb syndrome – segmental port wine stain or angiokeratoma of torso with a vascular malformation of the spinal cord *Ann Surg 62:641–649, 1915*

Diffuse phlebectasia (Brockenheimer's disease) *Ped Derm 17:100–104, 2000*

Inflammatory nuchal–occipital port wine stain – psoriasiform plaque *JAAD 35:811–813, 1996*

Klippel–Trenaunay syndrome – port wine stain, venous varicosities, hypertrophy of soft tissues

Nova syndrome – glabellar port wine stain, mega cisterna magna, communicating hydrocephalus, and posterior cerebellar vermis agenesis

Parkes–Weber syndrome – port wine stain and arteriovenous fistula, soft tissue and bony hypertrophy, congenital varicose veins

Phakomatosis pigmentovascularis – combinations of nevus flammeus with epidermal nevus (type I), aberrant mongolian spots with or without nevus anemicus (type II), nevus silus with or without nevus anemicus (type III), and aberrant mongolian spots, nevus spilus, with or without nevus anemicus *AD 102:640–645, 1970*

Port wine stain – autosomal dominant *J Pediatr 73:755–757, 1968*

Port wine stain of the face and ocular defects – glaucoma, choroidal vascular anomalies, orbital lesions *Can J Ophthalmol 10:136–139, 1975*

Port wine stain with underlying spina bifida occulta or tethered cord or other anomalies of spinal dysraphism

Proteus syndrome – hemihypertrophy, partial gigantism of the hands and/or feet, macrocephaly, subcutaneous hamartomatous tumors, epidermal nevi, visceral abnormalities, and early accelerated growth *Eur J Pediatr 140:5–12, 1983*

Robert's syndrome – hypomelia–hypotrichosis–facial hemangioma (pseudothalidomide) syndrome – mid forehead and midfacial port wine stain, cleft lip and/or palate, sparse silvery blonde hair, limb reduction defects, and marked growth retardation, hypoplastic ear lobules *Clin Genet 5:1–16, 1974*

Rorschach inkblot port wine stain

Rubenstein–Taybi syndrome – forehead port wine stain

Salmon patch (nevus simplex) *Pediatr Clin North Am 30:465–482, 1983*

Short arm chromosome 4 deletion syndrome

Sturge–Weber syndrome (encephalotrigeminal angiomatosis) – unilateral port wine stain in trigeminal area, ipsilateral leptomeningeal venous malformation, atrophy and calcifications in cerebral cortex, neurologic, and ophthalmologic defects

TAR syndrome – thrombocytopenia-absent radii – port wine stain of head and neck

Thalidomide embryopathy – pronounced facial port wine stain

Trisomy 13 syndrome – forehead port wine stain

Trisomy 18 syndrome – port wine stain

von Hippel–Lindau syndrome – facial or occipitocervical port wine stain, retinal angiomatosis, either cerebellar, medullary, or spinal hemangioblastomas, and renal cell carcinoma

XXYY syndrome

# PREAURICULAR SINUSES (EAR PITS)

***Ped Derm 21:191–196, 2004***

Sporadic

Familial – autosomal dominant

Bilateral defects, male transmission – bilateral cervical branchial sinuses, bilateral preauricular sinuses, bilateral malformed auricles, bilateral hearing impairment *Hum Genet 56:269–273, 1981*

Branchio-oto-renal syndrome (BOR) – autosomal dominant; mutation in EYA1 gene; conductive, sensorineural, mixed hearing loss; pre-auricular pits, structural defects of outer, middle, or inner ear; renal anomalies, renal failure, lateral cervical fistulae, cysts, or sinuses; nasolacrimal duct stenosis or fistulae *Am J Kidney Dis 37:505–509, 2001; Cutis 68:353–354, 2001*

Branchio-otic syndrome – branchial anomalies, preauricular pits, hearing loss, no renal dysplasia *J Med Genet 39:71–73, 2002*

Branchio-oto-ureteral syndrome – bilateral sensorineural hearing loss, preauricular pit or tag, duplication of ureters or bifid renal pelvises *J Dermatol 29:157–159, 2002*

Branchio-oto-costal syndrome – branchial arch anomalies, hearing loss, ear and commissural lip pits, and rib anomalies *J Craniofac Genet Dev Biol 1 (suppl):287–295, 1985*

Branchio-oculo-facial syndrome – abnormal upper lip, malformed nose with broad nasal bridge and flattened tip, lacrimal duct obstruction, malformed ears, branchial cleft sinuses and/or linear skin lesions behind ears *Ann Otol Rhinol Laryngol 100:928–932, 1991*

Ectodermal dysplasia – preauricular pits, tetra-amelia, ectodermal dysplasia, hypoplastic lacrimal ducts and sacs opening toward exterior, peculiar facies, developmental retardation *Ann Genet 30:101–104, 1987*

Hemifacial microsomia syndrome – bilateral preauricular sinuses, facial steatocystgoma multiplex associated with pilar cysts, sensorineural hearing loss, facial palsy, microtia or anotia, cervical appendages containing cartilage *Am J Med Genet 22:135–141, 1985*

Lip pits – preauricular sinuses, conductive deafness, commissural lip pits, external ear abnormalities *J Med Genet 24:609–612, 1987;* preauricular pits, commissural lip pits, congenital conductive/mixed deafness *Ann Otol Rhinol Larngol 100:928–932, 1991*

Tetralogy of Fallot and clinodactyly – characteristic facies, preauricular pits, fifth finger clinodactyly, tetralogy of Fallot *Clin Pediatr (Phila) 27:451–454, 1988*

Complete trisomy 22 – primitive low-set ears, bilateral preauricular pit, broad nasal bridge, antimongoloid palpebral fissures, macroglossia, enlarged sublingual glands, cleft palate, micrognathia, clinodactyly of fifth fingers, hypoplastic fingernails, hypoplastic genitalia, short lower limbs, bilateral sandal gap, deep plantar furrows *Pediatrics 108:E32, 2001*

Incomplete trisomy 22 (trisomy 22 mosaicism) – complex congenital heart defect, membranous anal atresia without fistula, distal limb hypoplasia, partial cutaneous syndactyly of second and third toes, left preauricular pit *Urology 40:259–261, 1992*

Waardenburg syndrome – bilateral preauricular sinuses *Acta Paediatr 86:17–172, 1997*

# PREMATURE AGING SYNDROMES

***Clin Dermatol 14:161–170, 1996***

Acrogeria (Gottron's syndrome) – micrognathia, atrophy of tip of nose, atrophic skin of distal extremities with telangiectasia, easy bruising, mottled pigmentation or poikiloderma of extremities, dystrophic nails *BJD 103:213–223, 1980*

Acrometageria *Am J Med Genet 44:334–339, 1992*

Actinic damage (photoaging) *Rook p.2004–2005,2028, 1998, Sixth Edition*

Anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome) *J Dermatol 26:44–47, 1999;* X-linked recessive – premature aged appearance with finely wrinkled skin, especially around eyes; absent or reduced sweating, hypotrichosis, and total or partial anodontia *J Med Genet 28:181–185, 1991;* autosomal recessive *Ped Derm 7:242, 1990*

Ataxia telangiectasia *AD 134:1145–1150, 1998*

Baraitser syndrome (premature aging with short stature and pigmented nevi) – lack of facial subcutaneous fat, fine hair,

hypospadias, dental abnormalities, hepatomegaly *J Med Genet 25:53–56, 1988*

Berardinelli–Seip syndrome – progeroid syndrome present at birth; lack of body fat, muscularity from birth, acanthosis nigricans, acromegaloid features, umbilical hernia, clitoromegaly, mild hypertrichosis, hyperinsulinemia, impaired glucose tolerance, hypertriglyceridemia *Ped Derm 22:75–78, 2005*

Blepharochalasis *Can J Ophthalmol 27:10–15, 1992; Cutis 45:91–94, 1990; Br J Ophthalmol 72:863–867, 1988; AD 115:479–481, 1979*

Bloom's syndrome – butterfly rash, telangiectasia, photosensitivity, atrophy, hypo- or hyperpigmentation, atrophy, CALMs, acanthosis nigricans, small testes

Carbohydrate deficient glycoprotein (CDG) syndrome type I – present at birth; lipodystrophic skin, sticky skin (peau d'orange), strabismus, psychomotor delay, floppy, failure to thrive, mental retardation liver dysfunction cerebellar ataxia, pericardial effusions *Ped Derm 22:75–78, 2005*

Cockayne syndrome – begins in early childhood, xerosis with rough, dry skin, anhidrosis, erythema of hands, hypogonadism; autosomal recessive; short stature with growth failure, microcephaly, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, ataxia, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, (optic atrophy, pigmentary demyelination), deafness, demyelination *Ped Derm 22:75–78, 2005; Ped Derm 20:538–540, 2003; Am J Hum Genet 50:677–689, 1992; J Med Genet 18:288–293, 1981*

Congenital photosensitivity syndromes
- Poikiloderma congenitale
- Xeroderma pigmentosum
- Cockayne's syndrome

Cutis laxa – inherited; acquired – with amyloidosis, myeloma, lupus erythematosus, hypersensitivity reaction, complement deficiency, penicillamine, inflammatory skin disease*;* generalized cutis laxa – autosomal dominant or autosomal recessive; bloodhound appearance of premature aging *Rook p.2019–2020, 1998, Sixth Edition*

DeBarsy syndrome – autosomal recessive progeroid syndrome; present at birth, aged appearance, large helices, eye abnormalities (myopia, strabismus, and cataracts), lax joints, lax and wrinkled skin, neurologic abnormalities (hypotonia, development delay, athetoid movements), cloudy corneas, mental retardation, synophrys, pinched nose, thin skin, sparse hair *Ped Derm 22:75–78, 2005; Eur J Pediar 144:348–354, 1985*

Diabetic cheiroarthropathy – thickened immobile skin

Down's syndrome *Ped Derm 17:282–285, 2000*

Dwarfism, bilateral club feet, premature aging, progressive panhypogammaglobulinemia *J Rheumatol 21:961–963, 1994*

Ehlers–Danlos syndrome type IV (acrogeric type) – acrogeric appearance (thinning and translucency of skin) *BJD 144:1086–1087, 2001; Rook p.2035, 1998, Sixth Edition*

Familial mandibuloacral dysplasia (craniomandibular dermatodysostosis) – onset at age 3–5 years; atrophy of skin over hands and feet with club shaped terminal phalanges and acro-osteolysis, mandibular dysplasia, delayed cranial suture closure, short stature, dysplastic clavicles, prominent eyes and sharp nose, alopecia, sharp nose, loss of lower teeth, multiple Wormian bones, acro-osteolysis *Ped Derm 22:75–78, 2005; BJD 105:719–723, 1981; Birth Defects x:99–105, 1974*

GAPO syndrome – begins at 1–2 years, growth retardation, alopecia, pseudoanodontia, ocular manifestations, aged appearance with coarse facial features, loose skin, small hands, lax joints *Ped Derm 22:75–78, 2005*

Generalized lipodystrophy – loss of subcutaneous fat

Gerodermia osteodysplastica (Bamatter syndrome) – characteristic facies, lax skin and joints, growth retardation; confused with cutis laxa syndromes *Hum Genet 40:311–324, 1978*

Hallermann–Streiff syndrome – present at birth, atrophic, thin, taut skin of face and scalp, telangiectasias, hypotrichosis of scalp, xerosis/ichthyosis, beaked pinched nose; brachycephaly, mandibular hypoplasia, ocular abnormalities (cataracts, microphthalmos, nystagmus), dental abnormalities *Ped Derm 22:75–78, 2005*

Hutchinson–Gilford syndrome (progeria) – age of onset is 1–2 years, short stature, weight low for height, loss of subcutaneous fat, plucked bird appearance, lax and wrinkled skin, prominent scalp veins, hyper- and hypomelanosis, alopecia, mid-facial cyanosis around mouth and nasolabial folds, decreased sweating, sclerodermoid changes, cobblestoning of soft pebbly nodules, acro-osteolysis, widened metaphyses, and osteoporosis *Ped Derm 22:75–78, 2005; Am J Med Genet 82:242–248, 1999*

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, and face with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Kindler's syndrome *Bolognia p.901, 2003*

Klinefelter's syndrome *Ghatan p.296, 2002, Second Edition*

Leprechaunism – progeroid syndrome; present at birth, elfin-like facies, hyperglycemia, insulin resistance, failure to thrive, hypertrichosis, decreased subcutaneous fat, acanthosis nigricans, prominent nipples, enlarged genitalia, loose skin *Ped Derm 22:75–78, 2005*

Mandibuloacral dysplasia – acral poikiloderma over hands and feet, subcutaneous atrophy *Am J Med Genet 95:293–295, 2000; Clin Genet 26:133–138, 1984*

Mastocytosis, systemic – premature aged facial appearance due to pruritus and rubbing *Ped Derm 19:184–185, 2002*

Metageria – autosomal recessive; dry, atrophic, mottled skin, pinched face with beaked nose *Hautarzt 48:657–661, 1997; BJD 91:243–262, 1974*

Myotonic dystrophy (Steinert syndrome) *J Med Genet 19:341–348, 1982*

Premature aging syndrome (Mulvihill–Smith syndrome) – premature aging and immunodeficiency; multiple congenital melanocytic nevi, freckles, blue nevi, lack of facial subcutaneous tissue, xerosis, telangiectasias, thin skin, fine silky hair, premature aging, low birth weight, short stature, birdlike facies, hypodontia, high-pitched voice, mental retardation, sensorineural hearing loss, hepatomegaly *J Med Genet 31:707–711, 1994; Am J Med Genet 45:597–600, 1993*

Mulvihill–Smith progeria-like syndrome *Am J Med Genet 69:56–64, 1997*

Osteodysplastic geroderma (Walt Disney dwarfism) – short stature, cutis laxa-like changes with drooping eyelids and jowls, osteoporosis and skeletal abnormalities *Am J Med Genet 3:389–395, 1979*

Pituitary dwarfism *Rook p.2704–2705, 1998, Sixth Edition*

Premature aging syndrome with osteosarcoma, cataracts, diabetes mellitus, osteoporosis, erythroid macrocytosis, severe growth and developmental deficiency *Am J Med Genet 69:169–170, 1997*

Prolidase deficiency – fragile skin

Restrictive dermopathy – autosomal recessive, progeric appearance; erythroderma at birth, with extensive erosions and

contractures; taut shiny skin; fetal akinesia, multiple joint contractures, dysmorphic facies with fixed open mouth, hypertelorism, pulmonary hypoplasia, bone deformities; uniformly fatal *Ped Derm 19:67–72, 2002; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 128:228–231, 1992*

Rothmund–Thomson syndrome *Genomics 61:268–276, 1999*

Setleis syndrome – aged leonine appearance, scar-like defects of the temples, absent or multiple rows of upper eyelashes, eyebrows slanted up and out, scar-like median furrow of chin *Pediatrics 32:540–548, 1963*

Short stature, premature aging, pigmented nevi *J Med Genet 25:53–56, 1988*

Smoker's face – linear wrinkling and atrophy *AD 128:255–262, 1992*

Sparse hair, prominent nose, small mouth, micrognathia, cleft palate, crumpled upper helices, digit anomaly, mild developmental delay *Am J Med Genet 101:70–73, 2001*

Storm syndrome – calcific cardiac valvular degeneration with premature aging; Werner–like syndrome *Am J Hum Genet 45 (suppl) A67, 1989*

Trichothiodystrophy syndromes – progeria *JAAD 44:891–920, 2001*

Trisomy 21 (Down's syndrome) *Pediatrics 16:43–54, 1955*

Ultraviolet radiation – excess exposure to ultraviolet radiation (dermatoheliosis)

Werner's syndrome (pangeria) *BJD 152:1030–1032, 2005; Ann N Y Acad Sci 908:167–179, 2000; Cancer 54:2580–2586, 1984; AD 118:106–108, 1982; Medicine 45:177–221, 1966*

Wiedemann–Rautenstrauch (neonatal progeroid syndrome) – autosomal recessive; present at birth, generalized lipoatrophy, macrocephaly, sparse hair, premature aging, wide open sutures, aged and triangular face with hypoplasia of facial bones, persistent fontanelles, prominent scalp veins, growth retardation, low-set ears, beak shaped nose, neonatal teeth, slender limbs, large hands and feet with long fingers, large penis, pseudohydrocephalus, psychomotor retardation *Ped Derm 22:75–78, 2005; J Med Genet 34:433–437, 1997; Eur J Pediatr 130:65–70, 1979; Eur J Pediatr 124:101–111, 1977*

Wrinkly skin syndrome – dry wrinkled skin of hands, feet, ventral trunk, prominent veins *Am J Med Genet 101:213–220, 2001; Ped Derm 16:113–117, 1999*

Xeroderma pigmentosum

# PRURITIC TUMORS

***The Clinical Management of Itching; Parthenon; p.150, 2000***

Angiokeratomas *J Dermatol 20:247–251, 1993*

Dermatofibroma *Int J Derm 30:507–508, 1991*

Eccrine poromas; malignant eccrine poroma *Dermatologica 167:243–249, 1983*

Epidermal nevi

Eruptive xanthomas

Follicular basal cell nevus with comedo-like lesions *Acta DV 63:77–79, 1983*

ILVEN *Ann Plastic Surg 28:292–296, 1992*

Keloids *Clin Plast Surg 14:253–260, 1987*

Melanocytic nevi

Melanoma *Clin Exp Dermatol 16:344–347, 1991*

Seborrheic keratoses

# PRURITUS, ANAL

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Acta DV (Stockh) 60:245–249, 1980*

Atopic dermatitis *The Clinical Management of Itching; Parthenon; p.115, 2000*

Dermatitis herpetiformis

## DRUGS

Antibiotic-induced proctitis (broad spectrum, tetracycline) *Ghatan p.50, 2002, Second Edition*

Drug eruptions

Gemcitabine *NEJM 340:655–656, 1999*

Hydrocortisone sodium phosphate, intravenous – perianal burning or itching *Clin Pharmacol Therapeutics 20:109–112, 1976*

Quinidine *The Clinical Management of Itching; Parthenon; p.115, 2000*

## EXOGENOUS AGENTS

Beer *Postgrad Med 82:76–80, 1987*

Chocolate *Postgrad Med 82:76–80, 1987*

Cinnamon

Citrus fruit *Postgrad Med 82:76–80, 1987*

Coffee *Postgrad Med 82:76–80, 1987*

Colchicine *The Clinical Management of Itching; Parthenon; p.115, 2000*

Contact dermatitis, irritant

Food and drink *Cutis 40:421–422, 1987*

Mineral oil *The Clinical Management of Itching; Parthenon; p.115, 2000*

Poison ivy oral desensitization

Popcorn *The Clinical Management of Itching; Parthenon; p.115, 2000*

Pork *Postgrad Med 82:76–80, 1987*

Soda (fizzy drink) *Postgrad Med 82:76–80, 1987*

Spices *Postgrad Med 82:76–80, 1987*

Tea *Postgrad Med 82:76–80, 1987*

Tomatoes *Postgrad Med 82:76–80, 1987*

## INFECTIONS AND INFESTATIONS

*Candida The Clinical Management of Itching; Parthenon; p.115, 2000*

Condyloma acuminata

*Entamoeba histolytica The Clinical Management of Itching; Parthenon; p.115, 2000*

Enterobiasis (*Enterobius vermicularis*) (pinworm) – anal and perineal pruritus *Cutis 71:268–270, 2003; Rook p.1390, 1998, Sixth Edition; Am Fam Phys 38:159–164, 1988*

Erythrasma *Acta DV* (*Stockh*) *51:444–447, 1971*

Herpes simplex *The Clinical Management of Itching; Parthenon; p.115, 2000*

Larva currens

Larva migrans

Molluscum contagiosum

Oxyuriasis (pinworm)

Pediculosis

*Streptococcus pyogenes* – perianal streptococcal cellulitis *AD 141:790–792, 2005*

*Strongyloides*

Threadworms *Rook p.3177, 1998, Sixth Edition*

Tinea cruris *The Clinical Management of Itching; Parthenon; p.115, 2000*

Warts *The Clinical Management of Itching; Parthenon; p.115, 2000*

### INFILTRATIVE DISEASES

Amyloidosis, cutaneous – pigmented macules and glossy hyperkeratotic lesions fanning out from anus *Jpn J Dermatol 91:398–443, 1981*

Plasma cell (Zoon's) vulvitis *AD 141:789–790, 2005*

### INFLAMMATORY LESIONS

Folliculitis *Ghatan p.261, 2002, Second Edition*

### METABOLIC DISEASES

Diarrhea

### NEOPLASTIC DISEASES

Basal cell carcinoma – anogenital pruritus *Am J Obstet Gynecol 121:173–174, 1975*

Bowen's disease

Bowenoid papulosis *BJD 129:648–649, 1993*

Cloacagenic carcinoma – anogenital pruritus *JAAD 23:1005–1008, 1990*

Extramammary Paget's disease *Br J Surg 75:1089–1092, 1988*

Lymphoma – cutaneous T-cell lymphoma *The Clinical Management of Itching; Parthenon; p.115, 2000*

Squamous cell carcinoma – anogenital pruritus *The Clinical Management of Itching; Parthenon; p.125, 2000*

Syringomas, vulvar – pruritus vulvae *JAAD 48:735–739, 2003*

### PRIMARY CUTANEOUS DISEASES

Anal fissure *Ann Intern Med 101:837–846, 1984; Am Surgeon 59:666–668, 1993*

Dermatographism *The Clinical Management of Itching; Parthenon; p.115, 2000*

Excessive hair

Fistulae *The Clinical Management of Itching; Parthenon; p.115, 2000*

Hyperhidrosis

Intertrigo *The Clinical Management of Itching; Parthenon; p.115, 2000*

Lichen planus

Lichen sclerosus et atrophicus *The Clinical Management of Itching; Parthenon; p.115, 2000*

Lichen simplex chronicus *Rook p.3178, 1998, Sixth Edition*

Mucosal prolapse *The Clinical Management of Itching; Parthenon; p.115, 2000*

Pruritus ani *Ann Intern Med 101:837–846, 1984*

Psoriasis *The Clinical Management of Itching; Parthenon; p.115, 2000*

Seborrheic dermatitis

Stricture

### PSYCHOCUTANEOUS DISEASES

Psychiatric disease – depression, anxiety, phobias

### SYNDROMES

Sjögren's syndrome *Rook p.2571, 1998, Sixth Edition*

### TRAUMA

Trauma *The Clinical Management of Itching; Parthenon; p.115, 2000*

### VASCULAR DISEASES

Hemorrhoids *The Clinical Management of Itching; Parthenon; p.115, 2000*

## PRURITUS, ERYTHEMATOUS PAPULES

### AUTOIMMUNE DISEASES

Allergic contact dermatitis

Autoimmune estrogen dermatitis *JAAD 32:25–31, 1995*

Autoimmune progesterone dermatitis – papulovesicular dermatitis *Eur J Obstet Gynecol Reprod Biol 47:169–171, 1992; AD 113:426–430, 1977*

Bullous pemphigoid, urticarial phase

Dermatitis herpetiformis

Fogo selvagem – prurigo nodularis-like lesions

Graft vs. host disease, acute *The Clinical Management of Itching; Parthenon Publishing, p.x, 2000*

Herpes (pemphigoid) gestationis *Rook p.1878–1879, 1998, Sixth Edition; JAAD 40:847–849, 1999*

Still's disease *The Clinical Management of Itching; Parthenon Publishing, p.x, 2000; Int J Dermatol 23:120–122, 1984; AD 113:489–490, 1977*

### DRUGS

Drug eruption

### EXOGENOUS AGENTS

Fiberglass *AD 130:785, 788, 1994; J Dermatol 14:590–593, 1987*

Irritant contact dermatitis

Plants – stinging hairs of nettles, cactus ('Sabra' dermatitis), barley awns *Rook p.792, 1998, Sixth Edition*

Red sea coral contact dermatitis *Int J Dermatol 30:271–273, 1991*

Sabra dermatitis – to prickly pear cactus *Cutis 68:183–184, 2001*

## INFECTIONS AND INFESTATIONS

AIDS – papular pruritic eruption *J Dermatol 22:428–433, 1995; Acta DV 74:219–220, 1994; AD 125:629–632, 1989;* prurigo nodularis-like lesions *AD 125:629–632, 1989;* pruritic papular eruption with HIV in Uganda *JAMA 292:2614–2621, 2004*

Bartonellosis (*Bartonella bacilliformis*) – 1–4-mm pruritic red papules *Clin Inf Dis 33:772–779, 2001*

Caterpillar dermatitis – urticarial papules surmounted by vesicles, urticaria, eyelid edema, bruising in children; conjunctivitis *Rook p.1450, 1998, Sixth Edition*

Cat scratch disease – pruritic exanthem *Pediatrics 81:559–561, 1988*

Cercarial dermatitis – schistosomes; pruritic red papules; fresh water avian cercarial dermatitis (swimmer's itch) *Cutis 23:212–216, 1979; Cutis 19:461–467, 1977;* sea water avian cercarial dermatitis *Bull Mrine Sci Gulf Coast 2:346–348, 1952*; fresh water mammalian cercarial dermatitis *Trans R Soc Trop Med Hyg 66:21–24, 1972;* cercarial dermatitis from snail (*Lymnaea stagnalis*) in aquarium tank *BJD 145:638–640, 2001*

*Cheyletiella* mites – abdomen, thighs, chest, arms *JAAD 15:1130–1133, 1986; JAMA 251:2690, 1984; AD 116:435–437, 1980*

Cytomegalovirus infections – prurigo nodularis-like lesions *JAAD 24:346–352, 1991*

*Demodex folliculorum J Am Optometric Assoc 61:637–639, 1990*

Dermatophytids *J Dermatol 21:31–34, 1994*

Dogger bank itch (weed rash) – allergic contact dermatitis to microscopic marine organisms; *Alcyonidium gelatinosum*, *A. hirsutum*, *Electra pilosa*; seaweed – *Sargassum muticum Br Med J 5496:1142–1145, 1966; Proc Roy Soc Med 59:1119–1120, 1966*

Dracunculosis

Enterobiasis

Insect bite reaction *Rook p.1425–1426, 1998, Sixth Edition;* sandfly bites (urticaria multiformis endemica (harara)) – urticarial papules, papulovesicles, bullae; papules with overlying vesicle *Rook p.1425–1426, 1998, Sixth Edition;* bullae in children, associated with CLL *Acta DV* (*Stockh*) *57:81–92, 1977;* natural killer cell lymphocytosis *AD 126:362–368, 1990;* HIV disease *JAAD 29:269–272, 1993;* fleas, mosquitoes, gnats, midges, flies, mites, bugs; thrips (thunder flies), beetles, mites (copra itch, grocer's itch, barley itch, grain-shoveller's itch, grain itch, straw itch, cotton seed dermatitis); Haematosiphoniasis (Mexican chicken bug) – wheals, papules, vesicles, pustules, crusts *Rook p.1445–1446, 1998, Sixth Edition*

Mites – birds, rodent, reptile mites – papules and papulovesicles *Rook p.1470–1471, 1998, Sixth Edition;* avian mites from pet gerbils *AD 137:167, 2001;* cheese mite (*Glyciphagus*) bites – papulovesicles and pustules *Dermatol Clin 8:265–275, 1990*; trombiculid mites – harvest mites – papules and papulovesicles *Int J Dermatol 22:75–91, 1983*

Monkeypox – varioliform rash with progression from papules to vesicles, umbilicated pustules, and crusting; prairie dogs infected in shipment with Gambian rat *AD 140:656, 2004*

Onchocerciasis – acute onchodermatitis; non-specific papular rash *BJD 121:187–198, 1989;* chronic papules *AD 133:381–386, 1997*

Oxyuriasis *Rook p.3168, 1998, Sixth Edition*

Papular urticaria *Cutis 68:89–91, 2001*

Pediculosis – head lice – pruritic papules of nape of neck *Rook p.1441, 1998, Sixth Edition*; generalized pruritic eruption *NEJM 234:665–666, 1946;* pubic lice *Rook p.3168, 1998, Sixth Edition;* body lice

*Pityrosporum* folliculitis *J Dermatol 27:49–51, 2000; Int J Dermatol 38:453–456, 1999; JAAD 234:693–696, 1991; Ann Intern Med 108:560–563, 1988; JAAD 12:56–61, 1985*

Sarcoptic mange – chest, abdomen, thighs, forearms *JAAD 10:979–986, 1984*

Scabies – periaxillary, periareolar, abdomen, periumbilical, buttocks, thighs *Rook p.1460–1461, 1998, Sixth Edition;* animal scabies – camels, cats, cows, dogs, goats, pigs, sheep, water buffaloes, Arabian oryx, barbary sheep, elands, ferrets, mountain gazelles, Nubian oryxes *The Clinical Management of Itching; Parthenon; p.56, 2000*

Seabather's eruption – *Linuche unguiculata* (thimble jellyfish); *Edwardsiella lineata (sea anemone) Rook p.1476, 1998, Sixth Edition*

Sea urchin sting – red rash on knees and ankles *Dermatologica 180:99–101, 1990*

Sparganosis (*S. proliferum*) – subcutaneous nodules and pruritic papules *Am J Trop Med Hyg 30:625–637, 1981*

Syphilis, secondary *The Clinical Management of Itching; Parthenon Publishing, p.xi, 2000*

Tanapox virus – few pruritic papules undergoing central necrosis, then evolving into ulcerated nodules, healing with scarring *Tyring p.59, 2002*

Tarantula urticating hairs *Cutis 70:162–163, 2002*

Tick bites – papular urticaria *Rook p.1456, 1998, Sixth Edition*

Trypanosomiasis

Viral exanthem

## INFILTRATIVE DISEASES

Lichen amyloidosis – papular pruritis syndrome *Dermatology 194:62–64, 1997*

Mastocytosis – urticaria pigmentosa; *Rook p.2341–2344, 1998, Sixth Edition; Acta DV (Stockh) 42:433–439, 1962;* telangiectasia macularis eruptiva perstans

## INFLAMMATORY DISEASES

Eosinophilic pustular folliculitis of HIV disease *BJD 145:514–515, 2001; J Dermatol 25:178–184, 1998*

Neutrophilic eccrine hidradenitis *BJD 147:797–800, 2002*

## METABOLIC DISEASES

Pruritic folliculitis of pregnancy – limbs and abdomen *JAAD 43:132–134, 2000; Semin Derm 8:23–25, 1989; AD 117:20–22, 1981*

Pruritic urticarial papules and plaques of pregnancy *JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

## NEOPLASTIC DISEASES

Eruptive papular pruritic porokeratosis *J Dermatol 19:109–112, 1992*

Keratoacanthoma, generalized eruptive, of Grzybowski *BJD 142:800–803, 2000; JAAD 37:786–787, 1997*

Leukemia – acute lymphoblastic leukemia with eosinophilia *Ped Derm 20:502–505, 2003*

Lymphoma – adult T-cell leukemia/lymphoma *JAAD 13:213–219, 1985;* cutaneous T-cell lymphoma

Myelodysplastic syndrome – prurigo-nodularis-like lesions *JAAD 33:187–191, 1995*

### PHOTODERMATOSES

Polymorphic light eruption – papules, plaques, and vesicles *BJD 144:446–447, 2001; JID 115:467–470, 2000; JAAD 42:199–207, 2000*

### PRIMARY CUTANEOUS DISEASES

Albopapuloid pretibial epidermolysis bullosa – prurigo nodularis-like lesions *JAAD 29:974–981, 1993*

Atopic dermatitis – papular variant

Dermatographism, including follicular dermographism *Cutis 32:244–245, 254, 260, 1983*

Epidermolysis bullosa pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994*

Grover's disease *AD 101:426–434, 1970*

Itchy red bump disease (papular prurigo, dermatitis herpetiformis-like dermatitis, subacute prurigo, papular dermatitis) *JAAD 38:929–933, 1998; JAAD 24:697–702, 1991; JAAD 4:723–729, 1981*

Lichen planus

Papular eruption of black men

Pityriasis lichenoides et varioliformis acuta (acute parapsoriasis)

Prurigo pigmentosa – red papules or reticulate plaques with post-inflammatory hyperpigmentation *Dermatology 188:219–221, 1994; AD 129:365–370, 1993; BJD 120:705–708, 1989; AD 125:1551–1554, 1989*

Transient or persistent acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996;* folliculitis *JAAD 11:253–256, 1984*

Urticaria

### SYNDROMES

Blau syndrome – granulomatous arthritis, synovial cysts, iritis, rash; autosomal dominant; resembles childhood sarcoid – red pruritic papules coalescing into plaques, uveitis; chromosome 16p12–q21 *JAAD 49:299–302, 2003; Am J Hum Genet 76:217–221, 1998; Am J Hum Genet 59:1097–1107, 1996*

Hypereosinophilic syndrome *Med Clin* (*Barc*) *106:304–306, 1996; AD 132:535–541, 1996*

### TRAUMA

Chilblains – tender, pruritic red or purple digital papules *Rook p.960–961, 1998, Sixth Edition;* plantar nodule *Ped Derm 15:97–102, 1998*

Radiotherapy-induced polymorphic pruritic eruption *AD 135:804–810, 1999*

## PRURITUS, GENERALIZED (WITHOUT PRIMARY SKIN LESIONS)

***JAAD 45:892–896, 2001; JAAD 14:375–392, 1986***

### AUTOIMMUNE DISEASES

Anaphylaxis *Mayo Clin Proc 69:16–23, 1994;* exercise-induced *Med Sci Sports Exerc 24:849–850, 1992; J Allergy Clin Immunol 75:479–484, 1985*

Asthma, childhood – prodrome of pruritus *Lancet 2:154–155, 1984*

Autoimmune estrogen dermatitis *JAAD 32:25–31, 1995*

Autoimmune progesterone dermatitis *Eur J Obstet Gynecol Reprod Biol 47:169–171, 1992; AD 113:426–430, 1977*

Bullous pemphigoid *Int J Derm 37:508–514, 1998; BJD 109:237–239, 1983*

Dermatitis herpetiformis *Ghatan p.261, 2002, Second Edition*

Graft vs. host disease *JAAD 45:892–896, 2001*

Sjögren's syndrome *Dermatologica 137:74, 1968*

### DEGENERATIVE DISEASES

Degenerative joint disease – dermatomal pruritus *J Dermatol 14:512–513, 1987*

Multiple sclerosis – paroxysmal itch *J Neurol Neurosurg Psychiatry 44:19–22, 1981*

Senescence (senile pruritus) *JAAD 27:560–564, 1992; J Am Geriatr Soc 15:750–758, 1967*

### DRUG-INDUCED

Antimalarial drugs *The Clinical Management of Itching; Parthenon; p.35, 2000*

Drug abuse; heroin abuse – itching of central face and at site of injection

Chloroquine pruritus in malaria *Trop Doct 28:210–211, 1998; Br J Clin Pharmacol 44:157–161, 1997; Afr J Med Med Sci 18:121–129, 1989; AD 120:80–82, 1984*

Cholestatic drugs – azathioprine, oral contraceptives, erythromycin estolate, chlorpromazine, penicillamine, promazine, sulfadiazine, testosterone, anabolic steroids, tolbutamide *The Clinical Management of Itching; Parthenon; p.34, 2000*

Clonidine *The Clinical Management of Itching; Parthenon; p.35, 2000*

Cocaine abuse – 'coke bugs'

Drug abuse – IVDA

Drug hypersensitivity without rash (subclinical drug hypersensitivity) – multiple drugs *The Clinical Management of Itching; Parthenon; p.34, 2000*

Estrogen dermatitis *JAAD 32:25–31, 1995*

Gold salts *The Clinical Management of Itching; Parthenon; p.35, 2000*

Hepatotoxic drugs – chloroform, valproic acid *The Clinical Management of Itching; Parthenon; p.34, 2000*

Hydroxyethyl starch infusions – intravascular volume expander; pruritus begins 1–6 weeks after infusion and lasts 9–15 weeks

*BJD 152:1085–1086, 2005; BJD 152:3–12, 2005; Dermatology 192:222–226, 1996*

Interferon-α *Semin Oncol 14:1–12, 1987*

Lithium *The Clinical Management of Itching; Parthenon; p.35, 2000*

Morphine, including epidural morphine *Anesth Analg 61:490–495, 1982*

Naltrexone *Australas J Dermatol 38:196–198, 1997*

Neurologic mechanisms – butorphanol, codeine, cocaine, fentanyl, morphine, tramadol *The Clinical Management of Itching; Parthenon; p.35, 2000*

Opiate hypersensitivity

Phenytoin-induced Hodgkin's disease *Int J Dermatol 24:54–55, 1985*

PUVA therapy *The Clinical Management of Itching; Parthenon; p.35, 2000*

Xerosis, drug-induced

## EXOGENOUS AGENTS

Aquagenic pruritus *JAAD 13:91–96, 1985;* associated with acute lymphoblastic leukemia *BJD 129:346–349, 1993;* myelodysplastic syndrome *Clin Exp Dermatol 19:257–258, 1994;* metastatic cervical carcinoma *Clin Exp Dermatol 19:257–258, 1994;* hypereosinophilic syndrome *BJD 122:103–106, 1990;* juvenile xanthogranuloma *Clin Exp Dermatol 18:253–255, 1993;* polycythemia vera *Dermatology 187:130–133, 1993;* hemochromatosis *Ann Intern Med 98:1026, 1983;* Hodgkin's disease, mastocystosis, essential thrombocythemia; alcohol-induced pruritus with hot showers in sarcoidosis *Bolognia p.100, 2004*

Atmokinesis – pruritus provoked by contact with air *Cutis 44:143–144, 1989*

Caffeine *Ghatan p.261, 2002, Second Edition*

Ciguatera fish poisoning *Z Gastroenterol 35:327–330, 1997; Am Fam Physician 50:579–584, 1994; Revue Neurol 142:590–597, 1986;* pruritus of palms and soles *JAAD 20:510–511, 1989*

Cleansing agents – dishwashing liquids used in bathing *Ann Allergy 39:284, 1977*

Dialysis – either hemodialysis or peritoneal dialysis *Ann Intern Med 93:446–448, 1980*

Drinking black tea – dermatomal pruritus *BJD 143:1355–1356, 2000*

External magnetic fields – used in therapy of multiple sclerosis *Int J Neuroscience 75:65–71, 1994*

Fiberglass exposure *AD 130:785, 788, 1994; J Dermatol 14:590–593, 1987*

Itching powder – spicules of cowhage plant

Nitrate intolerance *J Allergy Clin Immunol 104:1110–1111, 1999*

Peanut allergy *Cutis 65:285–289, 2000*

Vitamin A intoxication

## INFECTIONS AND INFESTATIONS

AIDS *JAAD 45:892–896, 2001*; *JAAD 24:231–235, 1991*

Amebiasis – *Entamoeba histolytica Int J Derm 20:261, 1981*

Avian mite dermatitis/rat mite/pig mite

Ascariasis

Brain abscess *JAAD 45:892–896, 2001*

*Candida* – chronic mucocutaneous candidiasis

Chronic infection (bacterial, fungal, parasitic) *JAAD 45:892–896, 2001*

Dengue fever *Kaohsiung J Med Sci 5:50–57, 1989*

Dipetalonemiasis

Dracunculosis – *Dracunculus medinensis* – initially fever, pruritus, urticaria, edema *Int J Zoonoses 12:147–149, 1985*

Echinococcosis *Ghatan p.261, 2002, Second Edition*

Filariasis *Int J Derm 26:171–173, 1987*

Giardiasis, acute *Ann Allergy 65:161, 1990*

Gnathostomiasis (nematode)

Hepatitis B *JAAD 8:539–548, 1983*

Hepatitis C *JAAD 45:892–896, 2001; AD 131:1185–1193, 1995*

Hookworm

Insect bites *Ghatan p.261, 2002, Second Edition*

Leptospirosis – Weil's disease

Malaria *Ann Emerg Med 18:207–210, 1989*

*Nocardia* brain abscess – unilateral itching *Neurology 34:828–829, 1984*

Octopus bite – blue-ringed octopus *J Emerg Med 10:71–77, 1992*

Onchocerciasis – initial presentation of pruritus before appearance of dermatitis *Cutis 65:293–297, 2000; AD 120:505–507, 1984*

Pediculosis corporis

Scabies

Schistosomiasis *The Clinical Management of Itching; Parthenon; p.53, 2000*

*Strongyloides stercoralis Cutis 71:22–24, 2003; Cesk Dermatol 52:121–123, 1977*

Swimmer's itch (cercarial dermatitis) – schistosomes; pruritus initially then development of pruritic red papules; fresh water avian cercarial dermatitis (swimmer's itch) *Cutis 19:461–467, 1977;* sea water avian cercarial dermatitis *Bull Marine Sci Gulf Coast 2:346–348, 1952*; fresh water mammalian cercarial dermatitis *Trans R Soc Trop Med Hyg 66:21–24, 1972;* cercarial dermatitis from snail (*Lymnaea stagnalis*) in aquarium tank *BJD 145:638–640, 2001*

Syphilis – tabes dorsalis – unilateral itching *The Clinical Management of Itching; Parthenon; p.31, 2000*

Toxocariasis – (*Toxocara canis*, *T. cati*, *T. leonensis*) visceral larva migrans *Dermatologica 144:129–143, 1972*

Trichinosis *Ghatan p.261, 2002, Second Edition*

*Trichuris* (whipworm) *Dermatol Clin 7:275–290, 1989*

Trypanosomiasis *Am J Trop Med Hyg 22:473–476, 1973*

## INFILTRATIVE

Amyloidosis – primary familial amyloidosis – pruritus in childhood *BJD 112:201–208, 1985*

Mastocytosis *Dermatology 197:101–108, 1998; Arch Belg Dermatol 11:10–22, 1955*

## INFLAMMATORY DISEASES

Guillain–Barré syndrome *Am J Clin Hypnosis 32:168–173, 1990*

Multiple sclerosis *BJD 95:555–558, 1976*

Sarcoidosis – with elevation of IgA *Ann Allery Asthma Immunol 74:387–389, 1995*

## METABOLIC DISEASES

Adrenergic pruritus

Anemia

Biliary atresia *The Clinical Management of Itching; Parthenon; p.28, 2000*

Choledocholithiasis *The Clinical Management of Itching; Parthenon; p.28, 2000*

Cholinergic pruritus *BJD 121:235–237, 1989*

Diabetes insipidus *Ghatan p.261, 2002, Second Edition*

Diabetes mellitus – scalp, vulva *Diabetes Care 9:273–275, 1986*

Dumping syndrome *BJD 107:70, 1982*

Extrahepatic biliary obstruction *JAAD 45:892–896, 2001*

Hemochromatosis *BJD 112:629, 1985*

Hepatic disease, including intrahepatic biliary obstruction *JAAD 45:892–896, 2001;* obstructive biliary disease *AD 119:183–184, 1983;* primary biliary cirrhosis, cholestasis *JAAD 41:431–434, 1999; Am J Med 70:1011–1016, 1981;* primary ascending cholangitis; drug-induced cholestasis (chlorpromazine, birth control pills, testosterone) *Semin Dermatol 14:302–312, 1995;* primary biliary cirrhosis *JAAD 45:892–896, 2001*

Hepatitis B and C *JAAD 30:629–632, 1994*

Hypercalcemia

Hyperparathyroidism

Hyperphosphatemia

Hyperthyroidism, including thyrotoxicosis *JAAD 45:892–896, 2001; J Allergy Clin Immunol 48:73–81, 1971; South Med J 62:1127–1130, 1969*

Hypoparathyroidism *Ghatan p.261, 2002, Second Edition*

Hypothyroidism *JAAD 45:892–896, 2001; The Clinical Management of Itching; Parthenon; p.26, 2000*

Iron deficiency with or without anemia *BJD 151 (Suppl 68):35, 2004; AD 119:630, 1983; JAMA 236:2319–2320, 1976; BJD 89 (Suppl 9):10, 1973*

Malabsorption

Miliaria *Ghatan p.261, 2002, Second Edition*

Porphyria cutanea tarda *Ann DV 113:133–136, 1986*

Postmenopausal (perimenopausal) pruritus *Rook p.625, 1998, Sixth Edition; The Clinical Management of Itching; Parthenon; p.26,151, 2000*

Pregnancy – cholestasis of pregnancy *JAAD 6:977–998, 1982; Acta Med Scand 196:403–410, 1974*

Premenstrual pruritus – due to cholestasis *Trans St Johns Hosp Dermatol Soc 56:11–13, 1970*

Renal disease, chronic *JAAD 45:892–896, 2001; Clin Exp Dermatol 25:103–106, 2000; AD 118:154–160, 1982;* uremia

Starvation-associated pruritus *JAAD 27:118–120, 1992*

Uremia *JAAD 49:842–846, 2003*

## NEOPLASTIC AND PARANEOPLASTIC DISEASES

*J Geriat Dermatol 3:172–181, 1995; JAAD 21:1317, 1989; JAAD 16:1179–1182, 1987*

Angioimmunoblastic lymphadenopathy *Asian Pac J Allergy Immunol 5:119–123, 1987*

Brain tumors – tumor invading floor of fourth ventricle – pruritus of nostrils; occasionally generalized pruritus *BJD 92:675–678, 1975;* brainstem glioma – unilateral facial pruritus *J Child Neurol 3:189–192, 1988;* cerebrovascular accidents – unilateral pruritus *AD 123:1527–1530, 1987; Ann Intern Med 97:222–223, 1987*

Breast carcinoma *Lancet 2:696, 1981*

Central pruritus *Pain 45:307–308, 1991*

Cervical spinal cord compression – lower extremity burning and itching *J Computed Tomography 6:57–60, 1982*

Cervicothoracic syrinx and thoracic spinal cord tumor *Neurosurgery 30:418–421, 1992*

Carcinoma – breast, stomach, lung, larynx *JAAD 45:892–896, 2001*

Gastrointestinal cancers – tongue, stomach, colon *Dermatologica 155:122–124, 1977*

Kaposi's sarcoma

Leukemia *Rook p.2397,2715, 1998, Sixth Edition; J Derm Surg Oncol 10:278–282, 1984;* chronic lymphocytic leukemia *JAAD 45:892–896, 2001;* HTLV-1 (acute T-cell leukemia) *JAAD 49:979–1000, 2003*

Lymphoma – cutaneous T-cell lymphoma ('invisible mycosis fungoides') *JAAD 47:S168–171, 2002; JAAD 45:318–319, 2001; JAAD 42:324–328, 2000*; adnexotropic T-cell lymphoma *JAAD 38:493–497, 1998;* Sézary syndrome *JAAD 33:678–680, 1995;* Hodgkin's disease – legs *JAMA 241:2598–2599, 1979*; especially with alcohol *Cancer 56:2874–2880, 1985*

Lung cancer *Clin Exp Dermatol 8:459–461, 1983; Arizona Med 37:831–833, 1980*

Mastocytoma, malignant; systemic mastocytosis

Metastastic disease *Dermatologica 155:122–124, 1977*

Multiple myeloma *JAAD 45:892–896, 2001; Rook p.2715, 1998, Sixth Edition; Br Med J 2:1154, 1977*

Pancreatic carcinoma *The Clinical Management of Itching; Parthenon; p.28, 2000*

Polycythemia vera – within minutes of water contact *Lancet 337:241, 1991; BJD 116:21–29, 1987; Blood 28:2319–2320, 1966*

Prostatic carcinoma

Spinal tumors – excoriations due to paresthesias

Thyroid carcinoma

Uterine carcinoma

Waldenström's macroglobulinemia

## PHOTODISTRIBUTED DERMATOSES

Brachioradial pruritus *BJD 115:177–180, 1986*

Polymorphic light eruption sine eruption *BJD 118:73–76, 1988*

Sunburn *Ghatan p.261, 2002, Second Edition*

## PRIMARY CUTANEOUS DISEASES

Anhidrosis *Ghatan p.261, 2002, Second Edition*

Atopic dermatitis *JAAD 45:892–896, 2001*

Brachioradial pruritus; due to spinal cord ependymoma of C4–C7 *JAAD 46:437–440, 2002*

Hereditary localized pruritus

Notalgia paresthetica (localized) *JAAD 32:287–289, 1995*

Paroxysmal itching *JAAD 13:839–840, 1985*

Pruritus ani – nocturnal

Xerosis (dry skin itch, winter itch) *Rook p.625, 1998, Sixth Edition*

### PSYCHOCUTANEOUS DISEASES

Anorexia nervosa *BJD 134:510–511, 1996*

Delusions of parasitosis *Dermatol Clin 14:429–438, 1996*

Emotional stress *Dermatol Clin 14:429–438, 1996*

Monosymptomatic hypochondriacal psychosis

Psychogenic pruritus – perianal, vulvar *Rook p.625, 1998, Sixth Edition*

### SYNDROMES

Arteriohepatic dysplasia syndrome *Clin Exp Dermatol 8:657–661, 1983*

Carcinoid syndrome *Ann Intern Med 58:989–993, 1963*

Hypereosinophilic syndrome *AD 132:535–541, 1996*; *Med Clin (Barc) 106:304–306, 1996*

Neurofibromatosis type I *JAAD 43:958–961, 2000; Clin Exp Dermatol 10:590–591, 1985*

### TOXINS

Mercury exposure – anorexia, weight loss, photosensitivity, sweaty palms *Lancet 336:1578–1579, 1990*

### VASCULAR

Aagenaes syndrome (hereditary cholestasis with lymphedema) – autosomal recessive; lymphedema of legs due to congenital lymphatic hypoplasia; pruritus, growth retardation *Textbook of Neonatal Dermatology, p.334, 2001*

Intramedullary vascular malformation – segmental pruritus *Schweizer Archiv Neurol Psychiatrie 145:13–16, 1994*

Stroke – unilateral pruritus *JAAD 45:892–896, 2001*

## PRURITUS, VULVAR

***Ghatan p.115, 2002, Second Edition***

Allergic contact dermatitis

Atopic dermatitis

Candidiasis

*Chlamydia*

Condylomata acuminata

Gonorrhea

*Haemophilus influenzae*

Herpes simplex

Irritant dermatitis

Lichen planus

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Molluscum contagiosum

*Neisseria meningitidis*

Pediculosis

Pinworm

Poor hygiene

Psoriasis

Psychogenic

Scabies

Seborrheic dermatitis

*Shigella*

*Staphylococcus aureus*

*Streptococcus pneumoniae*

*Streptococcus pyogenes*

Tinea cruris

*Trichomonas*

*Yersinia*

## PSEUDOXANTHOMA ELASTICUM-LIKE CHANGES

Acquired pseudoxanthoma elasticum (PXE) *BJD 151:242–244, 2004*

Acrodermatitis chronica atrophicans

Aging

Amyloidosis *Clin Exp Dermatol 11:87–91*

Anetoderma – primary, secondary

Collagenomas, disseminated

Cutaneous laxity due to marked weight loss – wasting syndrome, marasmus

Cutis laxa, congenital *AD 92:373, 1965*

Cutis laxa, acquired
- Myeloma *AD 112:853–855, 1976*
- Systemic lupus erythematosus *JAAD 8:869, 1983*
- Hypersensitivity reaction *AD 123:1211–1216, 1987*
- Complement deficiency, penicillamine therapy *Lancet ii:858, 1983*

DeBarsky syndrome *Dermatology Foundation Vol. 4 12/96:1–15*

Dermatoheliosis

Ehlers–Danlos syndrome type IX – X-linked

Elastoderma *JAAD 33:389, 1995*

Granulomatous slack skin – CTCL *JID 89:183, 1987*

Mid-dermal elastolysis (perifollicular atrophy) (wrinkled skin) *JAAD 48:846–851, 2003; Cutis 71:312–314, 2003; J Cut Med Surg 4:40–44, 2000; JAAD 26:490–492, 1992; JAAD 26:169–173, 1992; AD 125:950–951, 1989*

Leprechaunism *AD 117:531, 1981*

Linear focal elastolysis *AD 131:855, 1995*

Neurofibromatosis

Penicillamine *Ann Plast Surg 29:367–370, 1992; BJD 123:305–312, 1990; BJD 114:381–388, 1986; J R Soc Med 78:794–798, 1984*

Periumbilical perforating PXE *JAAD 19:384, 1989*

Post-inflammatory elastolysis

Pseudoxanthoma elasticum

Recovery from severe edema

Striae distensae

Topical corticosteroids

Trisomy 18 – redundant skin, rocker-bottom feet, clenched fist

White fibrous papulosis of the neck

Wrinkly skin syndrome

# PSORIASIFORM DERMATITIS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis *Rook p.2560, 1998, Sixth Edition;* psoriasiform scalp dermatitis *JAAD 51:427–439, 2004*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extrexities, penile rash, alopecia universalis, bullae *AD 140:466–472, 2004*

Leukocyte adhesion deficiency syndrome – congenital deficiency of leucocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18) – necrotic cutaneous abscesses, psoriasiform dermatitis, gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *BJD 123:395–401, 1990*

Linear IgA disease – annular psoriasiform, serpiginous red plaques of palms *JAAD 51:S112–117, 2004*

Lupus erythematosus including systemic lupus erythematosus, discoid lupus erythematosus, subacute cutaneous lupus erythematosus *Clinics in Derm 10:431–442, 1992*

Pemphigus foliaceus

Pemphigus vulgaris

Still's disease in the adult – brown coalescent scaly papules; persistent psoriasiform papular lesions *JAAD 52:1003–1008, 2005*

## DRUG-INDUCED

Acetazolamide – pustular psoriasis *J Dermatol 22:784–787, 1995*

Atenelol – induces pustular psoriasis *AD 126:968–969, 1990; Clin Exp Derm 9:92–94, 1984*

Beta blocker-induced psoriasiform eruption *Int J Dermatol 27:619–627, 1988*

Botulinum A toxin, intramuscular *Cutis 50:415–416, 1992*

Bupropion (Zyban) – psoriatic erythroderma or pustular psoriasis *BJD 146:1061–1063, 2002*

Capecytabine (Xeloda) – acral dysesthesia syndrome

Chloroquine

Drug-induced pseudolymphoma – allopurinol, amiloride, carbamazepine, cyclosporine, clomipramine, diltiazem, phenytoin *AD 132:1315–1321, 1996*

Etanercept *BJD 151:506–507, 2004*

G-CSF – pustular psoriasis *AD 134:111–112, 1998*

Infliximab *BJD 151:506–507, 2004*

Interferon-$\alpha$ *AD 130:890–893, 1994*

Interleukin-2 *AD 124:1811–1815, 1988;* induction of Reiter's syndrome by IL-2 *JAAD 29:788–789, 1993*

Lichenoid drug eruption – psoriasiform appearance *Rook p.1916–1918, 1998, Sixth Edition* – amiphenazole, captopril, gold *AD 109:372–376, 1974*; isoniazid, levamisole *J R Soc Med 73:208–211, 1980;* levopromazine, methyldopa, metropromazine, propranalol, exprenolol, labetalol (beta-blockers), chlorpropamide, enalopril, pyrimethamine *Clin Exp Dermatol 5:253–256, 1980;* antimalarials, penicillamine, thiazide diuretics, streptomycin, hydroxyurea, tiopronin, naproxen, carbamazepine, ethambutol, simvastatin, para-amino salicylic acid, pravastatin *JAAD 29:249–255, 1993; Cutis 61:98–100, 1998;* includes photo-LP (demeclocycline *AD 109:97–98, 1974*) oral LP, and contact LP; quinacrine – lichenoid dermatitis *JAAD 4:239–248, 1981;* quinine – lichenoid photodermatitis *Clin Exp Dermatol 19:246–248, 1994*

Lithium

Mitomycin C – intravesical administration *Arch Esp Urol 42:670–672, 1989*

Nifedipine *JAAD 38:201–206, 1998*

Penicillamine *J Rheumatol 8 (Suppl 7):149–154, 1981*

Propranolol *Lancet 1, 808, 1986; Cutis 24:95, 1979*

Rofecoxib (Vioxx) – exacerbation of psoriasis *AD 139:1223, 2003*

Terbinafine *JAAD 36:858–862, 1997*

## DRUGS EXACERBATING PSORIASIS

Acebutolol

Acetyl salicylic acid

Alprenolol

Atenolol

Beta blockers

Captopril

Calcium channel blockers

Chlorthalidone

Chloroquine

Cimetidine

Clomipramine

Clonidine

Cyclosporine

Dipyridamole

Fluoxetine

Gemfibrozil

Gold

Glyburide

Ibuprofen

IL-2 *JAMA 258:3120–3121, 1987*

Indomethacin

Interferon-$\alpha$ *JAAD 37:118–120, 1997*

Labetolol

Lithium

Meclofenamate

Metaprolol

Nadolol

NSAIDs

Omeprazole

Oxprenelol

Oxyphenbutazone

Penicillamine

Penicillin

Phenylbutazone

Pindolol

Propranolol

Pyrazolone

Quinacrine

Quinidine

SARTANS – orally active angiotensin II type I receptor antagonists *BJD 147:617–618, 2002*

Terbinifine *JAAD 36:858–862, 1997*

Terfenadine

Tetracycline

Timolol

Trazodone

Vitamin K

## INFECTIONS AND INFESTATIONS

AIDS-associated psoriasiform dermatitis *Int J Dermatol 35:484–488, 1996; AD 126:1457–1461, 1990;* exacerbation of psoriasis; Reiter's syndrome with or without zinc deficiency *Rook p.2771, 1998, Sixth Edition; Int J Derm 27:342–343, 1988*

Botryomycosis *Cutis 55:149–152, 1995*

Brucellosis *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

Candidiasis *Rook p.1608, 1998, Sixth Edition*

Epidermodysplasia verruciformis – autosomal recessive, X-linked recessive (one family); 17 HPV types isolated; HPV 3 and 10 most common with types 5 and 8 associated with malignant lesions; epidermodysplasia verruciformis HPV remain extrachromosomal in cutaneous tumors *AD 131:1312–1318, 1995; JAAD 22:547–566, 1990; Proc Nat Acad Sci USA 79:1634, 1982*

Erythrasma

Hepatitis C infection – necrolytic acral erythema; red to hyperpigmented psoriasiform plaques with variable scale or erosions of feet or shins *JAAD 53:247–251, 2005; Int J Derm 35:252–256, 1996*

Histoplasmosis, disseminated – *Histoplasma capsulatum*; dimorphic; 2–5 μm oval or budding yeast forms surrounded by halo within macrophages; cutaneous lesions in disseminated disease include macules and papules, plaques, punched-out ulcers, purpuric lesions, abscesses, dermatitis, subcutaneous nodules, cellulitis, exfoliative erythroderma, acneform eruptions, transepidermal elimination papules, oral ulcers and tongue nodules *Tyring p.341, 2002; Diagnostic Challenges Vol V:77–79, 1994; AD 127:721–726, 1991*

Leishmaniasis – leishmaniasis recidivans (lupoid leishmaniasis) – extensive psoriasiform dermatitis *Rook p.1414, 1998, Sixth Edition*

Leprosy

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis; usually solitary lesion resulting from exogenous inoculation of tubercle bacilli into individual with preexistent moderately high degree of immunity to TB; or from autoinoculation *AD 125:113–118, 1989*

Pinta

Scabies, crusted (Norwegian scabies) – psoriasiform lesions of hands, hails, trunk, feet, ears, scalp *AD 127:1833, 1991; JAAD 17:434–436, 1987*

Scarlet fever

Staphylococcal scalded skin syndrome

Syphilis, secondary – *Treponema pallidum*; 8–14 regular rigid spirals; three main elements on electron microscopy: (1) protoplasmic cylinder (protoplast); (2) axial filament; (3) outer envelope (cell wall). Penicillin disrupts the synthesis of the outer envelope *Caputo p.146, 2000; Rook p.1247, 1998, Sixth Edition*

Tinea corporis – *Trichophyton rubrum Tyring p.346, 2002; Rook p.1302, 1998, Sixth Edition;* including tinea corporis in HIV – *Microsporum gypseum AD 132:233–234, 1996;* tinea capitis *Rook p.1304–1305, 1998, Sixth Edition;* tinea pedis – mimics pustular psoriasis *Rook p.1310, 1998, Sixth Edition;* tinea cruris *Rook p.1608, 1998, Sixth Edition*; the three most common causes in the USA are *Trichophyton rubrum*, *Microsporum canis* and *Trichophyton mentagrophytes*; *Trichophyton concentricum* (tinea imbricata) common in the Pacific Islands.

Tinea versicolor

Yaws – secondary pianides *Rook p.1272, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis

Lichen amyloidosis

## INFLAMMATORY DISEASES

Erythema multiforme

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – psoriasiform exfoliative dermatitis *JAAD 50:159–161, 2004; JAAD 41:335–337, 1999*

Sarcoidosis – psoriasiform dermatitis *JAAD 51:448–452, 2004;* psoriasiform scalp dermatitis *AD 140:1003–1008, 2004*

## METABOLIC

Acrodermatitis enteropathica or acquired zinc deficiency – autosomal recessive or acquired due to gastrointestinal disorders, dietary deficiencies, trauma, malignancy, renal disorders, parasitic infections *Ped Derm 19:426–431, 2002; AD 116:562–564, 1980; Acta DV (Stockh) 17:513–546, 1936*

Biotin-responsive multiple carboxylase deficiency *Textbook of Neonatal Dermatology, p.254, 2001*
- Biotin is water soluble B complex vitamin
- Pyruvate carboxylase, propionyl coenzyme A carboxylase, and beta methylcrotonyl Co-A carboxylase are all mitochondrial in location.
- Acetyl Co-A carboxylase is cytosolic.
- Late onset – deficiency of biotinidase.
- Early onset – holocarboxylase synthetase deficiency.

Essential fatty acid deficiency – especially linoleic acid

Idiopathic hypoparathyroidism *Acta Med Scand (Suppl) 121:1–269, 1941*

Hereditary lactic dehydrogenase M-subunit deficiency – elbows and knees; circinate and psoriasiform lesions resembling circinate lesions of erythrokeratoderma variabilis, ichthyosis linearis circumflexa, necrolytic migratory erythema, pellagra, and zinc deficiency; isozymes of LDH are tetramers of two different polypeptides, M and H; isozyme LDH 5 contains four identical M chains and predominates in the epidermis *AD 122:1420–1424, 1986*

Hypoparathyroidism *Eur J Dermatol 9:574–576, 1999*

Methylmalonic aciduria – psoriasiform eruptions *Ped Derm 16:95–102, 1999*

Pellagra

Propionic aciduria – psoriasiform eruptions *Ped Derm 16:95–102, 1999*

## NEOPLASTIC

Eccrine syringofibroadenomatosis – varied clinical presentation including solitary nodules, psoriasiform dermatitis of palms and soles, dermatomal papules, vegetating hyperkeratotic nodule, pyogenic granuloma-like lesion, crusted papules, keratotic papules *JAAD 26:805–813, 1992*

Kaposi's sarcoma

Keratoacanthomas – Grzybowski type

Lymphoma – cutaneous T-cell lymphoma – 2.8% of all lymphomas *JAAD 52:393–402, 2005; JAAD 51:111–117, 2004; Curr Prob Derm Dec. 1991;* HTLV-1 lymphoma *JAAD 36:869–871, 1997*

Lymphomatoid papulosis

Porokeratosis – disseminated superficial actinic porokeratosis

## PARANEOPLASTIC

Acrokeratosis paraneoplastica (Bazex syndrome) – associated with upper aerodigestive system malignancies; three stages – (1) fingers and toes, helices and nose; (2) palms and soles, face (violaceous plaques); (3) hands, elbows and knees, arms, forearms, thighs, legs and trunk *JAAD 52:711–712, 2005; AD 141:389–394, 2005; Cutis 74:289–292, 2004; JAAD 40:822–825, 1999; AD 124:1852, 1855, 1988; JAAD 17:517–518, 1987; Bull Soc Fr Dermatol Syphilol 72:182, 1965; Paris Med 43:234–237, 1922*

Necrolytic migratory erythema – glucagonoma syndrome *JAAD 49:325–328, 2003; Rook p.1608, 1998, Sixth Edition*

## PHOTODERMATOSES

Polymorphous light eruption, psoriasiform

Psoriasis, photosensitive

## PRIMARY CUTANEOUS DISEASE

Acrodermatitis continua of Hallopeau

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Atopic dermatitis

Atypical epidermolytic hyperkeratosis with palmoplantar keratoderma with keratin 1 mutation – palmoplantar keratoderma with psoriasiform plaques of elbows and antecubital fossae *BJD 150:1129–1135, 2004*

Axillary granular parakeratosis *AD 140:1161–1166, 2004*

Dermatitis of the legs *Rook p.1607, 1998, Sixth Edition*

Diaper dermatitis with rapid dissemination – expanding nummular dermatitis of trunk, and red scaly plaques of neck and axillae ('psoriasiform id') *BJD 78:289–296, 1966*

Dyshidrosis

Epidermolysis bullosa, dominant dystrophic type; reduced numbers of anchoring fibrils; chondroitin 6-sulfate proteoglycan and KF-1 are reduced

Epidermolytic hyperkeratosis – polycyclic psoriasiform plaques; mutation in keratin 1 gene *Exp Dermatol 8:501–503, 1999*

Erythema annulare centrifugum – mimics recurrent circinate erythematous psoriasis of Bloch and Lapiere *Rook p.1608, 1998, Sixth Edition*

Erythematous and keratotic components – differential diagnosis *Ped Derm 19:285–292, 2002*
- Erythrokeratoderma en cocardes
- Erythrokeratoderma variabilis
- Erythrokeratolysis heimalis (Oudtshoorn disease) – targetoid peeling with repeated cycles of hyperkeratosis and peeling
- Keratosis–ichthyosis–deafness (KID) syndrome – linear hyperkeratotic erythema; fine granular palmoplantar keratoderma
- Netherton's syndrome – flexural lichenification
- Non-bullous congenital ichthyosiform erythroderma
- Progressive symmetric erythrokeratoderma
- Loricrin keratoderma

Erythrokeratoderma progressiva symmetrica – plaques on medial buttocks, extremities, face, palms and soles; increased mitotic activity of cells with lipid vacuoles in stratum corneum cells *AD 122:434–440, 1986; Dermatologica 164:133–141, 1982*

Erythrokeratoderma variabilis *Ped Derm 12:351–354, 1995; Ann DV (Stockh) 6:225–258, 1925*

Granuloma annulare

Grover's disease (transient acantholytic dermatosis) *AD 113:431–435, 1977*

Hailey–Hailey disease

Hyperkeratotic dermatitis of the palms *BJD 109:205–208, 1983; BJD 107:195–202, 1982*

Ichthyosis

Impetigo herpetiformis (pustular psoriasis) *Acta Obstet Gynecol Scand 74:229–232, 1995*

Infantile febrile psoriasiform dermatitis *Ped Derm 12:28–34, 1995*

Keratosis lichenoides chronica (Nekam's disease) – linear reticulate papular, nodular violaceous lesions *Bolognia p.196, 2004*

Lamellar ichthyosis – episodic psoriasiform pattern *Cutis 122:428–433, 1986*

Lichen planus *Rook p.1904–1912, 1998, Sixth Edition;* of palms or hypertrophic lichen planus *Caputo p.16, 2000; Rook p.1607, 1998, Sixth Edition*

Lichen simplex chronicus – psoriasiform neurodermatitis

Lichen spinulosus *JAAD 22:261–264, 1990; Cutis 43:557–560, 1989*

Lichen striatus *Caputo p.19, 2000*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis-C infection *JAAD 50:S121–124, 2004; Int J Derm 35:252–256, 1996*

Parakeratosis pustulosa – psoriasiform dermatitis of children; paronychial skin with thickening of nail edges *BJD 79:527–532, 1967*

Parapsoriasis en plaque

Pityriasis lichenoides chronica *Caputo p.20, 2000; Rook p.1608, 2222, 1998, Sixth Edition; BJD 129:353–354, 1993; AD 119:378–380, 1983; Arch Dermatol Syphilol 50:359–374, 1899*

Pityriasis rosea

Pityriasis rotunda

Pityriasis rubra pilaris – psoriasiform patches of elbows and knees; seborrheic keratoses become more prominent if the erythroderma of PRP persists
- Adult – Classic (1), Atypical (2)
- Juvenile – Classic (3), Circumscribed (4), Atypical (5) (early onset with chronic course) *J Dermatol 27:174–177, 2000; JAAD 31:997–999, 1994; JAAD 20:801, 1989*

Poikiloderma vasculare atrophicans

Progressive symmetric erythrokeratoderma (Gottron's syndrome) – autosomal dominant; large fixed geographic symmetric scaly red–orange plaques; shoulders, cheeks, buttocks, ankles, wrists *AD 122:434–440, 1986; Dermatologica 164:133–141, 1982*

Psoriasiform neurodermatitis *Rook p.1607, 1998, Sixth Edition*

Psoriasis vulgaris

RAG2$^{-/-}$, I kappa B-alpha$^{-/-}$ chimeras *JID 115:1124–1133, 2000*

Seborrheic dermatitis *Rook p.1607, 1998, Sixth Edition*

### SYNDROMES

Arthropathy, rash, chronic meningitis, eye lesions, mental retardation *Jnl Ped 99:79, 1981*

CHILD syndrome *Ped Derm 15:360–366, 1998*

Conradi–Hünermann syndrome (chondrodysplasia punctata – X-linked dominant) – ichthyotic and psoriasiform lesions *JAAD 33:356–360, 1995*

Erythrokeratoderma en cocarde

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of

elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Hereditary mucoepithelial dysplasia (dyskeratosis) – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (palate, gingiva) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Ichthyosis follicularis with alopecia and photophobia (IFAP) – large psoriasiform plaques; knees; alopecia, photophobia, non-inflammatory spiny follicular projections, hyperkeratosis of dorsum of fingers, legs, knees, and elbows; to be differentiated from ulerythema ophryogenes, atrichia with papular lesions, atrophoderma vermiculata, keratosis pilaris rubra atrophicans facei, keratosis follicularis spinulosa decalvans, and KID syndrome *BJD 142:157–162, 2000; AD 121:1167–1174, 1985*

Keratosis–ichthyosis–deafness (KID) syndrome (knees) – widespread erythrokeratotic lesions with grainy leatherlike appearance; reticulated and serpiginous hyperkeratotic plaques of the face; follicular keratosis, perioral wrinkling, loss of visual acuity, sensory impairment, susceptibility to bacterial and fungal infections *AD 123:777–782, 1987;* psoriasiform scalp dermatitis *BJD 148:649–653, 2003*

Lipoid proteinosis – psoriasiform plaques *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Mal de Meleda *AD 136:1247–1252, 2000*

Multicentric reticulohistiocytosis *AD 118:173, 1982*

Netherton's syndrome – presenting as congenital psoriasis *Ped Derm 14:473–476, 1997;* psoriasiform plaques of knees *Int J Dermatol 37:268–270, 1998*

Neutral lipid storage disease (Chanarin–Dorfman disease) – autosomal recessive; erythrokeratoderma variabilis-like presentation; focal or diffuse alopecia; congenital non-bullous ichthyosiform erythroderma, collodion baby; seborrheic dermatitis-like rash of face and scalp; leukonychia; mutation in ABHD5 which encodes protein of esterase/lipase/thioesterase subfamily *BJD 153:838–841, 2005*

Papillon–Lefevre syndrome – autosomal recessive; diffuse transgradiens palmoplantar keratoderma and periodontopathy with loss of deciduous and permanent dentition; psoriasiform elbow plaques, knees, pretibial areas, and trunk; recurrent cutaneous and systemic pyodermas *AD 141:779–784, 2005; JAAD 48:345–351, 2003; Caputo p.111, 2000; J Periodontol 66:413–420, 1995; Ped Derm 11:354–357, 1994; Ped Derm 6:222–225, 1989; AD 124:533–539, 1988*

Reiter's syndrome – keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp; may be associated with HIV disease *Rook p.2765–2766, 1998; Ann Intern Med 106:19–26, 1987; Semin Arthritis Rheum 3:253–286, 1974;* following gastroenteritis due to *Salmonella enteritidis*, *Shigella*, *Yersinia*, *Campylobacter* species, and *Clostridium difficile Clin Inf Dis 33:1010–1014, 2001*

SAPHO syndrome – palmoplantar pustulosis with sternoclavicular hyperostosis; acne fulminans, acne conglobata, hidradenitis suppurativa, psoriasis, multifocal osteitis *Cutis 71:63–67, 2003; Cutis 62:75–76, 1998; Rev Rheum Mol Osteoarthritic 54:187–196, 1987; Ann Rev Rheum Dis 40:547–553, 1981*

Sweet's syndrome

Turner's syndrome *JAAD 36:1002–1004, 1996*

## PSORIASIFORM PLAQUE, FOCAL OR SOLITARY

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bullous pemphigoid

Dermatomyositis

Lupus erythematosus – systemic lupus – psoriasiform plaques of palms and soles *BJD 81:186–190,1969;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963;* subacute cutaneous lupus erythematosus *Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988*

Pemphigus foliaceus

### DRUGS

Chemotherapy-associated acral dysesthesia syndrome

Drug-induced pseudolymphoma *AD 132:1315–1321, 1996*

Fixed drug eruption, chronic

Gamma interferon injection site *AD 126:351–355, 1990*

Vitamin K injection (Aquamephyton)

### EXOGENOUS AGENTS

Silica granulomas

### INFECTIONS AND INFESTATIONS

*Alternaria chartarum* – red, scaly plaque *BJD 142:1261–1262, 2000*

Chromomycosis *AD 113:1027–1032, 1997*

Erythrasma, including disciform erythrasma

Leishmaniasis – recidivans leishmaniasis *JAAD 51:S125–128, 2004; JAAD 34:257, 1996*

Leprosy – type 1 reaction in borderline tuberculoid *Rook p.1227, 1998, Sixth Edition*

Mycobacteria, non-tuberculous

*Mycobacterium haemophilum Clin Inf Dis 33–330–337, 2001*

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; plaque form – psoriasiform,

irregular scarring, serpiginous margins; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Cutis 27:510, 1981*; *Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* tuberculosis verrucosa cutis (inoculation tuberculosis) *JAAD 41:860–862, 1999; AD 125:113, 1989; BJD 66:444–448, 1954*

North American blastomycosis

Pinta *AD 135:685–688, 1999*

Scarlet fever

Sporotrichosis (fixed cutaneous sporotrichosis) *Derm Clinics 17:151–185, 1999*

Syphilis – secondary *Rook p.1247, 1998, Sixth Edition;* tertiary

Tinea corporis – *Trichophyton rubrum Rook p.1302, 1998, Sixth Edition;* including tinea corporis in HIV – *Microsporum gypseum AD 132:233–234, 1996*; Majocchi's granuloma; tinea cruris, pedis, capitis *Rook p.1304–1305, 1998, Sixth Edition;* tinea faciei *AD 114:250–252, 1978*

## INFILTRATIVE DISEASES

Amyloidosis – lichen amyloidosis

Langerhans cell histiocytosis *Rook p.2319, 1998, Sixth Edition*

## INFLAMMATORY DISEASE

Erythema multiforme

Rosai–Dorfman disease *JAAD 41:335–337, 1999*

Sarcoidosis *AD 133:882–888, 1997; AD 106:896–898, 1972*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Ped Derm 19:426–431, 2002*

Necrobiosis lipoidica diabeticorum

## NEOPLASTIC DISEASES

Actinic keratosis

Basal cell carcinoma, including superficial basal cell carcinoma, basal cell carcinoma of the palm *JAAD 33:823–824, 1995*

Bowen's disease *Rook p.1608,1674–1675, 1998, Sixth Edition*

Bowenoid papulosis – papules *AD 121:858–863, 1985*

Epidermal nevus

Erythroplasia of Queyrat *Rook p.1608, 1998, Sixth Edition*

Extramammary Paget's disease *Sem Cut Med Surg 21:159–165, 2002*

Inflammatory linear verrucous epidermal nevus (ILVEN) – linear dermatitic and/or psoriasiform plaques; often on leg *AD 113:767–769, 1977; AD 104:385–389, 1971*

Kaposi's sarcoma

Leukemia cutis *AD 108:416–418, 1973*

Lymphoma – cutaneous T-cell lymphoma *JAAD 47:914–918, 2002; Rook p.2376, 1998, Sixth Edition*; gamma/delta T-cell lymphoma *AD 136:1024–1032, 2000;* Woringer-Kolopp disease (pagetoid reticulosis) – annular hyperkeratotic plaque *JAAD 14:898–901, 1986*

Melanoma – amelanotic lentigo maligna

Paget's disease – nipple *Rook p.1677–1678, 1998, Sixth Edition; Surg Gynecol Obstet 123:1010–1014, 1966*

Porokeratosis of Mibelli *Cutis 72:391–393, 2003; Rook p.1608, 1998, Sixth Edition*

## PARANEOPLASTIC DISEASES

Bazex syndrome – psoriasiform plaques and bullae of hands and feet *JAAD 40:822–825, 1999*

## PHOTODERMATOSES

Phytophotodermatitis of the helix *AD 127:912–913, 1991*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *Ped Derm 19:12–14, 2002*

Acrodermatitis continua of Hallopeau

Alopecia mucinosa (follicular mucinosis) *Rook p.2621–2622, 1998, Sixth Edition; Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Axillary granular parakeratosis *JAAD 37:789–790, 1997*

Epidermolysis bullosa – dominant dystrophic

Epidermolytic hyperkeratosis

Erythema elevatum diutinum *Rook p.2194, 1998, Sixth Edition; BJD 67:121–145, 1955*

Hailey–Hailey disease

Hyperkeratotic dermatitis of the palms *BJD 109:205–208, 1983; BJD 107:195–202, 1982*

Ichthyosis bullosa of Siemens

Lichen planus – ulcerative of soles – psoriasiform or lichenified plaque prior to ulceration *Rook p.1904–1912, 1998, Sixth Edition;* hypertrophic lichen planus *Rook p.1904–1912, 1998, Sixth Edition*

Lichen simplex chronicus; lichen simplex chronicus of posterior scalp (psoriasiform neurodermatitis) *Rook p.668,1607, 1998, Sixth Edition*

Lichen striatus

Pityriasis rubra pilaris *Rook p.1542, 1998, Sixth Edition*

Progressive symmetric erythrokeratoderma

Psoriasis

Reactive perforating collagenosis

Tinea amientacea

## SYNDROMES

Epidermodysplasia verruciformis – psoriasiform plaques *Ped Derm 20:176–178, 2003; Tyring p.275, 2002*

Epidermolytic palmoplantar keratoderma, woolly hair, and dilated cardiomyopathy – striated palmoplantar keratoderma, follicular keratosis, clubbing, vesicles and bullae on trunk, psoriasiform keratoses on knees, legs, and feet *JAAD 39:418–421, 1998*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – psoriasiform plaques; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988*

Lipoid proteinosis *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Papillon–Lefevre syndrome – psoriasiform plaques of elbows *JAAD 49:S240–243, 2003; JAAD 48:345–351, 2003; JAAD 46:S8–10, 2002*

Reiter's syndrome – balanitis circinata (sicca); keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Schopf–Schulz–Passarge syndrome – eyelid cysts (apocrine hidrocystomas), psoriasiform plantar dermatitis (palmoplantar keratoderma), hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Vohwinkel's syndrome – starfish hyperkeratotic plaque of the knees

### TRAUMA

Frictional dermatitis – palms and/or elbows

Occupational callosity

### VASCULAR DISEASES

Inflammatory nuchal-occipital port wine stain *JAAD 35:811–813, 1996*

Lymphoangioendothelioma (acquired progressive lymphangioma) *JAAD 39:126–128, 1998*

## PTERYGIA

Antecubital pterygia syndrome

Bartsocas/Papas lethal popliteal pterygia syndrome

Craniocarpotarsal dysplasia (Whistling face syndrome) – pterygium colli *Birth Defects 11:161–168, 1975*

Distichiasis and lymphedema – pterygia colli (webbed neck)

Escobar syndrome

Hereditary onycho-osteodysplasia – pterygium of the elbow *Pathologica 83:365–372, 1991*

Klippel–Feil syndrome – pterygia colli (webbed neck) *Cleft Palate 17:65–88, 1980*

LEOPARD syndrome *Birth Defects 7:110–115, 1971*

Multiple lethal pterygium syndrome

Multiple pterygium syndrome *Am J Dis Child 142:794–798, 1988; Eur J Pediatr 147:550–552, 1988*

Nail–patella syndrome – antecubital pterygium *JAAD 49:1086–1087, 2003; J Pediatr Orthop B 7:27–31, 1998; Am J Med Genet 38:9–12, 1991*

Noonan's syndrome – pterygia colli (webbed neck) *J Med Genet 24:9–13, 1987*

Pena–Shoker syndrome

Popliteal pterygium syndrome – autosomal dominant; bilateral popliteal pterygia, intercrural pterygium, hypoplastic digits, valgus or varus foot deformities, syndactyly, cryptorchidism, inguinal hernia, cleft scrotum, lower lip pits, mucous membrane bands, eyelid adhesions *J Med Genet 36:888–892, 1999; Int J Pediatr Otorhinolaryngol 15:17–22, 1988*

Turner's syndrome – pterygia colli (webbed neck) *Endocrinology 23:566–578, 1938*

## PTERYGIUM OF THE NAIL

***Cutis 66:343–346, 2000***

### DORSAL PTERYGIUM

Burns

Cicatricial pemphigoid

Congenital

Diabetic vasculopathy

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28; oral bullae and erosions *Rook p.415, 1998, Sixth Edition; Ped Derm 14:411–413, 1997; J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Epidermolysis bullosa dystrophica recessiva

Erythema multiforme

GABEB – generalized atrophic benign epidermolysis bullosa

Graft vs. host disease *BJD 122:841–843, 1990*

Idiopathic atrophy of the nail *Dermatology 190:116–118, 1995*

Infection

Leprosy – type 2 reaction *Cutis 44:311–312, 1989*

Lichen planus *Rook p.1904–1912,2843–2844, 1998, Sixth Edition*

Lupus erythematosus, systemic

Nail biting *Rook p.2863, 1998, Sixth Edition*

Nail–patella syndrome (hereditary onychodysplasia syndrome) (Hood syndrome)

Onychotillomania

Pemphigus foliaceus

Peripheral vascular disease

Radiation therapy

Raynaud's phenomenon – pterygium unguis inversum

Sarcoid *AD 121:276–277, 1985*

Stevens–Johnson syndrome

Toxic epidermal necrolysis

Trauma

### VENTRAL PTERYGIUM (PTERYGIUM UNGUIS INVERSUM)

***AD 129:1307–1309, 1993***

Causalgia of the median nerve

Congenital *AD 110:89–90, 1974*

Familial pterygium unguis inversum *Ann DV 107:949–950, 1980*

Formaldehyde-containing nail hardeners *Contact Dermatitis 15:256–257, 1986*

Hyperkeratosis punctata of the palmar creases *Dermatologica 162:209–212, 1981*

Lenticular atrophy of the palmar creases

Leprosy *AD 126:1110, 1990;* type 2 lepra reaction *Cutis 44:311–312, 1989*

Lupus erythematosus, systemic

Neurofibromatosis

Paresis

Peripheral vascular disease *Ghatan p.84, 2002, Second Edition*

Raynaud's phenomenon

Scarring near the distal nail groove

Scleroderma *AD 113:1429–1430, 1977*

Stroke – hemiparetic hand *JAAD 53:501–503, 2005; Int J Dermatol 27:491–494, 1988*

Subungual exostosis – mimics pterygium unguis inversum *Dermatology 193:354–355, 1996*

Trauma

Unilateral *Int J Dermatol 27:491–494, 1988*

# PUBERTY, DELAYED

***Ped Rev 22:309–315, 2001; Horm Res 51 (Suppl 3):95–100, 1999***

Constitutional delay

Idiopathic

Pubertal delay due to chronic diseases
- Acrodermatitis enteropathica – hypogonadism, testicular atrophy *Ped Derm 19:426–431, 2002*
- Asthma
- Gastrointestinal diseases
- Hepatic diseases
- Renal failure
- Endocrine diseases
- Hematologic abnormalities
- Collagenosis
- Infections
- Undernutrition
- Intense exercise
- Cancer
- Anorexia nervosa
- Stress
- Drugs

Hypogonadism
- Aarskog syndrome *Birth Defects 11:25–29, 1975*
- Blepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*
- Acromegaly – amenorrhea and impotence *Rook p.2704, 1998, Sixth Edition*
- Anencephaly *Syndromes of the Head and Neck, p.565, 1990*
- Anorexia nervosa – hypogonadotrophic hypogonadism *Psychosomatics 27:737–739, 1986*
- Asthma
- Ataxia telangiectasia *JAAD 10:431–438, 1978*
- Autoimmune polyglandular endocrinopathy and anterior hypophysitis *J Pediatr Endocrinol Metab 14:909–914, 2001*
- Bloom's syndrome *Am J Hum Genet 21:196–227, 1969*
- Borjeson–Forssman–Lehman syndrome *Am J Med Genet 19:653–664, 1984*
- Cancer
- Carpenter syndrome (acrocephalosyndactyly) *Am J Med Genet 28:311–324, 1987*
- CHARGE syndrome – coloboma, heart disease, atresia chonae, genital hypoplasia, low-set malformed small ears *JAAD 46:161–183, 2002; Perspect Pediatr Pathol 2:173–206, 1975*
- Cockayne syndrome *Syndromes of the Head and Neck, p.492, 1990*
- Congenital cataracts, sensorineural deafness, hypogonadism, hypertrichosis, short stature *Clin Dysmorphol 4:283–288, 1995*
- Cryptophthalmos syndrome *Syndromes of the Head and Neck, p.817, 1990*
- del (9p) syndrome *Syndromes of the Head and Neck, p.84, 1990*
- del (18p) syndrome *Syndromes of the Head and Neck, p.52, 1990*
- dup (3q) syndrome *Syndromes of the Head and Neck, p.73, 1990*
- dup (4p) syndrome *Syndromes of the Head and Neck, p.73, 1990*
- DeSanctis–Cacchione syndrome – dwarfism, gonadal hypoplasia, mental deficiency, microcephaly, xeroderma pigmentosum *Ghanan p.199, 2002, Second Edition*
- Emotional stress
- Endocrine diseases
- Fanconi's syndrome (pancytopenia with congenital defects) – generalized olive-brown hyperpigmentation, especially of lower trunk, flexures, and neck with depigmented macules; hypoplastic anemia, slender build, short broad thumbs, tapered fingers, microcephaly, hypogonadism *Semin Hematol 4:233–240, 1967*
- Femoral hypoplasia–unusual facies syndrome *Syndromes of the Head and Neck, p.731, 1990*
- Floating-Harbor syndrome *Syndromes of the Head and Neck, p.914, 1990*
- Gastrointestinal diseases
- Gorlin–Chaudhry–Moss syndrome – short and stocky with craniosynostosis, midface hypoplasia, hypertrichosis of the scalp, arms, legs, and back, anomalies of the eyes, digits, teeth, and heart, and genitalia hypoplasia *Am J Med Genet 44:518–522, 1992*
- Hallerman–Streiff syndrome *Syndromes of the Head and Neck, p.308, 1990*
- Hematologic abnormalities
- Hepatic diseases
- Hypergonadotropic hypogonadism *Curr Ther Endocrinol Metab 6:223–226, 1997*
- Hypogonadism with cleft lip/palate *Syndromes of the Head and Neck, p.780, 1990*
- Hypogonadotrophic hypogonadism (eunuchoidism) (Kallmann's syndrome) *Int J Impot Res 12:269–271, 2000; J Pediatr Endocrinol Metab 11:631–638, 1998*
- Infections
- Intense exercise
- Isolated gonadotropin deficiency *Molec Genet Metab 68:191–199, 1999; J Pediatr 111:684–692, 1987*
- Johanson–Blizzard syndrome *Syndromes of the Head and Neck, p.812, 1990*
- Klinefelter's syndrome *Syndromes of the Head and Neck, p.58, 1990*
- Langerhans cell histiocytosis – delayed puberty *Rook p.2321, 1998, Sixth Edition; Am J Med 60:457–463, 1976*
- LEOPARD syndrome (multiple lentigines syndrome; Moynahan syndrome) – autosomal dominant; generalized lentiginosis, especially over neck and trunk; structural cardiac abnormalities, electrocardiographic abnormalities, genitourinary abnormalities (gonadal hypoplasia, hypospadias, delayed puberty), neurologic defects, cephalofacial dysmorphism, short stature or low birth weight, skeletal abnormalities *Curr Prob Derm VII:143–198, 1995*
- Leschke's syndrome – growth retardation, mental retardation, diabetes mellitus, genital hypoplasia, hypothyroidism *Bolognia p.859, 2003*
- Malnutrition
- Marinesco–Sjögren syndrome – cataracts, mental retardation, microcephaly, short stature, hypogonadism, ataxia, hypotonia *Clin Dysmorphol 4:283–288, 1995*
- Martsolf syndrome – cataracts, facial dysmorphism, microcephaly, short stature, hypogonadism *Am J Med Genet 1:291–299, 1978; Syndromes of the Head and Neck, p.906, 1990*
- Meckel syndrome *Syndromes of the Head and Neck, p.725, 1990*

- Myotonic dystrophy *Syndromes of the Head and Neck, p.587, 1990*
- Renal failure

Multiple hormonal deficiency states
- Emotional stress – growth hormone deficiency and delayed puberty *Am J Med 76:737–742, 1984*
- Familial cytomegalic adrenocortical hypoplasia – X-linked; pubertal failure *Arch Dis Child 56:715–721, 1981*
- Hemochromatosis *J Clin Endocrinol Metab 76:357–361, 1993*
- Idiopathic
- Langerhans cell histiocytosis
- Nevoid basal cell carcinoma syndrome – hypogonadism in males *Rook p.1686, 1998, Sixth Edition; JAAD 11:98–104, 1984*
- Radiation therapy *Med Pediatr Oncol 22:250–254, 1994*
- Sarcoid
- Tuberculosis
- Tumors – Sertoli–Leydig cell tumor *Am J Obstet Gynecol 152:308–309, 1985*
- Vascular disease
- Zinc deficiency, endemic *Am J Clin Nutr 30:833–834, 1977; Arch Int Med 111:407–428, 1963*

Hyperprolactinemia – pituitary microadenoma *Arch Gynecol Obstet 264:90–92, 2000*; macroproprolactinoma *Minerva Endocrinol 21:67–71, 1996*; prolactinomas *Clin Endocrinol (Oxf) 30:131–140, 1989*; primary hypothyroidism *Curr Ther Endocrinol Metab 6:223–226, 1997*

Specific syndromes with hypogonadotrophism
- Bloom's syndrome – small testes
- Cerebellar ataxia
- Cohen's syndrome *J Med Genet 17:430–432, 1980*
- Cockayne syndrome
- Cutis laxa – generalized cutis laxa – autosomal dominant – lesions often preceded in infancy by episodes of edema; infantile genitalia; scant body hair; bloodhound appearance of premature aging *Rook p.2019–2020, 1998, Sixth Edition*
- Down's syndrome *Syndromes of the Head and Neck, p.33, 1990*
- Hutchinson–Gilford syndrome (progeria) – absent sexual maturity *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*
- Laurence–Moon–Biedl syndrome
- Multiple lentigines syndrome
- Noonan's syndrome *Syndromes of the Head and Neck, p.805, 1990*
- Pallister–Hall syndrome *Syndromes of the Head and Neck, p.903, 1990*
- Popliteal pterygium syndrome *Syndromes of the Head and Neck, p.629, 1990*
- Prader–Willi syndrome *Eur J Pediatr 160:69–70, 2001*
- Pseudohypothyroidism *Syndromes of the Head and Neck, p.141, 1990*
- Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; hypogonadism *Ped Derm 18:422–425, 2001; Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 16:59–61, 1999; Rook p.417, 1998, Sixth Edition; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; BJD 122:821–829, 1990; Ped Derm 6:325–328, 1989; Ped Derm 6:321–324, 1989; JAAD 17:332–328, 1987; JAAD 17:332–338, 1987*
- Rubinstein–Taybi syndrome – hypogonadotropic hypogonadism; autosomal dominant; mutations or deletions of chromosome 16p13.3; human cAMP response element binding protein *Ped Derm 21:44–47, 2004*
- Rud's syndrome
- Sakati syndrome *Syndromes of the Head and Neck, p.558, 1990*
- Sclerodactyly, non-epidermolytic palmoplantar keratoderma, multiple cutaneous squamous cell carcinomas, periodontal disease with loss of teeth, hypogenitalism with hypospadius, altered sex hormone levels, hypertriglyceridemia, 46XX *JAAD 53:S234–239, 2005*
- Seckel syndrome *Syndromes of the Head and Neck, p.313, 1990*
- Short rib-polydactyly syndromes *Syndromes of the Head and Neck, p.218–219, 1990*
- Triploidy syndrome *Syndromes of the Head and Neck, p.64, 1990*
- Complete trisomy 22 – primitive low-set ears, bilateral preauricular pit, broad nasal bridge, antimongoloid palpebral fissures, macroglossia, enlarged sublingual glands, cleft palate, micrognathia, clinodactyly of fifth fingers, hypoplastic fingernails, hypoplastic genitalia, short lower limbs, bilateral sandal gap, deep plantar furrows *Pediatrics 108:E32, 2001*
- Turner's syndrome – gonadal dysgenesis *Curr Ther Endocrinol Metab 6:223–226, 1997; Syndromes of the Head and Neck, p.54, 1990*
- Walker–Warburg syndrome *Syndromes of the Head and Neck, p.593, 1990*
- Werner's syndrome
- X-linked ichthyosis *Clin Exp Dermatol 22:201–204, 1997*
- 49,XXXXY syndrome *Syndromes of the Head and Neck, p.59, 1990*

Systemic disease
- AIDS *Trop Doct 31:233, 2001; J Acquir Immune Defic Syndr 21:333–337, 1999*
- Alagille syndrome – xanthomas of palmar creases, extensor fingers, nape of neck; growth retardation, delayed puberty *Ped Derm 22:11–14, 2005*
- Anorexia nervosa, unwarranted dieting *Nutr Rev 42:14–15, 1984*
- Biliary atresia *J Pediatr Surg 25:808–811, 1990*
- Chronic renal failure *Pediatr Nephrol 7:551–553, 1993;* congenital magnesium-losing kidney *Ann Clin Biochem 30:494–498, 1993*
- Congenital heart disease
- Cushing's disease *J Pediatr Endocrinol 6:201–204, 1993*
- Cystic fibrosis *Clin Pediatr (Phila) 37:573–576, 1998; Pediatrics 99:29–34, 1997; Pediatrician 14:253–260, 1987*
- Diabetes mellitus
- Gaucher's disease type 1 *Isr Med Assoc J 2:80–81, 2000*
- Gluten intolerance
- Hypothyroidism
- Inflammatory bowel disease
- Sickle cell disease *West Indian Med J 44:20–23, 1995*
- Thalassemia major *J Pediatr Endocrinol Metab 10:175–184, 1997; Eur J Pediatr 156:777–783, 1997*
- Trichothiodystrophy, mental retardation, short stature, ataxia, and gonadal dysfunction *Am J Med Genet 35:566–573, 1990*
- Trisomy 18 mosaicism *Am J Med Genet 50:94–95, 1994*
- X-linked agammaglobulinemia with growth hormone deficiency and delayed growth and puberty *Acta Paediatr 83:99–102, 1994*
- Zinc deficiency *Ann Rev Nutr 5:341–363, 1985*

Excessive exercise *Ann NY Scad Sci 709:55–76, 1994*

Low gonadotropins – pubertal failure

Congenital
- Kallmann's syndrome
- Luteinizing hormone deficiency
- Follicle stimulating hormone deficiency
- Panhypopituitarism

- Septo-optic dysplasia
- Developmental defects of the pituitary
- Prader–Willi syndrome
- Laurence–Moon–Biedl syndrome
- Acquired
  - Tumors (craniopharyngioma, germinoma)
  - Langerhans cell histiocytosis
  - Radiotherapy
  - Surgery
  - Head injury
  - Infections

Hypergonadotrophic hypogonadism
- Males
  - Anorchia and bilateral cryptorchidism (undescended testes)
  - Gonadal dysgenesis (XO/XY) or (XX)
  - Klinefelter's syndrome (XYY)
  - Hormonal abnormalities
  - Biosynthesis and androgen receptors
- Females
  - Ullrich–Turner's syndrome (XO) *J Med Genet 29:547–551, 1992; Ped Clin North Am 37:1421–1440, 1990*
  - Gonadal dysgenesis (XO/XY) or (XX)
  - Androgen insensitivity (testicular feminization syndrome)
- Both sexes
  - Polymalformation syndromes
  - Alstrom's syndrome
  - Steiner's myotonic dystrophy
- Down's syndrome
- Irradiation and cytotoxic drugs
- Myotonic dystrophy
- Noonan's syndrome – scant pubic hair, short stature or normal height with broad short, webbed neck, lymphedema of feet and legs, orbital edema, leukokeratosis of lips and gingiva, low posterior hairline, hypertrichosis of cheeks or shoulders, ulerythema oophyrogenes *Arch Dis Child 84:440–443, 2001; JAAD 40:877–890, 1999*
- Orchitis (mumps)
- Polycystic ovarian disease
- 17β-hydroxylase deficiency
- Surgical accidents (during herniorrhaphy)
- Testicular torsion
- Acquired elevated gonadotropins
- Males
  - Bilateral orchitis
  - Surgical or traumatic castration
  - Chemotherapy
- Females
  - Surgical or traumatic castration
  - Premature idiopathic ovarian failure
  - Chemotherapy
  - Insensitivity to androgens

# PUBERTY, PREMATURE

***J Clin Endocrinol Metab 74:239–247, 1992; Pediatr Rev 11:229–237, 1990***

Complete – true – Cyp21B gene point mutations *Clin Endocrinol (Oxf) 48:555–560, 1998*
- Constitutional
  - Sporadic
  - Familial
- Cerebral/neurogenic
  - Tumors
  - Developmental defects *Dev Med Child Neurol 41:392–395, 1999*
  - Central nervous system infections
  - Central nervous system trauma
  - Cranial radiation – premature activation of gonadotropin-releasing hormone *Klin Padiatr 213:239–243, 2001; Horm Res 39:25–29, 1993*
- Epidermal nevus syndrome with wooly hair nevus *JAAD 35:839–842, 1996*
- Hypothalamic hamartoma *Arch Pediatr 2:438–441, 1995; Am J Dis Child 144:225–228, 1990*
- McCune–Albright syndrome (polyostotic fibrous dysplasia) – giant café au lait macules *Ped Derm 8:35–39, 1991; Dermatol Clin 5:193–203, 1987*
- Peutz–Jeghers syndrome *Syndromes of the Head and Neck, p.399, 1990*
- Neurofibromatosis *Syndromes of the Head and Neck, p.392, 1990*
- Tuberous sclerosis
- Rabson–Mendenhall syndrome – insulin-resistant diabetes mellitus, unusual facies, dental precocity, hypertrichosis, acanthosis nigricans, and premature sexual development
- Russell–Silver syndrome – large head, short stature, premature sexual development, CALMs, clinodactyly, syndactyly of toes, triangular face *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999*
- Hypothyroidism, childhood – sexual precocity *Rook p.2708, 1998, Sixth Edition*
- Pineal lesions

Incomplete puberty
- Premature thelarche
- Premature pubarche

False – pseudopuberty
- Adrenal lesions
  - Congenital adrenal hyperplasia
  - Tumor
  - Cushing's syndrome/hyperplasia
- Ovarian tumors
- Testicular tumors
- Iatrogenic (sex hormones)

Extrapituitary gonadotropin-secreting tumors
- Teratoma
- Chorionepithelioma
- Hepatoblastoma

Other causes:

Angelman syndrome *Brain Dev 16:249–252, 1994*

Buschke–Ollendorf syndrome – with precocious puberty *Ped Derm 11:31–34, 1994; AD 106:208–214, 1972*

Estrogen or placenta-containing hair products *Clin Pediatr 134:82–89, 1999*

Hidradenitis suppurativa – presenting feature of premature adrenarche *BJD 129:447–448, 1993*

Hypophosphatemic vitamin D-resistant rickets, precocious puberty, and epidermal nevus syndrome *AD 133:1557–1561, 1997*

Kabuki make-up syndrome – premature thelarche *Acta Paediatr Jpn 36:104–106, 1994*

Leprechaunism *Ann Genet 30:221–227, 1987*

Microphthalmia with linear skin defects (MIDAS syndrome) – Xp22.3 deletion *Ped Derm 20:153–157, 2003*

Peutz–Jeghers syndrome – autosomal dominant; ovarian tumors, precocious puberty with hormone secreting tumors *Gut 30:1588–1590, 1989*

Premature pubarche, ovarian hyperandrogenism, hyperinsulinism, and polycystic ovarian syndrome *J Endocrinol Invest 21:558–566, 1998*

Phenylketonuria *J Pediatr Endocrinol 7:361–363, 1994*

Rubinstein–Taybi syndrome *Am J Med Genet 23:365–366, 1999*

Sotos syndrome *Pediatr Med Chir 17:353–357, 1995*

Mutation in 3β-hydroxysteroid dehydrogenase type II *J Mol Endocrinol 12:119–122, 1994*

X-linked adrenal hypoplasia congenita *J Clin Endocrinol Metab 86:4068–4071, 2001; Clin Endocrinol (Oxf) 53:249–255, 2000*

# PURPURA

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis to azo textile dyes and resins – purpuric *J Eur Acad Dermatol Venereol 14:101–105, 2000;* purpuric patch tests due to azo dyes *Contact Dermatitis 42:23–26, 2000;* disperse blue 106 and 124, cobalt, epoxy resin, methylmethacrylate, EMLA, n-phenyl n′isopropyl para-phenylenediamine *JAAD 45:456–458, 2001;* p-phenylene diamine, Balsam of Peru *Contact Dermatitis 11:207–209, 1984;* rubber in clothing *Trans St John's Hosp Dermatol Soc 54:73–78, 1968;* optical whiteners *BJD 83:296–301, 1970;* benzoyl peroxide *JAAD 22:358–361, 1990;* ethyleneurea melamineformaldehyde, dimethylol dihydroxyethyleneurea, tetrmethylol acetylenediurea, urea formaldehyde, melamine formaldehyde, Disperse Red 17 *JEADV 14:101–105, 2000;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Autosensitivity to DNA – painful pruritic ecchymoses *Am J Med Sci 251:145–147, 1966*

Bowel-associated dermatitis-arthritis syndrome *AD 135:1409–1414, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Bullous pemphigoid *Rook p.2152, 1998, Sixth Edition;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Dermatitis herpetiformis – palmar or plantar purpura *Cutis 70:217–223, 2002; Ped Derm 14:319–322, 1994; JAAD 19:577, 1988; JAAD 16:1274–1276, 1987; Cutis 37:184–187, 1986;* oral petechiae *Oral Surg 62:77–80, 1986*

Dermatomyositis

Epidermolysis bullosa acquisita, including buccal mucosa *JAAD 11:820–832, 1984*

Graft vs. host reaction – petechiae *AD 125:1685–1688, 1989;* oral purpura *Postgrad Med 66:187–193, 1979*

Linear IgA disease *JAAD 22:362–365, 1990*

Lupus erythematosus – systemic lupus erythematosus with thrombocytopenia or vasculitis *JAAD 48:311–340, 2003;* purpuric macules, purpuric urticaria, palpable purpura *Rook p.2152, 1998, Sixth Edition; BJD 135:355–362, 1996;* with antiphospholipid antibodies – purpura fulminans *Haematologica 76:426–428, 1991;* splinter hemorrhages with vasculitis *Arch Int Med 116:55–66, 1965;* systemic lupus erythematosus – lesions of palate, buccal mucosa, gums; red or purpuric areas with red haloes break down to form shallow ulcers *BJD 135:355–362, 1996; BJD 121:727–741, 1989;* neonatal lupus *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* follicular petechiae in SLE *BJD 147:157–158, 2002;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

Pemphigus vulgaris – subungual hematoma *Rook p.1856–1857, 1998, Sixth Edition; Hautarzt 38:477–478, 1987;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Rheumatoid arthritis – vasculitis – palpable purpura, petechiae *JAAD 53:191–209, 2005; JAAD 48:311–340, 2003; BJD 147:905–913, 2002;* purpuric infarcts of paronychial areas and digital pads (Bywater's lesions) purpuric papules *Cutis 71:462, 464, 2003; Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* bullae of fingertips and toetips with or without purpura *Rook p.2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* large hemorrhagic lesions, gangrene with necrotizing arteritis *Rook p.2214, 1998, Sixth Edition;* splinter hemorrhages *Ghatan p.85,172, 2002, Second Edition*

Serum sickness *J Invest Allergol Clin Immunol 9:190–192, 1999; Medicine (Balt) 67:40–57, 1988*

Sjögren's syndrome – palpable purpura; ecchymoses of legs *JAAD 48:311–340, 2003;* cryoglobulinemia, hyperglobulinemic purpura *Ghatan p.175, 2002, Second Edition*

Urticaria – purpura due to rubbing *Rook p.2116–2117, 1998, Sixth Edition*

## CONGENITAL DISEASES

Injury *Rook p.2153–2154, 1998, Sixth Edition*

Neonatal purpura – deficiency of clotting factors, protein C or protein S deficiency (neonatal purpura fulminans) *Textbook of Neonatal Dermatology, p.315, 2001; Semin Thromb Hemost 16:299–309, 1990;* thrombocytopenia due to maternal ITP or SLE, Rh factor antibodies *Lancet i:137–138, 1989*

Neonatal rubella *Rook p.2153–2154, 1998, Sixth Edition*

Volkmann ischemic contracture, congenital (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wiskott–Aldrich syndrome *Rook p.2153–2154, 1998, Sixth Edition*

## DEGENERATIVE DISORDERS

Aging – Bateman's purpura – hands, forearms, and legs *Rook p.2146, 1998, Sixth Edition*

Neuropathic hemorrhagic callus

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996*

## DRUG-INDUCED

Acetaminophen-induced Schamberg's disease *JAAD 27:123–124, 1992*

Amoxicillin

Arthus reaction – erythema, edema, hemorrhage, occasional necrosis *Rook p.3364, 1998, Sixth Edition*

Aspirin

Barbiturates – pigmented purpuric eruption *Ghatan p.232, 2002, Second Edition*

BCG vaccination – morbilliform or purpuric eruptions with arthralgia, abdominal pain *BJD 75:181–192, 1963*

Calcium gluconate extravasation – hematoma *AD 138:405–410, 2002*

Carbamazepine

Carbromal – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Chemotherapy-induced eccrine neutrophilic hidradenitis *JAAD 40:367–398, 1999*

Chlordiazepoxide – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Chlorpromazine *Ghatan p.232, 2002, Second Edition*

Chlorzoxazone – leukocytoclastic vasculitis *BJD 150:153, 2004*

Cocaine *Ghatan p.23, 2002, Second Edition*

Corticosteroid purpura – systemic, inhaled, topical – hands, forearms, and legs *Rook p.2146, 1998, Sixth Edition*

Coumarin necrosis – acral purpura *JAAD 14:797–802, 1986; Plast Reconstr Surg 48:160–166, 1971*

Coumarin purple toe syndrome

Dilantin hypersensitivity syndrome

DPT vaccination site – embolia cutis medicamentosa (Nicolau syndrome) *Actas Dermosifiliogr 95:133–134, 2004*

5-fluorouracil (topical) pigmented purpuric eruption *JAAD 41:827–829, 1999*

Furosemide – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Glipizide – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Gold *Ghatan p.232, 2002, Second Edition*

Griseofulvin *Ghatan p.232, 2002, Second Edition*

Heparin – heparin-induced thrombocytopenia *Thrombosis Res 100:115–125, 2000;* heparin necrosis with thrombocytopenia and thrombosis *Br J Haematol 111:992, 2000; Ann R Coll Surg Engl 81:266–269, 1999; JAAD 37:854–858, 1997; NEJM 336:588–589, 1997; Nephron 68:133–137, 1994; Dermatol 18:138–141, 1993; Clin Exp Dermatol 18:138–141, 1993;* low molecular weight heparin *Ann Haematol 77:127–130, 1998;* at injection site *Dermatology 196:264–265, 1998; Thromb Haemost 78:785–790, 1997; Australas J Dermatol 36:201–203, 1995*

Hydrochlorthiazide – pigmented purpuric eruption *Ghatan p.232, 2002, Second Edition*

Indomethacin

Infliximab – eczematid-like purpura of Doucas and Kapetenakis *JAAD 49:157–158, 2003*

Interferon alfa – as treatment for hepatitis C – pigmented purpuric eruption *JAAD 43:937–938, 2000*

Iodides *Ghatan p.232, 2002, Second Edition*

Meprobamate – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Montelukast – Churg–Strauss syndrome induced by montelukast *BJD 147:618–619, 2002*

Morbilliform drug eruption

Nitroglycerin – pigmented purpuric eruption *JAAD 41:827–829, 1999*

NSAIDs

Penicillamine dermatopathy *AD 125:92–97, 1989*

Phenylbutazone *Ghatan p.232, 2002, Second Edition*

Propylthiouracil – thrombotic vasculitis – facial and ear purpura *JAAD 41:757–764, 1999*

Prostacyclin (epoprostenol) – diffuse erythema with or without mottling, exfoliation, or palpable purpura *JAAD 51:98–102, 2004*

PUVA – subungual hemorrhage

Quinidine-induced photosensitive purpuric livedo reticularis *JAAD 12:332–336, 1985*

Quinine *J Exp Med 107:665–690, 1958*

Ranitidine (Zantac)

Sedormid *Am J Med 14:605–632, 1953*

Staphylococcal protein A column immunoadsorption therapy – leukocytoclastic vasculitis *Cutis 64:250–252, 1999*

Sulfonamides *Ghatan p.232, 2002, Second Edition*

Thrombocytopenia, drug-induced – oral hemorrhagic bullae *Cutis 62:193–195, 1998*

Tissue plasminogen activator – painful purpura following tissue plasminogen activator *AD 126:690–691, 1990*

Trichlomethiazole – pigmented purpuric eruption *JAAD 41:827–829, 1999*

Vasculitis, drug-induced

Vitamin $B_1$ – pigmented purpuric eruption *JAAD 41:827–829, 1999*

## EXOGENOUS AGENTS

*Agave americana* (century plant) dermatitis – palpable purpuric agave dermatitis; linear purpura *Cutis 72:188–190, 2003; Cutis 66:287–288, 2000; JAAD 40:350–355, 1999*

Catheter-related thrombus (sterile) – periungual purpura, splinter hemorrhages, Janeway lesions and Osler's nodes *AD 141:1049, 2005*

Coral dermatitis

Drug abuse – intra-arterial injection with vasculitis *Int J Dermatol 27:512–513, 1988*

Phototherapy-induced purpura in transfused neonates due to transient porphyrinemia *Pediatrics 100:360–364, 1997*

Purpuric contact dermatitis *Contact Dermatitis 34:213–215, 1996*
- Balsam of Peru
- Benzoyl peroxide *JAAD 22:359–361, 1990*
- Disperse Blue 85
- Elastic in underwear
- EMLA *Contact Dermatitis 36:11–13, 1997*
- Nitrodisc purpura
- Proflavine
- Unprocessed wool
- Woolen garments

*Rhus* – ingestion of *Rhus* as folk medicine remedy *BJD 142:937–942, 2000*

Toxic purpura due to capillary damage – arsenic, atropine, bismuth, barbiturates, chloramphenicol, chlorothiazide, chlorpromazine, diethylstilbestrol, gold, hair dye, INH, iodides, menthol, meprobamate, paraaminosalicylic acid, piperazine, quinidine, quinine, reserpine, snake venoms, sodium salicylate, sulfonamides, tartrazine and other food additives *AD 109:49–52, 1974;* thiouracil, tolbutamide, glyceryl trinitrate *Rook p.2146, 1998, Sixth Edition*

Transfusion – post-transfusion purpura; 2–14 days following transfusion; thrombocytopenia due to platelet alloantibodies *Thrombosis Res 100:115–125, 2000*

## INFECTIONS AND INFESTATIONS

*Acanthamoeba* species *Am J Dermatopath 15:146–149, 1993*

*Aeromonas hydrophilia*

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

AIDS – palatal petechiae *Rook p.3102, 1998, Sixth Edition*

Alternariosis *Cutis 56:145–150, 1995*

Arboviral hemorrhagic fevers

Arenaviruses (hemorrhagic fevers) – Lassa fever (rats and mice) (West Africa), Junin virus (Argentine pampas), Machupo virus (Bolivian savannas), Guanarito virus (Venezuela), Sabia

virus (Southeast Brazil), Whitewater virus (California, New Mexico), Tacaribe virus complex (mice) – swelling of face and neck, oral hemorrhagic bullae, red eyes *JAAD 49:979–1000, 2003*

Argentinian hemorrhagic fever *Tyring p.448, 2002*

Arthropod bite

Aspergillosis, primary cutaneous – hemorrhagic vesicles, pustules, and nodules *JAAD 12:313–318, 1985*; necrotic purpura *JAAD 53:213–219, 2005*

Avian mite dermatitis – large bruise *Cutis 23:680–682, 1979*

Babesiosis – purpura and ecchymoses due to thrombocytopenia *JAAD 49:363–392, 2003*

Bites – snake, spider, insect, human

*Borrelia recurrentis* – relapsing fever; louse-borne; tick-borne (B.duttoni, B hermsi) – fever and petechial or purpuric rash *J Infect Dis 140:665–675, 1979; Trans R Soc Trop Med Hyg 65:776–781, 1971*; *Q J Med 39:129–170, 1970; Medicine 48:129–149, 1969*

Boutonneuse fever – *Rickettsia conorii* – petechial, purpuric, or hemorrhagic; Marseilles fever, South African tick fever, Kenya tick typhus, Israeli tick typhus, and Indian tick typhus *JAAD 49:363–392, 2003*

Brazilian purpuric fever – *Haemophilus influenzae* biogroup *aegyptius* strains *J Infect Dis 171:209–212, 1995; Pediatr Infect Dis J 8:239–241, 1989*

Brown recluse spider bite – blister of finger with purpuric base *Clin Inf Dis 32:595,636–637, 2001;* purpuric morbilliform eruption in children at 24–48 hours *JAAD 44:561–573, 2001;* purpuric plaque *Int J Dermatol 39:287–289, 2000*

Brucellosis *Cutis 63:25–27, 1999; Ann Trop Paediatr 15:189–192, 1995; Dermatologica 171:126–128, 1985; AD 117:40–42, 1981;* with thrombocytopenic purpura *Clin Inf Dis 31:904–909, 2000*

Bunyavirus hemorrhagic fever (Crimean Congo hemorrhagic fever, Rift Valley fever, Hantavirus) – ticks (*Hyalomma* genus) petechial eruption orally and on upper trunk *JAAD 49:979–1000, 2003; Rook p.1083, 1998, Sixth Edition*

*Campylobacter jejuni Scand J Urol Nephrol 28:179–181, 1994*

Candidiasis – disseminated *Am J Med 80:679–684, 1986*; palpable purpura *JAAD 53:544–546, 2005; Candida krusei AD 131:275–277, 1995; Candida tropicalis* – purpuric papules *Cutis 71:466–468, 2003*

*Capnocytophagia canimorsus* sepsis – dog and cat bites or scratch; necrosis with eschar; cellulitis, macular and morbilliform eruptions, petechiae, purpura fulminans, symmetrical peripheral gangrene *Cutis 60:95–97, 1997; Eur J. Epidemiology 12 (5):521–533, 1996; JAAD 33:1019–1029, 1995*

Cat scratch disease (*Bartonella henselae*) – petechial exanthem *Ann DV 125:894–896, 1998;* thrombocytopenia *Clin Pediatr (Phila) 41:117–118, 2002*

Caterpillar dermatitis (*Euproctis crysorrhoea*) – bruising in children *Clin Exp Dermatol 5:261, 1980;* puss caterpillar (larval stage of flannel moth, Megalopyge opercularis) – hemorrhagic papulovesicles or bullae *Cutis 71:445–448, 2003*

Cellulitis

Chikungunya fever *Tyring p.425, 2002*

Coccidioidomycosis – hemorrhagic papules or nodules in AIDS *Clin Microbiol Rev 8:440–450, 1995*

Colorado tick fever – Orbivirus; macules, papules, petechiae *JAAD 49:363–392, 2003*

*Corynebacterium jeikeium* endocarditis – palpable purpura *AD 127:1071–1072, 1991*

Cowpox – hemorrhagic pustules *JAAD 44:1–14, 2001*

Coxsackie virus A5, A9, B4, B5, B6 *Tyring p.3,458, 2002; Ghatan p.260, 2002, Second Edition*

Crimean Congo hemorrhagic fever (Bunyavirus) – fine petechiae of back, then widespread purpura and palatal petechiae *Tyring p.425,440,442, 2002*

Cryptococcosis *Arch Int Med 138:1412–1413, 1978*

Cytomegalovirus – palpable purpura *AD 126:1497–1502, 1990; JAAD 13:845–852, 1985; JAAD 24:860–867, 1991;* purpura in neonate *AD 130:243–248, 1994;* petechiae in neonate due to thrombocytopenia *Textbook of Neonatal Dermatology, p.211, 2001*

Dengue fever (flavivirus) – mosquito vector (*Aedes aegypti* and *Haemogogus* species) *JAAD 49:979–1000, 2003; Ann DV 124:237–241,477–478, 1997;* dengue hemorrhagic fever *JAAD 49:979–1000, 2003; Tyring p.425, 2002;* palmar petechiae *JAAD 46:430–433, 2002*

Dysgonic fermenter type 2 sepsis – purpura fulminans *AD 125:1380–1382, 1989*

Ebola viral hemorrhagic fever – morbilliform rash *MMWR 44:468–469, 1995*

Echovirus 11,19 – petechial rash *Arch Dis Child 57:22–29, 1982;* echovirus 3,4,9,25 *JAAD 49:363–392, 2003*; *Tyring p.3,461,468, 2002*

Ecthyma gangrenosum

Ehrlichiosis – human monocytic ehrlichiosis and leukocytoclastic vasculitis (palpable purpura) *J Int Med 247:674–678, 2000;* human granulocytic ehrlichiosis with acute renal failure mimicking TTP; petechial and purpuric rash of human monocytic ehrlichiosis *Am J Nephrol 19:677–681, 1999; Skin and Allergy News, Oct. 2000, p.40; Rook p.1156, 1998, Sixth Edition; Ann Intern Med 120:736–743, 1994;* Ehrlichia chaffeensis – diffusely erythematous or morbilliform, scattered petechiae or macules *Clin Inf Dis 33:1586–1594, 2001*

Endocarditis – acute or subacute bacterial endocarditis – acral purpura *J Pediatr 120:998–1000, 1992*; splinter hemorrhages *Br Med J ii:1496–1498, 1963*

*Enterobacter cloacae* sepsis

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

Epstein–Barr virus – flexural purpura *Int J Dermatol 37:130–132, 1998*

*Escherichia coli* – purpura in neonate *J Appl Microbiol 88 Suppl:24S-30S, 2000; AD 130:243–248, 1994; Ann Intern Med 109:705–712, 1988*

Exanthem subitum (HHV-6) – cutaneous and palatal petechiae *J Ped Hem Onc 24:211–214, 2002*

Filoviruses – Marburg and Ebola virus; transient morbilliform rashes, purpura, red eyes *JAAD 49:979–1000, 2003*

Fire ant stings

*Fusarium*, disseminated – purpuric papules *JAAD 47:659–666, 2002;* palpable purpura with myositis *JAAD 23:393–398, 1990; JAAD 16:260–263, 1987*

Gianotti–Crosti syndrome – papular acrodermatitis of childhood, hemorrhagic variant *Clin Exp Derm 22:301–302, 1997; Ped Derm 8:169–171, 1991*

Gonococcemia (Neisseria gonorrhea) – hemorrhagic pustules with halo of erythema *Rook p.2170–2171, 1998, Sixth Edition; AD 107:403–406, 1973; Arch Int Med 112:731–737, 1963;*

gonorrheal conjunctivitis – profuse purulent discharge; swollen hemorrhagic eyelids *Rook p.2998, Sixth Edition*

Group B streptococcus – purpura in neonate

*Haemophilus influenzae* – sepsis-associated purpura fulminans *N C Med J 46:516–517, 1985*

Hand, foot and mouth disease – purpura of palms and soles *Ghatan p.97, 2002, Second Edition*

Hantavirus hemorrhagic fever – Sin nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Hantaan virus, Seoul virus, Puumala virus, Dobrava virus, Khabarovsk virus – petechial axillary rash, facial flushing, generalized purpura *JAAD 49:979–1000, 2003; Tyring p.425, 2002*

Haverhill fever

Hepatitis A, B, and C – vasculitis *Tyring p.3,534, 2002;* hepatitis C-associated mixed cryoglobulinemia *AD 131:1185–1193, 1995;* hepatitis C – autoimmune thrombocytopenic purpura *AD 131:1185–1193, 1995;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Herpes simplex – purpura in neonate *AD 130:243–248, 1994*

Herpes zoster

Histoplasmosis *Postgraduate Med 49:226–230, 1971*

HIV – neonatal purpura *JAAD 37:673–705, 1997;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Infectious mononucleosis (Epstein–Barr virus) – petechiae at the junction of the hard and soft palate on the second or third day of fever *Rook p.1023,3089, 1998, Sixth Edition;* petechial or purpuric exanthems *Tyring p.149, 2002;* papular–purpuric gloves and socks syndrome *Tyring p.149, 2002*

Influenza A virus – acute rash, fever and petechiae *Clin Infect Dis 29:453–454, 1999*

Janeway lesion – faint red macular lesions of thenar and hypothenar eminences *NEJM 295:1500–1505, 1976;* hemorrhagic lesions *Med News 75:257–262, 1899*

Kenya tick typhus – *Rickettsia conorii*

*Klebsiella* species

Kyasanur Forest disease (flavivirus) – hemorrhagic exanthem, papulovesicular palatine lesions *Tyring p.444, 2002*

Lassa fever (arenavirus) – morbilliform or petechial rash with conjunctivitis *J Infect Dis 155:445–455, 1985*

Legionella species

Leishmaniasis – post kala-azar leishmaniasis

Leprosy – Lucio's phenomenon – hemorrhagic stellate patches *AD 114:1023–1028, 1978;* erythema nodosum leprosum (vasculitis) *AD 111:1575–1580, 1975*

Leptospirosis (Weil's disease) – purpura and jaundice *Tyring p.436, 2002; Medicine 39:117–134, 1960*

*Listeria monocytogenes* – neonatal purpuric, bluish papules of trunk and legs, pustular and morbilliform eruptions *AD 130:245,248, 1994;* red papules with central pustulation in veterinarians *Hautarzt 11:201–204, 1960*

Marseilles fever – *Rickettsia conorii*

Marburg virus (filovirus) – maculopapular–vesicular eruption progressing to purpura *S Afr Med J 60:751–753, 1981*

Measles – during prodrome *Rook p.2147, 1998, Sixth Edition*; atypical measles

Mediterranean spotted fever – *Rickettsia conorii*; petechiae *JAAD 49:363–392, 2003*

Meningococcemia – acute or chronic (petechial); acute; initially ecchymoses, purpuric papules and plaques with surrounding erythema, vesicles, bullae, hemorrhagic necrosis, purpura fulminans *Textbook of Neonatal Dermatology, p.195, 2001;* or chronic (petechial) *Pediatr Infect Dis J 8:224–227, 1989; Rev Infect Dis 8:1–11, 1986;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*; purpuric plaque in chronic meningococcemia *BJD 153:669–671, 2005*

Mucor species

Murine typhus (*Rickettsia typhi*) – petechial rash *MMWR 52:1224–1226, 2003*

*Mycobacterium tuberculosis* – acute miliary *J Clin Inf Dis 23:706–710, 1996;* pulmonary TB with cutaneous leukocytoclastic vasculitis *Infection 28:55–57, 2000*; large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969*; erythema induratum

*Mycoplasma pneumoniae* – purpura and necrosis *Clin Exp Immunol 14:531–539, 1973*

*Necator americanus* (hookworm)

Necrotizing fasciitis – bruise or purpuric plaque with bullae *AD 138:893–898, 2002; AD 126:815–820, 1990; Surg Gynecol Obstet 154:92–102, 1982;* periorbital edema and ecchymosis *AD 140:664–666, 2004*

North Asian tick-borne typhus – F. siberica

Omsk hemorrhagic fever (flavivirus) – western Siberia; muskrat hunting *Tyring p.425, 2002*

Onychomycosis – splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Orf

Oriental spotted fever – *Rickettsia japonica*

Oroya fever – *Bartonella bacilliformis*; petechial or ecchymotic eruption *Ann Rev Microbiol 35:325–338, 1981*

*Paecilomyces lilacinus* – purpuric macules, hemorrhagic vesicles, hemorrhagic papules *JAAD 39:401–409, 1998*

Papular purpuric gloves and socks syndrome – hepatitis B *BJD 145:515–516, 2001;* also parvovirus B19, measles *JAAD 30:291–292, 1994;*, Coxsackie B6 *AD 134:242–244, 1998;* cytomegalovirus *Dermatology 191:269–270, 1995;* Epstein–Barr virus, HHV-6 *AD 134:242–244, 1998;* HHV-7, rubella *JAAD 47:749–754, 2002*

Parvovirus B19 – including papular purpuric petechial gloves and socks syndrome *Hum Pathol 31:488–497, 2000; Diagn Microbiol Infect Dis 36:209–210, 2000; JAAD 41:793–796, 1999; Ped Derm 15:35–37, 1998; Clin Infect Dis 27:164–168, 1998; JAAD 27:835–838, 1992; JAAD 25:341–342, 1991;* neonatal purpura *JAAD 37:673–705, 1997;* syndrome resembling thrombotic thrombocytopenic purpura *Clin Inf Dis 32:311–312, 2001*; generalized petechial eruption *JAAD 52:S109–113, 2005*

Phaeohyphomycosis

Plague (*Yersinia pestis*) – purpura, including symmetrical peripheral gangrene *AD 135:311–322, 1999*

Pneumococcal cellulitis – hemorrhagic bullae *AD 132:81–86, 1996*

Portuguese man-of-war stings *J Emerg Med 10:71–77, 1992*

*Proteus mirabilis*

*Pseudomonas aeruginosa* – ecthyma gangrenosum in *Pseudomonas* sepsis *JAAD 11:781–787, 1984; Arch Int Med 128:591–595, 1971;* purpura in neonate *AD 130:243–248, 1994*

Psittacosis – disseminated intravascular coagulation *AD 120:1227–1229, 1984;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Purpura fulminans (disseminated intravascular coagulation) *AD 124:1387–1391, 1988*
- *Candida* sepsis
- *Hemophilus influenzae NC Med J 46:516–517, 1985*

Leptospirosis
Meningococcemia
Pneumococcal sepsis
Rocky Mountain spotted fever
Roseola
Rubella
Scarlet fever
Staphylococcal sepsis
Streptococcal sepsis
Varicella
*Vibrio parahemolyticus*

Puss caterpillar sting – hemorrhagic papules, papulovesicles *Cutis 60:125–126, 1997;* train track purpura *Cutis 71:445–448, 2003*

Q fever – generalized petechiae *Pediatr Infect Dis J 19:358, 2000*

Queensland tick typhus – *Rickettsia australis*

Rat bite fever – acral hemorrhagic pustules; petechial exanthem *JAAD 38:330–332, 1998*

Reduviid bugs (assassin bugs) – hemorrhagic nodules *Rook p.1447, 1998, Sixth Edition*

Respiratory syncytial virus

Rheumatic fever – petechiae *Rook p.2575,2733, 1998, Sixth Edition;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Rift Valley fever *Tyring p.425, 2002*

Rocky Mountain spotted fever (*Rickettsia rickettsii*) – initially blanching pink macules, or morbilliform eruption of wrists and ankles; soon spreads to face, trunk, and extremities; palms and soles involved; becomes purpuric with acral gangrene *ASM News 71:65–70, 2005; JAAD 2:359–373, 1980*; *South Med J 71:1337–1340, 1978*

Rotavirus

Rubella – Forscheimer's spots – red macules and petechiae on soft palate *Rook p.1084,3102, 1998, Sixth Edition;* congenital rubella – purpuric exanthem *Tyring p.3, 2002*

*Salmonella* – purpura in neonate *AD 130:243–248, 1994;* meningitis with purpura fulminans; typhoid fever presenting as ITP *S Afr Med J 51:3, 1977*

Scarlet fever – Pastia's lines

*Scedosporium* – bullous necrotic purpura *Ann DV 125:711–714, 1998*

Schistosomiasis (*Schistosoma japonicum*) – Katayama fever – purpura, arthralgia, systemic symptoms *Dermatol Clin 7:291–300, 1989; S. mansoni* – purpura, urticaria, periorbital edema 4–6 weeks after penetration of the cercaria *Cutis 73:387–389, 2004*

Scrub typhus – *Rickettsia tsutsugamuchi*

Sea anemone sting

Sepsis – multiple organisms – neonatal purpura *JAAD 37:673–705, 1997;* acral purpura; splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Septic emboli – with pseudoaneurysms due to *Staphylococcus aureus* following percutaneous transluminal coronary angioplasty; palpable purpura, petechiae, and livedo reticularis *Cutis 66:447–452, 2000*

Shigellosis

Smallpox – purpura of palms and soles *Cutis 71:319–321, 2003; Ghatan p.97, 2002, Second Edition*

Snake bites – edema, erythema, pain, and ecchymosis (within 3–6 hours of bite), necrosis *NEJM 347:347–356, 2002*

South American Arenaviruses (Junin, Machupo, Sabia, Guanarito)

Spider bite

*Staphylococcus aureus* sepsis *Am J Med 83:801–803, 1987; Staphylococcus aureus* purpura fulminans and toxic shock syndrome *Clin Inf Dis 40:941–947, 2005*

Stingray bite *BJD 143:1074–1077, 2000; Cutis 58:208–210, 1996*

*Streptococcus* – Group B – purpura in neonate

*Streptococcus pyogenes* toxic shock-like syndrome – hemorrhagic bullae *AD 131:73–77, 1995;* petechiae *Textbook of Neonatal Dermatology, p.189, 2001*

*Streptococcus pneumoniae*

*Streptococcus viridans*

*Strongyloides* – hyperinfection; thumb print periumbilical purpura *JAAD 31:255–259, 1994*

Subacute bacterial endocarditis – Henoch–Schönlein purpura with SBE *Cutis 69:269–273, 2002;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Tacaribe viruses – Argentinian, Bolivian and Venezuelan hemorrhagic fevers – erythema of face, neck, and thorax with petechiae *JAMA 273:194–196, 1994; Lancet 338:1033–1036, 1991*

Tick bite – Argasid tick *Centr Afr J Med 26:212–213, 1980*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980*

Tinea corporis – *Trichophyton rubrum* – Majocchi's granuloma (nodular folliculitis) may be hemorrhagic *Rook p.1302, 1998, Sixth Edition; AD 81:779–785, 1960; AD 64:258–277, 1954*

TORCH syndrome – neonatal purpura; blueberry muffin baby (extramedullary hematopoiesis)

Toxic shock syndrome – petechiae and fever *Ghatan p.260, 2002, Second Edition*

Toxoplasmosis – purpuric nodules *JAAD 14:600–605, 1986;* congenital toxoplasmosis *JAAD 12:697–706, 1985;* petechial eruption *Textbook of Neonatal Dermatology, p.234, 2001*

Trichinosis – periorbital edema, conjunctivitis; transient morbilliform eruption, splinter hemorrhages *Can J Public Health 88:52–56, 1997; Postgrad Med 97:137–139, 143–144, 1995; South Med J 81:1056–1058, 1988*

*Trichosporon beigelii*, disseminated – purpuric papules and nodules *AD 129:1020–1030, 1993*

Trypanosomiasis – African; edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition; AD 131:1178–1182, 1995*

Tularemia *Cutis 54:279–286, 1994*

Varicella, hemorrhagic *Rook p.1017–1018, 1998, Sixth Edition*

Vasculitis, infectious (not embolic)

*Vibrio vulnificus* sepsis *BJD 142:386–387, 2000; JAAD 24:397–403, 1991; Am J Gastroenterol 80:706–708, 1985;* edema, erythema, and purpura of ankles *BJD 145:280–284, 2001*

Viral exanthem, including measles

Viral insect borne and hemorrhagic fevers
Togavirus – maculopapular–petechial *Rook p.998, 1998, Sixth Edition*
Sindbis fever
Chikungunya fever
O'nyong nyong fever
Ross river fever
Barmah forest fever

- Flavivirus
  - Dengue fever
  - West Nile fever
  - Kunjin fever
- Arena virus – maculopapular-petechial *Rook p.998, 1998, Sixth Edition*
  - Guanarito fever
  - Lassa fever
  - Junin fever
  - Machupo fever
  - Sabia fever
- Filovirus
  - Marburg fever
  - Ebola fever
- Bunyavirus
  - Bwamba fever
  - Rift valley fever
  - Crimean/Congo fever
  - Hanta virus

*Xanthomonas maltophilia* – purpura fulminans *J Dermatol 18:225–229, 1991*

Yellow fever – ecchymoses, hemorrhage *Tyring p.425,497, 2002*

*Yersinia*

Zygomycosis – purpuric plaque *JAAD 20:989–1003, 1989*

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic – petechiae, purpura, ecchymoses in body folds, eyelids, sides of neck, axillae, umbilicus, oral, anogenital areas; periorbital pinch purpura; perianal post-proctoscopic purpura; purpuric halos around cherry angiomas *NEJM 349:583–596, 2003; Cutis 48:141–143, 1991; BJD 112:209–211, 1985;* nodular tumefactive amyloid *Rook p.2628–2630, 1998, Sixth Edition*; hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa with easy bruisability, petechiae, purpura, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005;* secondary systemic (AA amyloidosis) – occasional purpura, easy bruisability *BJD 152:250–257, 2005;* hereditary apolipoprotein A1 amyloidosis – yellow papules, petechiae, purpura *BJD 152:250–257, 2005*

Colloid milium – stroke induced purpura *Cutis 56:109–113, 1995;* juvenile colloid milium *JAAD 49:1185–1188, 2003*

Langerhans cell histiocytosis – crops of red–brown or red–yellow papules, vesicopustules, erosions, scaling, and seborrheic dermatitis-like papules, petechiae, purpura, solitary nodules, bronze pigmentation, lipid infiltration of the eyes, white plaques of the oral mucosa, onycholysis, and onychodystrophy *Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986*; *JAAD 13:481–496, 1985;* purpuric papules in the neonate; masquerading as lichen aureus *Ped Derm 8:213–216, 1991*; Letterer–Siwe disease *JAAD 18:646–654, 1988;* purpuric vesicles *JAAD 37:314–317, 1997;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Mastocytosis – urticaria pigmentosa; ecchymoses *Eur J Dermatol 5:237–239, 1995*

Self-healing reticulohistiocytosis – purpuric papules in the neonate

## INFLAMMATORY DISEASES

Acute generalized exanthematous pustulosis – pustules, purpura, fever and rash – etiologies include multiple drugs, mercury, enterovirus, adenovirus, Epstein–Barr virus, cytomegalovirus, hepatitis B virus, *Mycoplasma pneumoniae Ped Derm 17:399–402, 2000*

Cullen's sign – periumbilical hemorrhage with hemorrhagic pancreatitis

Dercum's disease – adiposis dolorosa

Endometriosis

Eosinophilic panniculitis *JAAD 12:161–164, 1985*

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983*

Erythema nodosum, late – bruised appearance *Rook p.2200, 1998, Sixth Edition; On Cutaneous Diseases. London:Johnson 1798*

Gray–Turner sign – purpura of flank associated with retroperitoneal hemorrhage

Histiocytic cytophagic panniculitis – ecchymotic nodules with or without ulceration *JAAD 20:177–185, 1989*

Lipophagic granulomatous panniculitis – mimics purpura *Clin Exp Rheumatol 20:432, 2002*

Neutrophilic eccrine hidradenitis – purpuric nodules *JAAD 38:1–17, 1998; JAAD 26:793–794, 1992; JAAD 23:1110–1113, 1990*

Pyoderma gangrenosum *Br J Plast Surg 53:441–443, 2000; JAAD 18:559–568, 1988;* may resemble purpura fulminans *Rook p.2188, 1998, Sixth Edition*

Rosai–Dorfman disease – vasculitis-like lesions *JAAD 46:775–778, 2002*

Sarcoid – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Subcutaneous fat necrosis of newborn

## METABOLIC DISEASES

$\alpha_1$-antitrypsin deficiency *JAAD 33:913–916, 1995*

Angiokeratoma corporis diffusum – Fabry's disease – purpura – like appearance (alpha galactosidase A) – angiokeratomas mimicking purpura *Ped Derm 19:85–87, 2002; NEJM 276:1163–1167, 1967;* petechia-like Arch Dermatol Syphil 43:187, 1898; fucosidosis (alpha-l-fucosidase) *AD 107:754–757, 1973;* Kanzaki's disease (alpha-N-acetylgalactosidase) *AD 129:460–465, 1993;* aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991;* adult-onset GM1 gangliosidosis (beta galactosidase) *Clin Genet 17:21–26, 1980;* galactosialidosis (combined beta-galactosidase and sialidase) *AD 120:1344–1346, 1984;* no enzyme deficiency

Blueberry muffin baby – widespread blue, purple, or red macules papules or nodules of trunk, head, and neck; may develop petechiae on surface

- Dermal erythropoiesis (erythroblastosis fetalis) *Ghatan p.106, 2002, Second Edition*
  - Congenital infections
    - Rubella
    - Cytomegalovirus
    - Coxsackie $B_2$
    - Syphilis
    - Toxoplasmosis
    - Herpes simplex
  - Hereditary spherocytosis
  - Rh incompatibility
  - ABO blood-group incompatibility
  - Twin–twin transfusion syndrome
- Neoplastic infiltrates
  - Congenital leukemia
  - Neuroblastoma
  - Congenital rhabdomyosarcoma
- Other disorders
  - Neonatal lupus erythematosus

Calciphylaxis

Chronic renal failure – ecchymoses *Lancet ii:1205–1208, 1988;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Coagulopathy – coagulation defects usually present with large ecchymoses without petechiae *Rook p.2143, 1998, Sixth Edition*

Cryofibrinogenemia *Am J Med 116:332–337, 2004*

Cryoglobulinemia – ecchymoses, palpable purpura *JAAD 48:311–340, 2003; JAAD 13:636–644, 1985*

Cushing's syndrome *Ped Derm 15:253–258, 1998*

Cystic fibrosis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Diabetes mellitus – hemorrhagic callus

Dysproteinemias
- Cryofibrinogenemia
- Cryoglobulinemia
- Hypergammaglobulinemic purpura of Waldenström *JAAD 23:669–676, 1990; Acta Med Scand 266 (Suppl):931–946, 1952*
- Hyperglobulinemia (polyclonal) due to sarcoid, lupus erythematosus, Sjögren's syndrome, myeloma
- Lambda light chain vasculopathy

Ethyl malonic aciduria and normal fatty acid oxidation – petechiae *J Ped 124:79–86, 1994*

Galactosialidosis – autosomal recessive; combined deficiency of β-galactosidase and neuraminidase; due to defect of lysosomal protein (prostective protein); angiokeratoma corporis diffusum; macular cherry red dots and petechia; conjunctival telangiectasia, telangiectasias of joints, Mongolian-like spots, café au lait macules, skin hyperextensibility, nevus of Ito *BJD 149:405–409, 2003*

Gamma heavy chain disease

Hemochromatosis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Hemophilia

Hemorrhagic disease of the newborn *JAAD 37:673–705, 1997*

Hereditary clotting factor deficiencies *JAAD 37:673–705, 1997*

Hypothyroidism – purpura and ecchymoses *JAAD 26:885–902, 1992*

Hypothrombinemia (vitamin K deficiency) *Ghatan p.106, 2002, Second Edition*

Idiopathic thrombocytopenic purpura

Kwashiorkor

Liver disease, acute or chronic *Rook p.2148,2724, 1998, Sixth Edition;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition;* chronic active hepatitis – allergic capillaritis, splinter hemorrhages *Ghatan p.167, 2002, Second Edition*

Mitral stenosis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Multiple sclerosis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Myxedema

Neonatal purpura fulminans – ecchymoses of limbs at sites of pressure in first day of life; enlarge rapidly, hemorrhagic bullae with central necrosis; homozygous protein C or protein S deficiency *Semin Thromb Hemost 16:299–309, 1990*

Paroxysmal nocturnal hemoglobinuria – petechiae, ecchymoses, red plaques which become hemorrhagic bullae with necrosis; lesions occur on legs, abdomen, chest, nose, and ears; deficiency of enzymes – decay-accelerating factor (DAF) and membrane inhibitor of reactive lysis (MIRL) *AD 138:831–836, 2002*

Platelet abnormalities – immune platelet destruction – post-transfusion, antilymphocyte globulin, idiopathic thrombocytopenic purpura (ITP), marrow transplant, alloimmune neonatal thrombocytopenia, maternal autoimmune thrombocytopenia (ITP, lupus), drug-related immune thrombocytopenia; primary platelet production/function defects – bone marrow aplasia, thrombocytopenia with absent radii syndrome, Wiskott–Aldrich syndrome, Fanconi syndrome, congenital amegakaryocytic thrombocytopenia, giant platelet syndromes (Bernard–Soulier, May–Hegglin), trisomy 13 or 18, Alport syndrome variants, gray platelet syndrome, Glanzmann thrombasthenia, Hermansky–Pudlak syndrome – all are causes of neonatal purpura *JAAD 37:673–705, 1997;* thrombocytopenia – bone marrow aplasia, uremia, alcohol, drugs, leukemia, lymphoma, myeloma, myelofibrosis; consumption – hemolytic–uremic syndrome, thrombotic thrombocytopenic purpura; hypersplenism; abnormal platelet function; thrombocytopenia – usually demonstrates petechiae; thrombopathia, thrombasthenia, von Willebrand;s disease, severe anemia, fibrinogen; thrombocythemia – livedo reticularis, acrocyanosis, erythromelalgia, gangrene, pyoderma gangrenosum *Rook p.2142–2145, 1998, Sixth Edition*

Porphyria – itching purpura-like dermatitis *Arch Klin Exp Derm 223:128–135, 1965;* erythropoietic protoporphyria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 976;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; JAAD 29:819–821, 1993; AD 127:124–125, 1991*; *AD 123:493–497, 1987*

Protein C deficiency with purpura fulminans – necrotic purpura in neonatal protein C deficiency *Pediatr Hematol Oncol 18(7):453–458, 2001; AD 124:1387–1391, 1988*

Protein S deficiency – purpura at IV site

Pulmonary disease – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Purpura fulminans – post-scarlet fever, meningococcal, protein C or S deficiency *Rook p.2191, 1998, Sixth Edition;* neonatal – purpura or cellulitis-like areas evolving into necrotic bullae or ulcers *Textbook of Neonatal Dermatology, p.151, 2001*

Scurvy – large ecchymoses and fresh hemorrhage; perifollicular hemorrhage with hemosiderin staining of legs; hemorrhagic gingivitis, stomatitis, epistaxis *Cutis 66:39–44, 2000; JAAD 41:895–906, 1999; AD 120:1212, 1984; NEJM 314:892–902, 1986;* palpable purpura *AD 139:1363–1368, 2003;* upper eyelid ecchymoses *Arch Ophthalmol 117:842–843, 1999;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Sickle cell anemia

Splenomegaly – platelet sequestration

Thrombocytopenia – congenital; idiopathic thrombocytopenic purpura; drug hypersensitivity, post-transfusion, DIC, Kassabach–Merritt syndrome, prosthetic heart valves, thrombotic thrombocytopenic purpura, uremia; aplastic anemia, bone marrow suppression; functional platelet disorders (Bernard–Soulier syndrome, Glanzmann's disease, storage pool disease, von Willebrand's disease)

Thyrotoxicosis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Uremia – also uremic stomatitis – purpuric

Vitamin A intoxication – ecchymoses *Rook p.2656, 1998, Sixth Edition; NEJM 315:1250–1254, 1986*

## NEOPLASTIC DISEASES

Angioimmunoblastic lymphadenopathy *JAAD 38:992–994, 1998; Dermatol Clin 3:759–768, 1985;* acral petechiae *JAAD 46:325–357, 2002*

Angiosarcoma *JAAD 34:308–310, 1996;* of face and scalp – bruise-like *JAAD 50:867–874, 2004; Sem Cut Med Surg 21:159–165, 2002; JAAD 38:143–175, 1998;* Stewart–Treves angiosarcoma – bruise-like *JAAD 38:837–840, 1998*

Atrial myxoma – palpable purpura, splinter hemorrhages, petechiae of hands and feet *Cutis 62:275–280, 1998; JAAD 32:881–883, 1995*

Cytophagic histiocytic panniculitis – manifestation of hemophagocytic syndrome; purpuric red tender nodules; may evolve into T-cell lymphoma, B-cell lymphoma, histiocytic lymphoma, sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *Rook p.2419, 1998, Sixth Edition; JAAD 4:181–194, 1981; Arch Int Med 140:1460–1463, 1980*

Eccrine pilar angiomatous nevi – bruise-like (ecchymotic) hairy nodules *Cutis 71:449–455, 2003; Ped Derm 13:139–142, 1996; JAAD 29:274–275, 1993; Am J Dermatopathol 14:161–164, 1992; NY State J Med 68:2803–2806, 1968; AD 96:552–553, 1967; Dermatologica 127:9–16, 1963*

Essential thrombocythemia *JAAD 24:59–63, 1992*

Extramedullary hematopoiesis in chronic myelogenous leukemia – bruises or myelofibrosis with central nodule *Ann Intern Med 735–738, 1979*

Hemophagocytic lymphohistiocytosis (hemophagocytic syndrome) – petechiae, purpuric macules *AD 138:1208–1212, 2002; AD 128:193–200, 1992*

Intravascular lymphomatosis (malignant angioendotheliomatosis) – purpuric papules, plaques, and nodules with overlying telangiectasias *AD 128:255, 258, 2003; JAAD 18:407–412, 1988*

Kaposi's sarcoma – mimicking a bruise *JAAD 38:143–175, 1998*

Leukemia cutis *BJD 143:773–779, 2000;* congenital leukemia (purpuric papules in the neonate); adult T-cell leukemia *BJD 152:350–352, 2005; JAAD 13:213–219, 1985;* acute leukemia in children (viral-induced purpura) *AD 134:319–323, 1998;* congenital monocytic leukemia *Ped Derm 6:306–311, 1989;* gingival hemorrhage *Oral Surg 55:572–578, 1983;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Lymphoma – lichen aureus-like CTCL *BJD 142:564–567, 2000; BJD 62:177–178, 1950;* HTLV-1 *JAAD 36:869–871, 1997;* intravascular large cell lymphoma – purpuric patches *JAAD 39:318–321, 1998;* angiotropic large cell lymphoma presenting as TTP *Cancer 75:1167–1170, 1995;* angioimmunoblastic lymphadenopathy with dysproteinemia (angioimmunoblastic T-cell lymphoma*) JAAD 36:290–295, 1997;* cutaneous T-cell lymphoma (CTCL) *JAAD 46:325–357, 2002; JAAD 19:25–31, 1988;* CTCL presenting as pigmented purpuric eruption *Am J Dermatopathol 19:108–118, 1997; JAAD 8:417, 1983;* angiotropic B-cell lymphoma (malignant angioendotheliomatosis) – hemorrhagic papules, nodules, and plaques; natural killer T-cell ($CD56^+$) lymphoma – bruiselike circumscribed swelling (contusiform lesions) (purpuric plaque) *BJD 144:432–434, 2001; BJD 142:1021–1025, 2000; Am J Surg Pathol 20:202–210, 1996;* lymphomatoid granulomatosis (angiocentric lymphoma) – red, brown, or violaceous plaques with epidermal atrophy and purpura *JAAD 20:571–578, 1989; AD 124:571–576, 1988;* $CD56^+$ natural killer cell lymphoma – contusiform lesions *AD 132:550–553, 1996;* adult T-cell lymphoma/leukemia *JAAD 46:S137–141, 2002;* splinter hemorrhages in CTCL *Ghatan p.85, 2002, Second Edition;* blastic NK-lymphoma associated with myelodysplastic syndrome – ecchymotic lesions of skin and tongue *BJD 149:869–876, 2003*

Melanocytic nevus, traumatized

Melanoma – hematoma-like melanoma metastases *JAAD 49:912–913, 2003*

Merkel cell tumor

Metastases – telangiectatic metastatic breast carcinoma – purpuric plaque *Cancer 59:1184–1186, 1987;* malignant mesothelioma of testis *AD 131:483–488, 1995;* carcinoma telangiectatica – purpuric plaques *Rook p.2294, 1998, Sixth Edition*

Multiple myeloma – ecchymosis *AD 127:69–74, 1991*

Myelodysplastic syndromes *JAAD 33:187–191, 1995;* granuloma annulare in myelodysplastic syndrome *JAAD 38:106–108, 1998*

Neuroblastoma – purpuric papules in the neonate

Rhabdomyosarcoma – purpuric papules in the neonate

Waldenström's macroglobulinemia – reticulate purpura and bullae *Clin Exp Dermatol 26:513–517, 2001;* acral purpura or mucosal bleeding due to hyperviscosity *JAAD 45:S202–206, 2001;* cryoglobulin-associated purpura, leukocytoclastic vasculitis *JAAD 45:S202–206, 2001*

Waldenström's IgM storage papules – skin-colored translucent papules on extensor extremities, buttocks, trunk; may be hemorrhagic, crusted, or umbilicated *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Paraneoplastic pemphigus – hemorrhagic bullae *JAAD 27:547–553, 1992*

Paraneoplastic vasculitis – leukocytoclastic vasculitis – palpable purpura, petechiae *J Rheumatol 18:721–727, 1991; Medicine 67:220–230, 1988*; granulomatous vasculitis with lymphoma, chronic myelogenous leukemia, or preleukemia *JAAD 14:492–501, 1986*; in chronic myelogenous leukemia *Am J Med 80:1027–1030, 1986*

## PHOTODERMATOSES

Actinic purpura – Bateman's purpura – hands, forearms, and legs *Rook p.2146, 1998, Sixth Edition*

Hydroa vacciniforme – purpuric blisters *Ped Derm 18:71–73, 2001*

Photodermatitis (phototoxic)

Phototherapy-induced purpura in transfused neonates due to transient pophyrinemia *Pediatrics 100:360–364, 1997*

Purple nails – phototoxicity, numerous causes *Textbook of Neonatal Dermatology, p.513, 2001*

Purpuric sunburn

Senile purpura

Solar purpura *AD 124:24–25, 1988*

Sunlight *J R Soc Med 79:423–424, 1986*

## PRIMARY CUTANEOUS DISEASES

Angina bullosa hemorrhagica (blood blisters) *Br Dent J 180:24–25, 1996; JAAD 31:316–319, 1994*

Atopic dermatitis

Cutis laxa, acquired *Rook p.2020, 1998, Sixth Edition*

Darier's disease – hemorrhagic stellate macules with blistering on palms *JAAD 27:40–50, 1992; Hautarzt 51:857–861, 2000; AD 89:523–527, 1964*; splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Dermatosparaxis – easy bruisability *AD 129:1310–1315, 1993*

Dyshidrosis – hemorrhagic dyshidrosis *Clin Exp Derm 13:342–343, 1988*

Epidermolysis bullosa simplex, Ogna variant – autosomal dominant; plectin abnormality; seasonal blistering of hands and feet, bruising, hemorrhagic bullae, onychogryphotic first toenails *Hum Hered 23:189–196, 1973;* may mimic child abuse

Erythema annulare centrifugum – purpura, rarely *Rook p.2088,2152, 1998, Sixth Edition*

Erythema craquele *Rook p.2152, 1998, Sixth Edition*

Erythema elevatum diutinum *BJD 67:121–145, 1955*

Exfoliative dermatitis – splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Febrile ulceronecrotic pityriasis lichenoides et varioliformis acuta *Ped Derm 22:360–365, 2005*

Granuloma annulare – resembling septic emboli in myelodysplastic syndrome *JAAD 38:106–108, 1998*

Lichen nitidus *AD 105:430–431, 1972; Acta DV 238–246, 1959;* purpuric palmar lichen nitidus *Clin Exp Dermatol 13:347–349, 1988;* oral purpuric papules *Acta DV (Stockh)39:238–246, 1959*

Lichen planus, resolving *Rook p.2152, 1998, Sixth Edition*

Lichen sclerosus et atrophicus – vulvar purpura *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.192, 1998; Rook p.2152,2549,3192, 1998, Sixth Edition*; penile purpura *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.56, 1998; Ped Derm 10:129–131, 1993*

Nummular dermatitis *Rook p.2152, 1998, Sixth Edition*

Perioral dermatitis

Pigmented purpuric eruptions *Rook p.2149–2151, 1998, Sixth Edition; Dermatologica 140:45–53, 1970*
- Associated with dental abscesses *JAAD 46:942–944, 2002*
- Familial pigmented purpuric eruptions (Schamberg's or purpura annularis telangiectoides) *Dermatologica 132:400–408, 1966*
- Gougerot and Blum (lichenoid PPE) *Bull Soc Fr Deratol Syphiligr 32:161, 1925*
- Gravitational purpura (acroangiodermatitis) – minute purpuric macules coalescing into plaques of lower legs and feet *AD 92:515–518, 1965*
- Itching purpura of Doucas and Kapetenakis *Cutis 25:147–151, 1980; AD 91:351–356, 1965*
- Lichen aureus – resembles a bruise *JAAD 8: 417–420, 1983*
- Majocchi's purpura – purpura annularis telangiectoides *G Ital J Cutan Dis 33:129–141, 1915; Mal Vener Pelle 31:263–264, 1896*; variant is purpura telangiectatic arciformis of Touraine *Z Haut-u Geschlkrankh 17:331–336, 1957*
- Meprobamate, carbromal, phenacetin, hydrochlorthiazide
- Schamberg's disease *BJD 13:1–5, 1901*
- Palmoplantar purpura in pigmented purpuric eruptions *Cutis 40:109–113, 1987*
- Zosteriform pigmented purpura (lichen aureus-like) *Int J Dermatol 30:654–655, 1991; Dermatologica 180:93–95, 1990; Hautarzt 40:373–375, 1989*

Pigmented purpuric stomatitis *Oral Surg 74:780–782, 1992*

Pityriasis rosea *JAAD 28:1021, 1993*

Psoriasis – splinter hemorrhages *BJD 75:415–418, 1963*

Purpura simplex (female easy bruising syndrome) – thighs of women *Rook p.2153, 1998, Sixth Edition*

Splinter hemorrhages *JAAD 50:289–292, 2004*

Spontaneous atrophic patches in extremely premature infants *AD 132:671–674, 1996*

Striae atrophicae

## PSYCHOCUTANEOUS DISEASES

Factitial purpura *Ped Derm 21:205–211, 2004; Clin Exp Dermatol 17:238–239, 1992;* suction purpura of chin from drinking glass *AD 106:238–241, 1972; Clin Pediatr 10:183–184, 1971*

Factitial traumatic panniculitis *JAAD 13:988–994, 1985*

Psychogenic purpura *Clin Paediatr 21:700–704, 1985*

## SYNDROMES

Achenbach's syndrome – paroxysmal hematoma of the finger – mimics bruising or steroid atrophy *Rook p.2007, 1998, Sixth Edition; BJD 132:319, 1995; Medizinische 52:2138–2140, 1958*

Antiphospholipid antibody syndrome – petechiae, purpura, ecchymoses, splinter hemorrhages *NEJM 346:752–763, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989*

Baboon syndrome – intertriginous follicular purpura *BJD 150:788–789, 2004*

Behçet's disease – palpable purpura *BJD 147:331–336, 2002; JAAD 40:1–18, 1999; JAAD 41:540–545, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*; bullous necrotizing vasculitis *JAAD 21:327–330, 1989;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

CADASIL (cerebral autosomal dominant arteriopathy with subcortical infarcts and leucencephalopathy) – petechiae and purpura *BJD 152:346–349, 2005*

Dercum's disease (adiposis dolorosa) – painful peri-articular lipomas and ecchymoses *JAAD 44:132–136, 2001*

Ehlers–Danlos syndrome – types I, II – easy bruising; type IV (ecchymotic type); type V *Rook p.2032–2038, 1998, Sixth Edition*

Familial cold urticaria *Sybert's Genetic Skin Disorders*

Familial Mediterranean fever *AD 134:929–931, 1998;* vasculitis (HSP-like) *Acta Paediatr 89:177–182, 2000; J Rheumatol 24:323–327, 1997*

Gardner–Diamond syndrome (painful bruising syndrome) (autoerythrocyte sensitization) – arms and legs *JAAD 27:829–832, 1992; Ann Med Interne (Paris)125:323–332, 1974; Blood 10:675–690, 1955;* autosensitization to DNA *Ann Intern Med 60:886–891, 1964*

Hemophagocytic syndrome *AD 128:193–200, 1992*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu) – splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Hermansky–Pudlak syndrome – platelet defects with oculocutaneous albinism

Hutchinson–Gilford syndrome (progeria) – easy bruisability *Am J Med Genet 82:242–248, 1999; J Pediatr 80:697–724, 1972*

Hypereosinophilic syndrome associated with T-cell lymphoma – splinter hemorrhages *JAAD 46:S133–136, 2002*

Hyper-IgD syndrome – autosomal recessive; red macules or papules, urticaria, red nodules, urticaria, combinations of periodic fever, arthritis, arthralgias, and rash, annular erythema, and pustules, abdominal pain with vomiting and diarrhea, lymphadenopathy; elevated IgD and IgA – mevalonate kinase deficiency *Ped Derm 22:138–141, 2005; AD 136:1487–1494, 2000; AD 130:59–65, 1994; Medicine 73:133–144, 1994; Lancet 1:1084–1090, 1984*

Kasabach–Merritt syndrome – thrombocytopenia and purpura associated with Kaposiform hemangioendothelioma or tufted angioma; enlargement, tenderness, induration, and ecchymosis occur within the vascular lesion; consumptive coagulopathy with hemorrhage *Ped Derm 11:79–81, 1994; Am J Dis Child 59:1063–1070, 1940*

Marfan's syndrome

MELAS syndrome

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome – hemorrhagic pustular nodules *AD 138:361–365, 2002*

Neurofibromatosis – purpura in plexiform neurofibromas in NF-1 *AD 137:233–234, 2001*

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency; purpuric lesions *Rook p.2644, 1998, Sixth Edition; Medicine 37:1–95, 1958*

Noonan's syndrome – easy bruising *Ped Derm 20:447–450, 2003*

Osteogenesis imperfecta

Partial lipodystrophy, complement abnormalities, vasculitis – macroglossia, polyarthralgia, mononeuritis, hypertrophy of subcutaneous tissue *Ann DV 114:1083–1091, 1987*

POEMS syndrome *JAAD 37:887–920, 1997; JAAD 40:808–812, 1999*

Premature aging syndromes – hands, forearms, and legs *Rook p.2146, 1998, Sixth Edition*

Pseudoxanthoma elasticum

Relapsing polychondritis – palpable purpura *Clin Exp Rheumatol 20:89–91, 2002*

Shulman's syndrome – eosinophilic fasciitis; hemorrhage *JAAD 1:221–226, 1979; Ann Rheum Dis 36:354–359, 1977*

Sjögren's syndrome – splinter hemorrhages *Rook p.2572, 1998, Sixth Edition;* dependent purpura *Rook p.2572, 1998, Sixth Edition;* annular purpura *J Korean Med Sci 15:115–118, 2000;* macular and palpable purpura *Seminars Arthr Rheum 29:296–304, 2000*

Sneddon's syndrome

Sweet's syndrome *Ghatan p.24, 2002, Second Edition*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55kDa TNF receptor *AD 136:1487–1494, 2000*

Wiskott–Aldrich syndrome – dermatitis of scalp, face, flexures, napkin area with purpura *Rook p.495,700, 1998, Sixth Edition; Int J Dermatol 24:77–81, 1985*

## TOXINS

Chemicals

## TRAUMA

Accidental bruising – mimicking child abuse *Ghatan p.252, 2002, Second Edition*

Altitude injury – petechiae and hemorrhagic bullae of external auditory canal in pilots descending from high altitudes *Laryngoscope 56:225–236, 1946*

Bathtub suction purpura *Ped Derm 21:146–149, 2004*

Bungee jumping *Unfauchirurg 98:447–448, 1995*

Cephalohematoma

Chilblains, resolving

Child abuse – bruising; petechiae; erythema and petechia of ear due to head slap *Bolognia p.1422, 2003*

Coin rubbing ('cao gio') – intercostal spaces, glabella, elbow and knee flexures *Am J Forensic Med Pathol 15:257–260, 1994*

Coma blisters – stellate purpura or hemorrhagic bullae *JAAD 27:269–270, 1992*

Cupping *Aust J Dermatol 12:89–96, 1971*

Doughnut

Ecchymoses of median raphe of penis *Br J Vener Dis 49:467–468, 1972*

Frostbite

Hematoma – purple nails *Textbook of Neonatal Dermatology, p.513, 2001*

Hemiscrotal ecchymosis – torsion of spermatic cord with testicular infarction of neonate *Rook p.3199, 1998, Sixth Edition;* high venous pressure during delivery *Br Med J 298:1492–1493, 1989*

Hypothermia – platelet sequestration

Increased transmural pressure gradient
- Acute – Valsalva, coughing, vomiting, childbirth, weight lifting, suction purpura
- Chronic – venous stasis

Kidney biopsy – periumbilical purpura

Mechanical trauma

Physical injuries

Paintball purpura *JAAD 53:901–902, 2005; Cutis 75:157–158, 2005*

Pants

Passion marks

Penile fracture – hematoma of entire shaft of penis *Genital Skin Disorders, Mosby p.9, 1998*

Penile purpura – rough sex

Physical trauma to vessels

Opera glove

Powerlifter's purpura – neck purpura *Cutis 70:93–94, 2002*

Rubbing or scratching any dermatosis (urticaria/atopic)

Seizures *Seizure 7:337–339, 1998*

Splinter hemorrhages

Sports-related injuries – black dot heel, black palm, petechia of ankles in long distance runners, hardball injury (ping-pong patch), annular purpura of legs with aerobics, tennis or jogger's toe (subungual purpura), splinter hemorrhages *Rook p.908, 1998, Sixth Edition*

Suction cup – forehead ecchymosis *Cutis 18:216, 1976*

Talon noir

Traumatic asphyxia *JAAD 23:972–974, 1990*

Vacuum extraction during chilbirth *Rook p.903, 1998, Sixth Edition*

Vibex (linear purpura)

## VASCULAR DISEASES

Acquired progressive lymphangioma (benign lymphangioendothelioma) – abdomen, thigh calf; bruise or bruise-like plaque *JAAD 37:656–657, 1997; JAAD 23:229–235, 1990; JAAD 31:362–368, 1994; J Cutan Pathol 19:502–505, 1992; JAAD 24:813–815, 1991; AD 124:699–701, 1988*

Acroangiodermatitis (gravitational purpura) *AD 92:515–518, 1965*

Acute hemorrhagic edema of infancy (Finkelstein's disease) – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *Cutis 68:127–129, 2001; J Dermatol 28:279–281, 2001; Cutis 61:283–284, 1998; AD 130:1055–1060, 1994; JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975;* edema of limbs and face *Cutis 68:127–129, 2001*

Angioma serpiginosum – petechial appearance *AD 92:613–620, 1965*

Arterial catheterization – unilateral splinter hemorrhages *Rook p.2832, 1998, Sixth Edition*

Atherosclerosis – acral purpura *Ghatan p.49, 2002, Second Edition*

Atrophie blanche (livedo with ulceration) – petechiae, early *JAAD 8:792–798, 1983; AD 119:963–969, 1983*

Buerger's disease – splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Capillary fragility

Capillary leak syndrome – large ecchymoses *BJD 150:150–152, 2004*

Cholesterol emboli – acral purpura *BJD 146:511–517, 2002; Medicine 74:350–358, 1995; Angiology 38:769–784, 1987; AD 122:1194–1198, 1986;* splinter hemorrhages *Ghatan p.84, 2002, Second Edition*

Churg–Strauss syndrome – palpable purpura, hemorrhagic lesions *AD 139:715–718, 2003; JAAD 48:311–340, 2003; JAAD 47:209–216, 2002; Rook p.2221, 1998, Sixth Edition*; *Mayo Clinic Proc 52:477–484, 1977;* purpura and petechiae of legs *JAAD 37:199–203, 1997;* acral purpura of finger and/or toe tips *Cutis 67:145–148, 2001;* necrotic purpura of scalp *Ann DV 122:94–96, 1995*

Dependent purpura

Diffuse dermal angiomatosis (benign reactive angioendotheliomatosis) – red-brown or violaceous nodules or plaques with petechiae or ecchymoses on face, arms, or legs *JAAD 40:257–259, 1999; JAAD 38:143–175, 1998;* with arteriosclerotic peripheral vascular disease *AD 138:456–458, 2002*

Disseminated intravascular coagulation, including purpura fulminans, symmetrical peripheral gangrene) – obstetric complications, extensive tissue damage, Gram-negative septicemias, immune reactions, malignancy, snake bites, angiomas, protein S or protein C deficiency *Br Med J 312:683–687, 1996; BJD 88:221–229, 1973*

Emboli – atheromatous (cholesterol crystal emboli); fat emboli – petechiae of upper trunk 2 days after major trauma *Lancet 1:284–285, 1976; Lancet ii:825–828, 1960;* infectious organisms – septic emboli from infected pseudoaneurysms following coronary angioplasty *Cutis 66:447–452, 2000*; cardiac myxomas – petechiae, splinter hemorrhages *BJD 147:379–382, 2002;* tumor emboli, traumatic aneurysm

Endocarditis – purple splinter hemorrhages *Textbook of Neonatal Dermatology, p.513, 2001*

Eosinophilic vasculitis syndrome *Sem Derm 14:106–110, 1995;* eosinophilic vasculitis in connective tissue disease *JAAD 35:173–182, 1996;* recurrent cutaneous necrotizing eosinophilic vasculitis – palpable purpura; necrosis *BJD 149:901–902, 2003; Acta DV 80:394–395, 2000;* with angioedema *AD 130:1159–1166, 1994*

Eruptive capillary angiomas

Glomeruloid angioendotheliomatosis – red purpuric patches and acral necrosis – associated with cold agglutinins *JAAD 49:887–896, 2003*

Hemangioma – infantile hemangioma with pseudoecchymotic stain *JAAD 50:875–882, 2004*

Henoch–Schönlein purpura (anaphylactoid purpura) *JAAD 48:311–340, 2003; Arthritis Rheum 40:859–864, 1997;* hemorrhagic vesicles and bullae *Ped Derm 12:314–317, 1995;* C4 deficiency *JAAD 7:66–79, 1982;* upper eyelid ecchymoses and edema *Arch Ophthalmol 117:842–843, 1999*

Hypersensitivity vasculitis – fever and petechiae *Ghatan p.260, 2002, Second Edition*

Hypertension – splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Hypocomplementemic vasculitis

Idiopathic thrombocytopenic purpura

Kaposiform hemangioendothelioma – red plaque or nodule with ecchymotic or purpuric border *Ped Derm 19:388–393, 2002; JAAD 38:799–802, 1998; AD 133:1573–1578, 1997;* purpuric macules *JAAD 38:799–802, 1998*

Leukocytoclastic vasculitis – including splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Lymphatic malformation

Lymphangioma; lymphangiomatous malformation with overlying bruises *AD 122:1065–1070, 1986; JAAD 5:663–667, 1983*

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb; bruising in lymphedematous extremity *Arch Surg 94:223–230, 1967*; *Cancer 1:64–81, 1948*

Microscopic polyangiitis *AD 133:4474–477, 1997*

Polyarteritis nodosa – palpable purpura *JAAD 48:311–340, 2003;* petechiae or gross hemorrhage *JAAD 31:561–566, 1994;* cutaneous infarcts presenting as purpuric plaques *Rook p.2212, 1998, Sixth Edition*; microscopic polyarteritis nodosa – hemorrhagic papules (palpable purpura) *JAAD 48:311–340, 2003; AD 128:1223–1228, 1992;* oral purpura *Oral Surg 56:597–601, 1983;* cutaneous (livedo with nodules) – purpura; painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *BJD 146:694–699, 2002;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Postcardiotomy syndrome *Ghatan p.23, 2002, Second Edition*

Pseudo-Kaposi's sarcoma

Purpura simplex *Ghatan p.23, 2002, Second Edition*

Raynaud's phenomenon – including splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

Reactive angioendotheliomatosis (proliferating angioendotheliomatosis) – red purple-purpuric patches and plaques; bruised appearance; includes acroangiomatosis, diffuse dermal angiomatosis, intravascular hitiocytosis, glomeruloid angioendotheliomatosis, angiopericomatosis (angiomatosis with cryoproteins) *JAAD 49:887–896, 2003; JAAD 42:903–906, 2000; AD 122:314–319, 1986*

Recurrent annular erythena with purpura – variant of leukocytoclastic vasculitis *BJD 135:972–975, 1996*

Sickle cell disease *Am J Dermatopathol 21:384–386, 1999*

Targetoid hemosiderotic hemangioma – purpuric plaque *AD 138:117–122, 2002*

Temporal arteritis – resembling Henoch–Schönlein purpura *BJD 76:299–308, 1964*

Thrombotic thrombocytopenic purpura (Moschcowitz syndrome) *Ann Hematol 79:66–72, 2000; Cor Vasa 30:60–72, 1988*

Thrombotic vasculitis (venous thrombosis) *AD 133:1051–1052, 1997*
- Protein C deficiency
- Protein S deficiency
- Anti-thrombin III deficiency
- Hyperhomocystinemia
- Activated protein C resistance

Tufted angioma – purpuric plaque *JAAD 20:214–225, 1989*

Urticarial vasculitis, including urticarial vasculitis associated with mixed cryoglobulins, hepatitis B or C infection, IgA multiple myeloma, infectious mononucleosis, monoclonal IgM gammopathy (Schnitzler's syndrome), fluoxetine ingestion, metastatic testicular teratoma, serum sickness, Sjögren's syndrome, systemic lupus erythematous *Clin Rev Allergy Immunol 23:201–216, 2002; JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992*

Vasculitis – splinter hemorrhages *Ghatan p.85, 2002, Second Edition;* urticarial vasculitis – painful purpuric plaques on edematous hands *AD 141:1457–1462, 2005*

Venous stasis – stasis purpura (orthostatic purpura); acute or chronic; stasis dermatitis *Ghatan p.22, 2002, Second Edition*

Wegener's granulomatosis – petechiae, palpable purpura, facial purpuric plaque *JAAD 48:311–340, 2003; AD 130:861–867, 1994; JAAD 10:341–346, 1984;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

# PURPURA, NEONATAL

***Textbook of Neonatal Dermatology, p.305, 2001***

Alloimmune neonatal thrombocytopenia

Alport syndrome variants

Congenital megakaryocytic thrombocytopenia

Drug-related immune thrombocytopenia

Extramedullary hematopoiesis (blueberry muffin baby)

Fanconi's anemia

Giant platelet syndromes (Bernard–Soulier, May–Hegglin)

Glanzmann's thrombasthenia

Gray platelet syndrome

Hemorrhagic disease of the newborn

Hereditary clotting factor deficiencies

Hereditary thrombocytopenias

Hermansky–Pudlak syndrome

HIV infection

Infections, multiple organisms

Kasabach–Meritt syndrome

Maternal autoimmune thrombocytopenia (ITP, LE)

Parvovirus B19

Primary platet production/function defects

Protein C deficiency

Protein S deficiency

Purpuric phototherapy-induced eruption

Sepsis

Thrombocytopenia with absent radii syndrome

TORCH syndrome

Trauma

Trisomy 13

Trisomy 18

Vasculitis, cutaneous *Rook p.2178, 1998, Sixth Edition*
- Collagen vascular diseases
- Henoch–Schönlein purpura *Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995; Am J Dis Child 99:833–854, 1960;* in the adult *AD 125:53–56, 1989*
- Infectious vasculitis (not embolic)
- Paraneoplastic vasculitis
- Systemic vasculitis

Volkmann ischemic contracture, congenital (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

Wiskott–Aldrich syndrome

X-linked recessive thrombocytopenia

# PURPURIC RASH AND FEVER

***JAAD 37:673–705, 1997***

## AUTOIMMUNE DISEASES AND DISEASES OF IMMUNE DYSFUNCTION

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Bowel-associated dermatitis-arthritis syndrome *AD 135:1409–1414, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Graft vs. host reaction – petechiae *AD 125:1685–1688, 1989;* oral purpura *Postgrad Med 66:187–193, 1979*

Lupus erythematosus – systemic lupus erythematosus with thrombocytopenia or vasculitis *JAAD 48:311–340, 2003; Arch Fam Med 9:553–556, 2000;* purpuric macules, purpuric urticaria, palpable purpura *Rook p. 2152, 1998, Sixth Edition; BJD 135:355–362, 1996;* with antiphospholipid antibodies – purpura fulminans *Haematologica 76:426–428, 1991;* splinter hemorrhages with vasculitis *Arch Int Med 116:55–66, 1965;* systemic lupus erythematosus – lesions of palate, buccal mucosa, gums; red or purpuric areas with red haloes break down to form shallow ulcers *BJD 135:355–362, 1996; BJD 121:727–741, 1989;* neonatal lupus *JAAD 40:675–681, 1999; Clin Exp Rheumatol 6:169–172, 1988;* follicular petechiae in *SLE BJD 147:157–158, 2002;* splinter hemorrhages *Ghatan p.85, 2002, Second Edition*

Rheumatoid arthritis – vasculitis – palpable purpura, petechiae *JAAD 53:191–209, 2005; JAAD 48:311–340, 2003; BJD 147:905–913, 2002;* purpuric infarcts of paronychial areas and digital pads (Bywater's lesions) purpuric papules *Cutis 71:462, 464, 2003; Rook p. 2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* bullae of fingertips and toetips with or without purpura *Rook p. 2184, 1998, Sixth Edition; BJD 77:207–210, 1965;* large hemorrhagic lesions, gangrene with necrotizing arteritis *Rook p. 2214, 1998, Sixth Edition;* splinter hemorrhages *Ghatan 2002 p.85,172, Second Edition*

Serum sickness *J Invest Allergol Clin Immunol 9:190–192, 1999; Medicine (Balt) 67:40–57, 1988*

Still's disease – mimicking acute bacterial endocarditis *Eur Heart J 16:1448–1450, 1995*

## DRUG-INDUCED

Dilantin hypersensitivity syndrome

Drug hypersensitivity

## INFECTIONS AND INFESTATIONS

*Acanthamoeba* species *Am J Dermatopath 15:146–149, 1993*

*Aeromonas hydrophilia*

AIDS – palatal petechiae *Rook p.3102, 1998, Sixth Edition*

Alternariosis *Cutis 56:145–150, 1995*

Arboviral hemorrhagic fevers

*Arcanabacterium haemolyticum AD 132:61–64, 1996*

Arenaviruses (hemorrhagic fevers) – Lassa fever (rats and mice) (West Africa), Junin virus (Argentine pampas), Machupo virus (Bolivian savannas), Guanarito virus (Venezuela), Sabia virus (Southeast Brazil), Whitewater virus (California, New Mexico), Tacaribe virus complex (mice) – swelling of face and neck, oral hemorrhagic bullae, red eyes *JAAD 49:979–1000, 2003*

Argentinian hemorrhagic fever *Tyring p.448, 2002*

Arthropod bite

Aspergillosis, primary cutaneous – hemorrhagic vesicles, pustules, and nodules *JAAD 12:313–318, 1985*

Avian mite dermatitis – large bruise *Cutis 23:680–682, 1979*

Babesiosis – purpura and ecchymoses due to thrombocytopenia *JAAD 49:363–392, 2003*

Bites – snake, spider, insect, human, etc

*Borrelia recurrentis* – relapsing fever; fever and petechiae *J Infect Dis 140:665–675, 1979; Trans R Soc Trop Med Hyg 65:776–781, 1971*

Brazilian purpuric fever – *Haemophilus influenzae* biogroup *aegyptius* strains *J Infect Dis 171:209–212, 1995; Pediatr Infect Dis J 8:239–241, 1989*

Brown recluse spider bite – purpuric morbilliform eruption in children at 24–48 hours *JAAD 44:561–573, 2001*

Brucellosis *Dermatologica 171:126–128, 1985; Cutis 63:25–27, 1999; Ann Trop Paediatr 15:189–192, 1995; AD 117:40–42, 1981* with thrombocytopenic purpura *Clin Inf Dis 31:904–909, 2000*

Bunyavirus hemorrhagic fever (Crimean Congo hemorrhagic fever, Rift Valley fever, Hantavirus) – ticks (*Hyalomma* genus) petechial eruption orally and on upper trunk *JAAD 49:979–1000, 2003; Rook p.1083, 1998, Sixth Edition*

*Campylobacter jejuni Scand J Urol Nephrol 28:179–181, 1994*

Candidiasis – disseminated *Am J Med 80:679–684, 1986*; palpable purpura *JAAD 53:544–546, 2005; Candida krusei AD 131:275–277, 1995; NEJM 23:1650, 1994; JAAD 26:295–297, 1992*

*Capnocytophagia canimorsus* sepsis – dog and cat bites or scratch; necrosis with eschar; cellulitis, macular and morbilliform eruptions, petechiae, purpura fulminans, symmetrical peripheral gangrene *Cutis 60:95–97, 1997; Eur J. Epidemiology 12(5)521–533, 1996; JAAD 33:1019–1029, 1995*

Cat scratch disease *Ann DV 125:894–896, 1998;* petechiae *JAAD 31:535–536, 1994*

Cellulitis

Colorado tick fever – Orbivirus; macules, papules, petechiae *JAAD 49:363–392, 2003*

*Corynebacterium jeikeium* endocarditis – palpable purpura *AD 127:1071–1072, 1991*

Cowpox – hemorrhagic pustules *JAAD 44:1–14, 2001*

Coxsackie virus A9 *JAAD 49:363–392, 2003;* Coxsackie $B_4$ exanthem

Crimean–Congo hemorrhagic fever – fine petechiae of back, then widespread purpura and palatal petechiae *Tyring p.425,440,442, 2002*

Cryptococcosis *Arch Int Med 138:1412–1413, 1978*

Cytomegalovirus – palpable purpura *AD 126:1497–1502, 1990; JAAD 13:845–852, 1985; JAAD 24:860–867, 1991;* purpura in neonate *AD 130:243–248, 1994*

Diphtheria

Dysgonic fermenter type 2 sepsis – purpura fulminans *AD 125:1380–1382, 1989*

Echovirus 9; Echovirus 11,19 – petechial rash *Arch Dis Child 57:22–29, 1982*

Ecthyma gangrenosum

Ehrlichiosis – human granulocytic ehrlichiosis with acute renal failure mimicking TTP; petechial and purpuric rash of human monocytic ehrlichiosis *Am J Nephrol 19:677–681, 1999; Skin and Allergy News, Oct. 2000, p.40; Ann Intern Med 120:736–743, 1994; Ehrlichia chaffeensis* – diffusely erythematous or morbilliform, scattered petechiae or macules *Clin Inf Dis 33:1586–1594, 2001*

Endocarditis – bacterial endocarditis – splinter hemorrhages *Br Med J ii:1496–1498, 1963;* acute bacterial endocarditis (Staphylococcus aureus) – purpuric emboli; acute, subacute; acral purpura *JAAD 22:1088–1090, 1990*

*Enterobacter cloacae* sepsis – *Enterobacter* species *Cutis 41:361–363, 1988*

Enterovirus
- Coxsackie virus $B_4$
- Echo 9

Epidemic typhus – *Rickettsia prowazekii*

Epstein–Barr virus – flexural purpura *Int J Dermatol 37:130–132, 1998*; infectious mononucleosis (Epstein–Barr virus) – petechiae at the junction of the hard and soft palate on the second or third day of fever *Rook p.1023,3089, 1998, Sixth Edition;* petechial or purpuric exanthems; papular-purpuric gloves and socks syndrome *Tyring, p.149, 2002*

*Escherichia coli* – purpura in neonate *J Appl Microbiol 88 Suppl:24S-30S, 2000; AD 130:243–248, 1994; Ann Intern Med 109:705–712, 1988*; *Cutis 41:361–363, 1988*

Exanthem subitum (HHV-6) (roseola infantum) – cutaneous and palatal petechiae *J Ped Hem Onc 24:211–214, 2002*

Fire ant stings

*Fusarium* – palpable purpura with myositis *JAAD 23:393–398, 1990; JAAD 16:260–263, 198*

Gianotti–Crosti syndrome – papular acrodermatitis of childhood, hemorrhagic variant *Ped Derm 8:169–171, 1991*

Gonococcal sepsis (gonococcemia) (*Neisseria gonorrohoeae*) *Arch Fam Med 9:553–556, 2000; Arch Int Med 112:731–737, 1963*

Group B streptococcus – purpura in neonate

*Haemophilus influenzae* – sepsis-associated purpura fulminans *N C Med J 46:516–517, 1985*

Hantavirus – infected rodent waste; flulike prodrome; nausea, vomiting, shock, extensive ecchymoses; oliguria, pulmonary edema, coagulopathy *AD 140:656, 2004*

Hemorrhagic fever – Puumala virus *Clin Inf Dis 20:255–258, 1995*

Hepatitis A, B, and C *Arch Fam Med 9:553–556, 2000*

Herpes simplex – purpura in neonate *AD 130:243–248, 1994*

Herpes zoster

Histoplasmosis *Postgraduate Med 49:226–230, 1971*

HIV – neonatal purpura *JAAD 37:673–705, 1997*

Influenza A virus – acute rash, fever, and petechiae *Clin Infect Dis 29:453–454, 1999*

*Klebsiella* sepsis *Diagn Microbiol Infect Dis 37:275–277, 2000*

*Legionella* species

Leprosy – Lucio's phenomenon – hemorrhagic stellate patches *AD 114:1023–1028, 1978;* erythema nodosum leprosum

Leptospirosis – Haverhill fever

*Listeria monocytogenes* – neonatal purpuric, pustular and morbilliform eruptions *AD 130:245,248, 1994*

Measles, including atypical measles

Mediterranean spotted fever – *Rickettsia conorii*; petechiae *JAAD 49:363–392, 2003*

Meningococcemia – acute or chronic (petechial); acute; initially ecchymoses, purpuric papules and plaques with surrounding erythema, vesicles, bullae, hemorrhagic necrosis, purpura fulminans *Textbook of Neonatal Dermatology, p.195, 2001;* or chronic (petechial) *Pediatr Infect Dis J 8:224–227, 1989; Rev Infect Dis 8:1–11, 1986;* purpuric plaque in chronic meningococcemia *BJD 153:669–671, 2005;* splinter hemorrhage *Ghatan p.84, 2002, Second Edition*

*Morganella morganii*

*Mucor* species

Murine typhus

*Mycobacterium tuberculosis* – acute miliary tuberculosis; large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *J Clin Inf Dis 23:706–710, 1996; Practitioner 222:390–393, 1979; Am J Med 56:459–505; AD 99:64–69, 1969;* pulmonary TB with cutaneous leukocytoclastic vasculitis *Infection 28:55–57, 2000*; erythema induratum

*Mycoplasma pneumoniae*

*Necator americanus* (hookworm)

Necrotizing fasciitis – bruise or purpuric plaque with bullae *AD 126:815–820, 1990; Surg Gynecol Obstet 154:92–102, 1982*

North Asian tick-borne typhus – *Forcipomyia sibirica*

Orf

*Paecilomyces lilacinus* – purpuric macules, hemorrhagic vesicles, hemorrhagic papules *JAAD 39:401–409, 1998*

Parvovirus B19 – including petechial gloves and socks syndrome *Diagn Microbiol Infect Dis 36:209–210, 2000; JAAD 41:793–796, 1999; Ped Derm 15:35–37, 1998; Clin Infect Dis 27:164–168, 1998; JAAD 27:835, 1992;* purpuric eruption and Koplik spots *JAAD 27:466, 1992;* neonatal purpura *JAAD 37:673–705, 1997;* mimicking measles

Phaeohyphomycosis

*Proteus mirabilis* – sepsis-associated purpura fulminans *JAAD 37:673–705, 1997*

*Pseudomonas aeruginosa* sepsis – including purpura in neonate *AD 130:243–248, 1994*

Post kala-azar leishmaniasis

Purpura fulminans (DIC)
- *Candida* sepsis
- *Hemophilus influenza*e *NC Med J 46:516–517, 1985*
- Leptospirosis
- Meningococcemia
- Pneumococcal sepsis
- Rocky Mountain spotted fever
- Roseola
- Rubella
- Scarlet fever
- Staphylococcal sepsis
- Streptococcal sepsis *JAAD 47:496, 2002*
- Varicella
- *Vibrio parahemolyticus*

Puss caterpillar sting – hemorrhagic papules, papulovesicles *Cutis 60:125–126, 1997*

Q fever *Pediatr Infect Dis J 19:358, 2000*

Rat bite fever – macular and petechial rash on palms and soles; acral hemorrhagic pustules *JAAD 38:330–332, 1998*

Relapsing fever (tick-borne relapsing fever) – Ornithodoros soft ticks transmitting *Borrelia hermsii, B. turicata*, or *B. parkeri*; 1–2-cm rose-colored macules, papules, petechiae, purpura, facial flushing; arthralgias, iritis, myalgia *JAAD 49:363–392, 2003;* diffuse macular rash *Tyring p.438, 2002*

Respiratory syncytial virus

Rheumatic fever – petechiae *Rook p.2575,2733, 1998, Sixth Edition*

Rickettsial diseases
- African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks) – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*
- Boutonneuse fever – *Rickettsia conori* – Marseilles fever, South African tick fever, Kenya tick typhus, Israel: tick typhus, and Indian tick typhus
- Epidemic typhus *Rickettsia prowazekii*
- Kenya tick typhus – *Rickettsia conorii*
- Louse-borne typhus
- Marseilles fever – *R. conorii*
- Oriental spotted fever – *R. japonica*
- Queensland tick typhus – *R. australis*
- Rocky Mountain spotted fever – massive skin necrosis *South Med J 71:1337–1340, 1978*
- Scrub typhus – *Rickettsia tsutsugamuchi*

Rotavirus

Rubella – Forscheimer's spots (red macules and petechiae on soft palate) *Rook p.1084, 1998, Sixth Edition*

*Salmonella* species – purpura in neonate *AD 130:243–248, 1994;* meningitis with purpura fulminans; typhoid fever presenting as ITP *S Afr Med J 51:3, 1977*

*Scedosporium* – bullous necrotic purpura *Ann DV 125:711–714, 1998*

Schistosomiasis (*Schistosoma japonicum*) – Katayama fever – purpura, arthralgia, systemic symptoms *Dermatol Clin 7:291–300, 1989*

Sea anemone sting

Sepsis – multiple organisms – neonatal purpura *JAAD 37:673–705, 1997*

Septic emboli

Shigellosis

South American Arenaviruses (Junin, Machupo, Sabia, Guanarito)

*Staphylococcus aureus* – purpura fulminans and toxic shock syndrome *Clin Inf Dis 40:941–947, 2005; Staphylococcus aureus* in AIDS; *Staphylococcus aureus* sepsis *Am J Med 83:801–803, 1987*

Stingray bite *Cutis 58:208–210, 1996*

*Streptococcus pyogenes* – scarlet fever

*Streptococcus pyogenes* toxic shock-like syndrome – hemorrhagic bullae *AD 131:73–77, 1995*

*Streptococcus pneumoniae* – pneumococcal cellulitis – bilateral hemorrhagic bullae *AD 132:81–86, 1996*

*Streptococcus viridans*

*Strongyloides stercoralis* – hyperinfection *JAAD 31:255–259, 1994; JAAD 21:1123, 1989;* thumbprint sign *JAAD 23:324–326, 1990;* periumbilical purpura *JAMA 256:1170–1171, 1986*

Tacaribe viruses – Argentinian, Bolivian and Venezuelan hemorrhagic fevers – erythema of face, neck, and thorax with petechiae *Lancet 338:1033–1036, 1991; JAMA 273:194–196, 1994*

Tinea corporis

TORCH syndrome – neonatal purpura; blueberry muffin baby (extramedullary hematopoiesis)

Toxic shock syndrome

Toxoplasmosis – purpuric nodules *JAAD 14:600–605, 1986;* congenital toxoplasmosis *JAAD 12:697–706, 1985*

Trichinosis – subungual petechiae

*Trichosporon beigelii*, disseminated – purpuric papules and nodules *AD 129:1020–1030, 1993*

Trypanosomiasis, African *AD 131:1178–1182, 1995*

Tularemia *Cutis 54:279–286, 1994*

Varicella-zoster virus – herpes zoster, disseminated herpes zoster, varicella

Vasculitis, infectious (not embolic)

*Vibrio vulnificus* sepsis *BJD 142:386–387, 2000; JAAD 24:397–403, 1991; Am J Gastroenterol 80:706–708, 1985*

Viral exanthem, including measles

Viral hemorrhagic fevers – including Argentine hemorrhagic fever, Bolivian hemorrhagic fever, Lassa fever, Venezuelan hemorrhagic fever, Kyasanur Forest disease, Omsk hemorrhagic fever, yellow fever and Viral insect borne and hemorrhagic fevers *Dermatol Clinics 17:29–40, 1999*

- Togavirus
  - Sindbis fever
  - Chikungunya fever *Tyring p.425, 2002*
  - O'nyong nyong fever
  - Ross river fever
  - Barmah forest fever
- Flavivirus
  - Dengue fever (flavivirus) – morbilliform or scarlatiniform eruption on day 3–4, then becomes petechial; joint and bone pain with severe backache *Ann DV 124:237–241, 1997; Bull Soc Pathol Exot 86:7–11, 1993*
  - West Nile fever
  - Kunjin fever
  - Kyasanur Forest disease
  - Omsk hemorrhagic fever *AD 140:656, 2004*
- Arena virus
  - Lassa fever
  - Junin fever
  - Machupo fever
- Filovirus
  - Marburg virus – maculopapular–vesicular *S Afr Med J 60:751–753, 1981*
  - Ebola viral hemorrhagic fever – morbilliform rash *MMWR 44:468–469, 1995*
- Bunyavirus
  - Bwamba fever
  - Rift valley fever
  - Crimea/Congo fever
  - Hanta virus (hemorrhagic fever with renal syndrome (Hanta virus)

*Xanthomonas maltophilia* – purpura fulminans *J Dermatol 18:225–229, 1991*

Yellow fever

*Yersinia – Yersinia pestis* (plague) – purpura, including symmetrical peripheral gangrene *AD 135:311–322, 1999*

Zygomycosis – purpuric plaque *JAAD 20:989–1003, 1989;* bulls-eye cutaneous infarct *JAAD 51:996, 2004*

### INFLAMMATORY DISORDERS

Acute generalized exanthematous pustulosis – pustules, purpura, fever and rash – etiologies include multiple drugs, mercury, enterovirus, adenovirus, Epstein–Barr virus, cytomegalovirus, hepatitis B virus, *Mycoplasma pneumoniae Ped Derm 17:399–402, 2000*

### METABOLIC DISEASES

Cryofibrinogenemia *Am J Med 116:332–337, 2004*

Disseminated intravascular coagulation, purpura fulminans

Paroxysmal nocturnal hemoglobinuria *AD 114:560, 1978*

### NEOPLASTIC DISEASES

Leukemia/lymphoma *Arch Fam Med 9:553–556, 2000*

### SYNDROMES

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55kDa TNF receptor *AD 136:1487–1494, 2000*

### VASCULAR DISEASES

Henoch–Schonlein purpura *Arch Fam Med 9:553–556, 2000*

Polyarteritis nodosa *Arch Fam Med 9:553–556, 2000*

Vasculitis, hypersensitivity vasculitis *Arch Fam Med 9:553–556, 2000*

Wegener's granulomatosis *Arch Fam Med 9:553–556, 2000*

## PUSTULAR AND VESICOPUSTULAR ERUPTIONS IN NEWBORN

***Textbook of Neonatal Dermatology, p.137–151, 2001; Ped Derm 16:137–141, 1999; Ped Derm 12:359–363, 1995, Curr Prob Ped 19:551–614, 198***

Absent dermatoglyphics and transient facial milia (vesicles) *JAAD 32:315–8, 1995*

Acne, neonatal, infantile; *Malassezia furfura* pustulosis – a form of neonatal acne; red papulopustular lesions of face and scalp of neonates *AD 132:190–193, 1996*

Acrodermatitis enteropathica

Acropustulosis of infancy

Aplasia cutis congenital – blister-like

*Aspergillus* infection *Textbook of Neonatal Dermatology, p.147, 2001*

Behçet's syndrome, neonatal

Benign cephalic pustulosis (neonatal acne)

Bullous ichthyosiform erythroderma

Bullous pemphigoid

Candidiasis – neonatal – oral Candida with or without diaper *Candida*; may be generalized, including palmar pustules *Clin Inf Dis 32:1579,1637–1638, 2001; Ped Derm 6:206–209, 1989;* congenital cutaneous candidiasis – from ascending maternal chorioamnionitis; on face and chest then spreads; progression from pink to red macules, papules, vesicles, pustular, bullous lesions; no oral involvement *JAAD 6:926–928, 1982; Arch Dis Child 57:528–535, 1982*

Chronic granulomatous disease – neonatal pustules *Arch Dis Child 65:942–945, 1990*; vesiculopustular eruptions *JAAD 36:899–907, 1997;* scalp folliculitis *AD 103:351–357, 1971*

Congenital self-healing histiocytosis (Hashimoto–Pritzker disease)

Cytomegalovirus *Ped Derm 19:210–215, 2002*

Diaper dermatitis *Ped Derm 19:210–215, 2002*

Down's syndrome – with transient myeloproliferative disorder (leukemoid reactions) – neonatal pustules, vesicles, papulovesicles, vesicopustules *Ped Derm 20:232–237, 2003*; *AD 137:760–763, 2001*

Ecthyma gangrenosum *Ped Derm 19:210–215, 2002*

Ectodermal dysplasias

Eosinophilic pustular folliculitis of infancy *Ped Derm 16:118–120, 1999*

Epidermolysis bullosa *Ped Derm 19:210–215, 2002*

Epidermolytic hyperkeratosis

Erosive and vesicular dermatosis

Erythema multiforme *Ped Derm 19:210–215, 2002*

Erythropoietic protoporphyria

*Haemophilus influenzae*

Herpes gestations

Herpes simplex infection

Hyper-IgE syndrome

IgA pemphigus – neonatal vesicopustules in a one-month old *JAAD 48:S22–24, 2003*

Impetigo

Incontinentia pigmenti *JAAD 47:169–187, 2002*

Infantile acne

Irritant contact dermatitis *Ped Derm 19:210–215, 2002*

Langerhans cell histiocytosis *Ped Derm 19:210–215, 2002*

Linear IgA deficiency

Mastocytosis

Miliaria pustulosa *Ped Derm 19:210–215, 2002*; miliaria crystallina, rubra

Neonatal infections *Ped Derm 21:667–669, 2004*
- *Aspergillus*
- *Chlamydia trachomatis Ped Derm 21:667–669, 2004*
- Congenital candidiasis; neonatal candidiasis; *Candida albicans Ann DV 113:125–130, 1986; Bolognia p.509, 2004*
- Cytomegalovirus
- *Escherichia coli*
- *Haemophilus influenzae*
- Herpes simplex virus – neonatal or intrauterine
- Herpes zoster *Bolognia p.509, 2004*
- *Klebsiella pneumoniae*
- *Listeria monocytogenes* – disseminated petechial pustular lesions of the newborn *AD 130:245,248, 1994*
- *Malassezia furfur (Pityrosporum folliculitis)*
- *Pseudomonas aeruginosa*
- Scabies
- *Streptococcus*, including β-hemolytic group A and group B
- *Staphylococcus aureus* – pyoderma, impetigo
- Syphilis
- Varicella

Mastocytosis, bullous, diffuse cutaneous

Maternal bullous disease

Miliaria crystallina, miliaria rubra, miliaria pustulosa

Neonatal cephalic pustulosis – triggered by *Malassezia sympodialis AD 134:995–998, 1998*

Pemphigus vulgaris

Post-scabietic syndrome

Protein C deficiency

Pustular bacterid

Pustular psoriasis *Ped Derm 10:277–282, 1993*

Scabies *Am J Dis Child 133:1031–1034, 1979*

Seborrheic dermatitis *Ped Derm 19:210–215, 2002*

Sepsis

*Staphylococcus aureus* infection (pyoderma)

Staphylococcal scalded skin syndrome

Group A and B streptococcal infections

Subcorneal pustular dermatosis *AD 109:73–77, 1974*

Sucking blisters

Toxic epidermal necrolysis

Toxic erythema of the newborn *Dermatology 185:18–22, 1992*

Transient myeloproliferative disorder – mutation in transcription factor *GATA 1 AD 141:1053–1054, 2005;* in trisomy 21 or normal patients; periorbital vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

Transient neonatal pustular melanosis *Int J Derm 18:636–638, 1979; J Pediatr 88:831–835, 1976*

Varicella, neonatal

# PUSTULES AND PUSTULAR ERUPTIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – isoconazole nitrate *Am J Contact Dermat 8:229–230, 1997; Contact Derm 32:309–310, 1995; Cutis 27:630–631, 1981;* 5-fluorouracil – pustular contact hypersensitivity *AD 121:240–242, 1985*

Amicrobial pustulosis associated with autoimmune disease treated with zinc *BJD 143:1306–1310, 2000*

Bowel-associated dermatitis–arthritis syndrome *AD 138:973–978, 2002; BJD 142:373–374, 2000; AD 135:1409–1414, 1999; JAAD 14:792–796, 1986; Mayo Clin Proc 59:43–46, 1984; AD 115:837–839, 1979*

Bowel bypass syndrome *AD 115:837–839, 1979*

Chronic granulomatous disease – neonatal pustules *Arch Dis Child 65:942–945, 1990*; vesiculopustular eruptions *JAAD 36:899–907, 1997;* scalp folliculitis *Dermatol Therapy 18:176–183, 2005; AD 103:351–357, 1971*

Dermatitis herpetiformis – vesiculopustular facial eruption *Rook p.1952, 1998, Sixth Edition*

Dermatomyositis – papules and pustules of the elbows and knees in Asian children *Ped Derm 17:37–40, 2000*

Fogo selvagem *JAAD 20:657, 1989*

Herpes gestationis – erythematopustulous rash in newborn *Dermatologica 176:143–147, 1988; AD 119:91–93, 1983*

Hyper-IgE syndrome – papular, pustular, excoriated dermatitis of scalp, buttocks, neck, axillae, groin; papulopustules of face and scalp in first year of life; mimics atopic dermatitis; furunculosis; growth failure; neonatal acne-like eruption; resembles eosinophilic pustular folliculitis of infancy; monomorphic folliculitis of back *AD 140:1119–1125, 2004; J Pediatr 141:572–575, 2002; Clin Exp Dermatol 11:403–408, 1986; Ped Derm 1:202–206, 1984; Medicine 62:195–208, 1983*

Id reaction

IgA pemphigus (intraepidermal (subcorneal) IgA pemphigus) *Eur J Dermatol 11:41–44, 2001; JAAD 43:546–549, 2000;* vesiculopustules *JAAD 43:923–926, 2000; JAAD 32:352–357, 1995; JAAD 31:502–504, 1994; JAAD 24:993, 1992;* intercellular IgA dermatosis resembling subcorneal pustular dermatosis *AD 123:1062–1065, 1987;* with autoantibodies to desmocollin-1 *BJD 143:144–148, 2000*

Linear IgA dermatitis – pustules, vesicles, and erosions *AD 129:897–898, 900–901, 1993*

Lupus erythematosus – amicrobial pustulosis of the folds *Lupus 6:514–520, 1997*

Neutrophilic IgA dermatosis *JAAD 31:502–504, 1994*

Pemphigus – vulgaris, pemphigus vegetans (pustular) *AD 123:609–614, 1987; Dermatol Clinics 1:171–177, 1983; Ann DV 109:549–555, 1982; AD 114:627–628, 1978;* acute pemphigus foliaceus *BJD 145:132–136, 2001; Rook p.1094, 1998, Sixth Edition;* pemphigus herpetiformis *JAAD 48:117–122, 2003;* IgA pemphigus – neonatal vesicopustules in a one-month old *JAAD 48:S22–24, 2003;* endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

Rheumatoid arthritis – erosive pustular dermatitis of the scalp *Int J Dermatol 34:148, 1995*

X-linked agammaglobulinemia *Pediatr Anna 16:414–411, 1987*

## CONGENITAL LESIONS

Cephalic pustulosis (neonatal acne) *Eichenfeld p.94, 2001*

Erythema toxicum neonatorum (toxic erythema of the newborn) – blotchy macular erythema (one to several hundred lesions); surmounted by pustules *Eichenfeld p.92, 2001; Rook p.454, 1998, Sixth Edition;* including scrotal pustules *Arch Pediatr Adolesc Med 150:649–650, 1996; Dermatology 185:18–22, 1992*

Transient neonatal pustular melanosis – flaccid, superficial fragile pustules; chin, neck, forehead, back, buttocks *Eichenfeld, 2001, p.93; Int J Dermatol 18:636–638, 1979; J Pediatr 88:831–835, 1976*

## DRUG-INDUCED

***BJD 130:514–519, 1994***

Acetaminophen *AD 139:1181–1183, 2003*

Acetylsalicylic acid *Schweiz Med Wochenschr 123:542–546, 1993*

Acute generalized exanthematous pustulosis – multiple drugs *Semin Cutan Med Surg 15:244–249, 1996; AD 127:1333–1338, 1991*

Allopurinol *Clin Exp Dermatol 19:243–245, 1994*

Amoxicillin *Hautarzt 42:713–716, 1991*

Ampicillin *AD 130:787, 790, 1994*

Bacampicilin *J Dermatol 25:612–615, 1998*

BCG vaccination – lichenoid and red papules and papulopustules *Ped Derm 13:451–454, 1996*

Bromoderma – single or multiple papillomatous nodules or plaques studded with pustules on face or extremities *Ped Derm 18:336–338, 2001; AD 115:1334–1335, 1979;* iodides, bromides – intertriginous pustular plaques *AD 123:393–398, 1987*

Captopril *Cutis 56:276–278, 1995*

Carbamazepine *AD 124:178–9, 1988;* eosinophilic pustular folliculitis (Ofuji's disease) *JAAD 38:641–643, 1998*

Cefaclor acetazolamide *AD 139:1181–1183, 2003*

Cefazolin *JAAD 19:571, 1988; JAAD 16:1051–1052, 1987*

Cephalexin *Dermatologica 177:292–294, 1988*

Cephadrine *Cutis 38:58–60, 1986*

Cetuximab – follicular papules and pustules *AD 138:129–131, 2002*

Chemotherapy-induced eccrine neutrophilic hidradenitis *JAAD 40:367–398, 1999*

Chloroquine *Int J Dermatol 37:713–714, 1998*

Chloramphenicol *Dermatologica 146:285–291, 1973*

Chlorpromazine *BMJ 309:97, 1994*

Cimetidine

Clemastine *Clin Exp Dermatol 21:293–295, 1996*

Co-trimoxazole *Br Med J 293:1279–1280, 1986*

Corticosteroid acne *Int J Derm 37:772–777, 1998*

Cyclosporine – withdrawal of cyclosporine *Clin Exp Dermatol 24:10–13, 1999; BJD 136:132–133, 1997*

Dactinomycin

Dapsone *JAAD 35:346–349, 1996*

Dexamethasone – injections *Dermatology 193:56–58, 1996*

Diltiazem *JAAD 38:201–206, 1998; Clin Exp Dermatol 20:341–344, 1995*

Dithranol ointment *Hautarzt 49:781–783, 1998*

Doxorubicin *Acta DV 81:224, 2001*

Doxycycline *Dermatology 186:75–78, 1993*

Enalapril *Clin Exp Dermatol 21:54–55, 1996*

Eprazinone *Hautarzt 35:200–203, 1984*

Erythromycin *Rook p.3385, 1998, Sixth Edition*

Ferrous fumarate *Dermatology 192:294–295, 1996*

5-fluorouracil *JAAD 25:905–908, 1991;* pustular contact hypersensitivity *AD 121:240–242, 1985*

Furosemide *Dermatologica 146:285–291, 1973*

Gentamycin *AD 139:1181–1183, 2003*

GM-CSF – subcorneal pustular eruption at injection site *JAAD 30:787–789, 1994; Ann Hematol 63:326–327, 1991*

Hydroxychloroquine *Acta DV 70:250–251, 1990*

Icodextrin – palmoplantar pustulosis, erythroderma, generalized exanthematous pustulosis *AD 137:309–310, 2001*

Imipenem *Ann DV 116:407–409, 1989*

INH *BJD 112:504–505, 1985*

Iododerma – after intravenous pyelogram *Dermatologica 171:463–468, 1985;* in chronic renal failure – 2–5 days, fever, edema of eyelids; pustulovesicular eruption, pustules, pseudovesicles, marked edema of face and eyelids, vegetative plaques *AD 140:1393–1398, 2004; JAAD 36:1014–1016, 1997; Clin Exp Dermatol 15:232–233, 1990; BJD 97:567–569, 1977;* pustules on a plaque *JAAD 36:1014–1016, 1997; JAAD 31:344–347, 1994;* papulopustular eruptions *Australas J Dermatol 28:119–122, 1987*

Levofloxacin – localized exanthematous pustulosis of forehead *BJD 152:1076–1077, 2005*

Lithium *Clin Exp Derm 21:296–298, 1996*

Mesalazine *JAAD 45:S220–221, 2001*

Metronidazole *AD 139:1181–1183, 2003*

Mexiletine *Eur J Dermatol 11:469–471, 2001*

Minocycline *Acta DV 77:168–169, 1997; AD 131:490–491, 1995*

Minoxidil – pustular contact dermatitis *Contact Dermatitis 38:283–284, 1998*

Naproxen *Dermatologica 179:57–58, 1989*

Nitrazepam

Norfloxacin – subcorneal pustular eruption *Cutis 42:24–27, 1988*

Nystatin *Hautarzt 49:492–495, 1998*

Ofloxacin *Acta DV 73:382–384, 1993*

Olanzapine *JAAD 41:851–853, 1999*

Oxytetracycline

Paclitaxel *Int J Dermatol 36:559–560, 1997*

Paracetamol *Dermatology 193:56–58, 1996*

Penicillin *Cutis 54:194–196, 1994*

Phenobarbital *AD 139:1181–1183, 2003*

Phenytoin hypersensitivity eruption *JAAD 18:721–741, 1988; AD 127:1361–1364, 1991*

Piperazine ethionamate *Dermatologica 146:285–291, 1973*

Pipericillin

Pneumococcal vaccine *Dermatology 187:217, 1993*

Prednisolone *Dermatol Monatsschr 174:221–225, 1988*

Proguanil

PUVA *AD 139:1181–1183, 2003*

Pyrimethamine *Dermatologica 146:285–291, 1973*

Resprim *AD 139:1181–1183, 2003*

Ritodrine *J Eur Acad DV 11:91–93, 1998*

Roxithromycin *AD 139:1181–1183, 2003*

Spiramycin *Rook p.3385, 1998, Sixth Edition*

Streptomycin *AD 117:444–445, 1981*

Sulfasalazine

Tacrolimus ointment – rosacea-like dermatosis with overgrowth of Demodex folliculorum *AD 140:457–460, 2004*

Terbinafine *JAAD 49:158–159, 2003; Australas 41:42–45, 2000; JAAD 37:653–655, 1997, JAAD 39:115–117, 1998*

Tetracycline *AD 139:1181–1183, 2003*

Thalidomide – toxic pustuloderma *Clin Exp Dermatol 22:297–299, 1997*

Ticlopidine *AD 139:1181–1183, 2003*

Trimethoprim-sulfamethoxazole *AD 139:1181–1183, 2003*

Vitamin $B_{12}$ *DICP 23:1033–1044, 1989*

## EXOGENEOUS AGENTS

Antimony melting workers *J Occup Med 35:39–45, 1993*

Aromatic polycyclic hydrocarbons *G Hal Med Lav Ergon 19:152–163, 1997*

Chloracne

Fiberglass dermatitis

Irritant contact dermatitis

Mineral oils – folliculitis *Rook p.1117, 1998, Sixth Edition*

Occlusion folliculitis

Patch tests – acute generalized exanthematous pustulosis due to patch test to acetaminophen *AD 139:1181–1183, 2003*

Potassium iodide patch-test reactions *Arch Dermatol Forsch 242:137–152, 1972*

*Rhus* – ingestion of *Rhus* as folk medicine remedy; pustules *BJD 142:937–942, 2000*

Tar folliculitis *Rook p.1117, 1998, Sixth Edition*

## INFECTIONS AND INFESTATIONS

Acanthamoeba in AIDS *JAAD 42:351–354, 2000; AD 131:1291–1296, 1995; JAAD 26:352–355, 1992*

Acinetobacter calcoaceticus var anitratus – pustules *J Hosp Infect 1:125–131, 1980*

Actinomycosis *Ghatan p.16, 2002, Second Edition*

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *Clin Inf Dis 39:700–701, 741–742, 2004; JAAD 48:S18–19, 2003*

AIDS-associated eosinophilic pustular folliculitis – face, trunk, and extremities *NEJM 318:1183–1186, 1988; Sex Transm Infec 4 (3):229–230, 1987;* acute HIV infection – vesicopustular eruptions *AD 138:117–122, 2002*

Alternariosis *BJD 145:484–486, 2001; J Formos Med Assoc 91:462–466, 1992*

*Ancylostoma caninum* larvae *AD 127:247–250, 1991*

Anthrax – *Bacillus anthracis*; malignant pustule; face, neck, hands, arms; starts as papule then evolves into bulla on red base; then hemorrhagic crust with edema and erythema with small vesicles; edema of surrounding skin *Br J Ophthalmol 76:753–754, 1992; J Trop Med Hyg 89:43–45, 1986; Bol Med Hosp Infant Mex 38:355–361, 1981; Arch Intern Med 1955:387–396, 1956*

Aspergillosis – primary cutaneous aspergillosis *JAAD 31:344–347, 1994*; in neonates *Clin Inf Dis 22:1102–1104, 1996;* red plaque with pustules – *Aspergillus ustus JAAD 38:797–798, 1998;* disseminated – morbilliform rash which becomes pustular *Ped Derm 19:439–444, 2002*

*Bacillus cereus Lancet Mar 18;1 (8638):601–603, 1989*

Blastomycosis-like pyoderma *AD 115:170–173, 1979*

Botryomycosis – plaques with pustules and crusts *AD 139:93–98, 2003*

Brown recluse spider bite *Hautarzt 41:218–219, 1990*

Candidiasis – flexural candidiasis with satellite pustules *Rook p.1342,3212, 1998, Sixth Edition; Clin Obstet Gynecol 24:407–438, 1981;* disseminated candidiasis, congenital cutaneous candidiasis *Textbook of Neonatal Dermatology, p.224, 2001; Pediatrics 105:438–444, 2000; AJDC 135:273–275, 1981*; necrotic pustules *JAAD 37:817–823, 1997;* mimicking tinea barbae *Int J Derm 36:295–297, 1997;* candidiasis, systemic in drug addicts – purulent nodules of scalp and follicular pustules of beard, axilla, and pubis *Br Med J 287:861–862, 1983*

Carbuncle *Rook p.1119, 1998, Sixth Edition*

Cat scratch disease – inoculation pustule, papule, or vesicle *JAAD 18:239–259, 1988; Ped Derm 5:1–9, 1988*

Cellulitis with overlying pustules

*Cheyletiella* mite infestation – papulovesicles, pustules, necrosis *JAAD 50:819–842, 2004; AD 116:435–437, 1980*

*Clostridium perfringens Clin Inf Dis 26:501–502, 1998*

*Clostridium welchii Rook p.2188, 1998, Sixth Edition*

Coccidioidomycosis – papulopustules *JAAD 26:79–85, 1992;* red plaque with pustules *JAAD 46:743–747, 2002*

Cowpox (feline orthopoxvirus) – papule progresses to vesicle to hemorrhagic vesicle to umbilicated pustule, then eschar with ulcer *JAAD 49:513–518, 2003; JAAD 44:1–14, 2001; BJD 1331:598–607, 1994*

Coxsackie A9, B4 – AGEP *AD 139:1181–1183, 2003*

Cryptococcosis *JAAD 37:116–117, 1997*

Cytomegalovirus infection – AGEP *AD 139:1181–1183, 2003*

Dematiacious fungal infections in organ transplant recipients – all lesions on extremities
*Alternaria*
*Bipolaris hawaiiensis*
*Exophiala jeanselmei, E. spinifera, E. pesciphera, E. castellani*
*Exserohilum rostratum*
*Fonsacaea pedrosoi*
*Phialophora parasitica*

Demodex folliculitis *Hautarzt 50:491–494, 1999; Clin Exp Dermatol 21:148–150, 1996; JAAD 15:1159, 1986*

*Dermatophilus congolensis* – due to contact with infected animals *BJD 145:170–171, 2001; JAAD 29:351–354, 1993*

Echinococcosis – cystic ecchinococcosis of the liver with acute generalized exanthematous pustulosis *BJD 148:1245–1249, 2003*

Echovirus 6, 30, 11 *Tyring p.458, 2002*

Ecthyma

Eczema herpeticum (Kaposi's varicelliform eruption) *Cutis 75:33–36, 2005*

Eczema vaccinatum *Tyring p.48, 2002*

Ehrlichiosis – human granulocytic ehrlichiosis *JAAD 49:363–392, 2003*

Enterovirus infection – acral pustular eruption *Tyring p.460, 2002*

Epstein–Barr virus – AGEP *AD 139:1181–1183, 2003*

Erysipelas

Erysipeloid *Ghatan p.16, 2002, Second Edition*

Favus – follicular pustules

Felon

Fire ant stings (*Solenopsis invicta*) – clusters of vesicles evolve into umbilicated pustules on red swollen base; crusting, heal with scars; urticaria *Cutis 75:85–89, 2005; JAMA 284:2162–2163, 2000; J S C Med Assoc 95:231–235, 1999; Ann Allergy Asthma Immunol 77:87–95, 1996; Allergy 50:535–544, 1995; Ped Derm 9:44–48, 1992;* reached United States from Brazil through port of Mobile, Alabama in 1930s *Ann Rev Entomol 20:1–30, 1975*

Folliculitis – multiple organisms

*Fusarium*, disseminated *JAAD 47:659–666, 2002*; with myositis *Ped Derm 13:118–121, 1996; Ped Derm 9:62–65, 1992; Dermatology 186:232–235, 1993; JAAD 23:393–398, 1990*

Glanders (farcy) – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gonorrhea – penile pustules of coronal sulcus *Rook p.1140, 1998, Sixth Edition*; gonococcemia – hemorrhagic pustules with halo of erythema *Rook p. 2170–2171, 1998, Sixth Edition; AD 107:403–406, 1973*

Gram-negative folliculitis *Int J Dermatol 38:270–274, 1999; Fortschr Med 115:42–44, 1997*

Haematosiphoniasis (Mexican chicken bug) – wheals, papules, vesicles, pustules, crusts *Rook p.1445–1446, 1998, Sixth Edition*

Hand, foot and mouth disease – Coxsackie A16, A5, A7, A9, A10, B2, B3, B5, enterovirus 7; vesicular *Ped Derm 20:52–56, 2003; Rook p.998,1086, 1998, Sixth Edition; BJD 79:309–317, 1967*

Hepatitis B infection – AGEP *AD 139:1181–1183, 2003*

Herpes simplex *Tyring p.75, 2002; AD 113:983–986, 1997*

Herpes zoster *AD 113:983–986, 1997*

Histoplasmosis *AD 132:341–346, 1996; JAAD 25:418–422, 1991; JAAD 23:422–428, 1990*

Hookworm folliculitis – ancylostoma *AD 127:547, 1991*

Impetigo contagiosa

Impetigo of Bockhart

Insect bites – sandflies (*Phlebotomus, Lutzomyia*) – harara, urticaria multiformis endemica in Middle East; vesicopustules *The Clinical Management of Itching; Parthenon; p.64, 2000*

Kerion

Leprosy – erythema nodosum leprosum *JAAD 51:416–426, 2004; Rook p.1227, 1998, Sixth Edition; AD 111:1575–1580, 1975*

Listeriosis, congenital – gray–white papules or pustules with red margins; predilection for the back *J Natl Med Assoc 57:290–296, 1965;* purpura, morbilliform rashes *Am J Dis Child 131:405–408, 1977; J Cutan Pathol 18:474–476, 1991;* contact listeriosis – localized vesicles or pustules *JAAD 48:759, 2003*

Lyme disease – annular lesion with central papulopustule *JAAD 49:363–392, 2003*

Majocchi's granuloma

Meleney's synergistic gangrene

Melioidosis – *Burkholderia pseudomallei* – pustules *Clin Inf Dis 33:29–34, 2001; Med J Malaysia 48:248–249, 1993*

Meningococcemia – acute, chronic *Rev Infect Dis 8:1–11, 1986*

*Microsporum gypseum* – plaque with multiple nodules and pustules *BJD 146:311–313, 2002*

Milker's nodule *JAAD 49:910–911, 2003; Tyring p.57, 2002; Rook p.998, 1998, Sixth Edition*

Mites – cheese mite (*Glyciphagus*) bites – papulovesicles and pustules *Dermatol Clin 8:265–275, 1990*

Molluscum contagiosum *AD 133:983–986, 1997*

Monkeypox – exanthem indistinguishable from smallpox (papulovesiculopustular) (vesicles, umbilicated pustules, crusts) – prairie dogs infected by Gambian rat *JAAD 49:979–1000, 2003; CDC Health Advisory, June 7,2003; JAAD 44:1–14, 2001; J Infect Dis 156:293–298, 1987*

*Moraxella osloensis* – gonococcemia-like infection *Cutis 21:657–659, 1978*

Mucormycosis

Mycetoma *JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982; Sabouraudia 18:91–95, 1980; AD 99:215–225, 1969*

*Mycobacterium avium intracellulare* – resembles lupus vulgaris *BJD 136:264–266, 1997;* disseminated infection in AIDS – pustules *BJD 130:785–790, 1994*

*Mycobacterium bovis JAAD 28:264–266, 1993*

*Mycobacterium chelonae Rev Clin Exp 196:606–609, 1996*

*Mycobacterium fortuitum*

*Mycobacterium hemophilum BJD 149:200–202, 2003; Ann Intern Med 120:118–125, 1994; JAAD 28:264–266, 1993*

*Mycobacterium kansasii* – pustules *JAAD 40:359–363, 1999;* papulopustules *JAAD 41:854–856, 1999; JAAD 36:497–499, 1997*

*Mycobacterium marinum* – disseminated pustular eruption resembling varicella in subacute combined immune deficiency *Clin Inf Dis 21:1325–1327, 1995*

*Mycoplasma pneumoniae* – AGEP *AD 139:1181–1183, 2003*

*Mycobacterium tuberculosis* – acute miliary tuberculosis – pustules *JAAD 50:S110–113, 2004; J Clin Inf Dis 23:706–710, 1996*; papulopustular eruption *Ped Derm 3:464–467, 1986;* large crops of blue papules, vesicles, pustules, hemorrhagic papules; red nodules; vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969;* lichen scrofulosorum – yellow to red–brown flat-topped papules, slightly scaly, surmounted with minute pustule; trunk scrofulosorum *Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976;* acne scrofulosorum – follicular papules heal with scarring; domed papulopustular follicular lesions *Clin Exp Dermatol 6:339–344, 1981; BJD 7:341–351, 1895;* papulonecrotic tuberculid – papulopustules *JAAD 14:815, 1986; Ped Derm 15:450–455, 1998;* disseminated lupus vulgaris presenting as granulomatous folliculitis *Int J Dermatol 28:388–392, 1989*

*Mycobacterium ulcerans Clin Inf Dis 21:1325–1327, 1995*

Myiasis, including tumbu fly myiasis

Necrotizing fasciitis – streptococcal *Ann DV 128:376–381, 2001; AD 130:1150–1158, 1994;* methicillin-resistant *Staphylococcus aureus NEJM 352:1445–1453, 2005; Serratia marcescens Clin Inf Dis 23:648–649, 1996; JAAD 20:774–778, 1989; Bacteroides* spp. in penile necrotizing fasciitis *JAAD 37:1–24, 1997;* neonatal *Pediatrics 103:e53, 1999;* in infancy *Ped Derm 2:55–63, 1984;* Clostridial cellulitis (gangrene); progressive synergistic gangrene; gangrenous cellulitis (*Pseudomonas*); Fournier's gangrene *Rook p.1164, 1998, Sixth Edition*

*Nocardia asteroides JAAD 41:338–340, 1999; JAAD 20:889–892, 1989; AD 121:898–900, 1985; JAMA 242:333–336, 1979*

North American blastomycosis *AD 138:1371–1376, 2002; Cutis 50:422–424, 1992; Int J Dermatol 16:277–280, 1977;* disseminated – papulopustules; red plaque with pustules *JAAD 53:740–741, 2005*

Orf – hemorrhagic pustule *Ann DV 113:1065–1076, 1986*

*Paecilomyces lilacinus* (cutaneous hyalohyphomycosis) – folliculitis *JAAD 35:779–781, 1996; JAAD 37:270–271, 1997*

*Paederus* beetle *Cutis 69:277–279, 2002*

Parvovirus B19 *Am J Med 84:968–972, 1988;* including vesicopustules of the hard and soft palate (papular–purpuric 'gloves and socks' syndrome) *JAAD 41:793–796, 1999;* AGEP *AD 139:1181–1183, 2003*

*Peloderma strongyloides* (nematode larvae) – exanthem of papules and pustules *JAAD 51:S109–112, 2004*

*Penicillium marneffei JAAD 37:450–472, 1997; J Clin Inf Dis 23:125–130, 1996*

Phaeohyphomycosis – nodule with pustules; *Exophiala J Clin Inf Dis 19:339–341, 1994*

*Pityrosporum* folliculitis – upper trunk and upper arms *JAAD 52:528, 2005; J Dermatol 27:49–51, 2000; Int J Derm 38:453–456, 1999; Int J Derm 37:772–777, 1998; JAAD 24:693–696, 1991; Ann Intern Med 108:560–563, 1988; JAAD 12:56–61, 1985; AD 107:388–391, 1973;* Splendore–Hoeppli phenomenon in *Pityrosporum* folliculitis *J Cutan Pathol 18:293–297, 1991*

Plague (*Yersinia pestis*) – umbilicated vesicles or pustules *J Infect Dis 129:S78–84, 1974*

Protothecosis – red plaque with pustules and ulcers *BJD 146:688–693, 2002*

*Pseudomonas* – ecthyma gangrenosum *Textbook of Neonatal Dermatology, p.193, 2001*; periumbilical pustules with necrotic ulcers; extensive necrosis in neutropenic patients *JAAD 11:781–786, 1984; AD 97:312–318, 1968*; diving suit folliculitis *JAAD 31:1055–1056, 1994;* hot tub folliculitis; swimming pool *Public Health Rep 96:246–249, 1981; AD 120:1304–1307, 1984;* following depilation *Ann Derm Venereol 123:268–270, 1996; Rev Infect Dis 5:1–8, 1983;* wet suit *Pseudomonas* dermatitis – pustules and papules *Ped Derm 458–459, 2003*

Pustular bacterid

Rat bite fever – acral hemorrhagic pustules *JAAD 38:330–332, 1998*

Rhinoscleroma *Ghatan p.16, 2002, Second Edition*

Rickettsial pox

*Salmonella* – veterinarians with nodules with central pustulation *Rook p.1143, 1998, Sixth Edition*

Scabies *Am J Dis Child 133:1031–1034, 1979*

*Schistosoma haematobium Am J Dermatopathol 16:442–446, 1994*

*Serratia* – eccrine hidradenitis (pustule) *JAAD 22:1119–1120, 1990*

Smallpox (variola) *JAAD 44:1–14, 2001*

Smallpox vaccination *Clin Inf Dis 37:241–250, 2003;* generalized vaccinia – umbilicated vesicopustules *Clin Inf Dis 37:251–271, 2003*

Sparganosis – linear migratory erythema with or without pustules

Sporotrichosis

Staphylococcal abscesses (furuncle), folliculitis *Rook p.1116, 1998, Sixth Edition*; periporitis of neonate *AD Syphilol 69:543–553, 1954;* chronic folliculitis of the legs of Indian males *Indian J DV 39:35–39, 1973*

Streptococcal disease – pustulosa acuta generalisata *BJD 133:135–139, 1995*

Streptococcal gangrene (necrotizing fasciitis), streptococcal pyoderma

Swimmer's itch

Sycosis barbae – deep staphylococcal folliculitis *Dermatol Wochenschr 152:153–167, 1966*

Syphilis – secondary; miliary pustular syphilid *J Clin Inf Dis 21:1361–1371, 1995; Cutis 34:556–558, 1984*; noduloulcerative secondary syphilis *AD 113:1027–1032, 1997; Sex Transm Dis 5:115–118, 1978;* congenital

Tinea – tinea corporis; tinea barbae – *Trichophyton verrucosum Clin Infect Dis 23:1308–1310, 1996;* tinea capitis *Int J Derm 33:255–257, 1994;* tinea capitis of adult females – pustular eruptions *JAAD 49:S177–179, 2003;* kerion *Mycoses 42:581–585, 1999;* tinea pedis *JAAD 42:132–133, 2000;* Trichophyton rubrum tinea pedis – plantar pustules *JAAD 42:132–133, 2000*

Tick larvae *J Dermatol 8:157–159, 1981*

Toxic shock syndrome, either streptococcal or staphylococcal – widespread macular erythema, scarlatiniform, and papulopustular eruptions; occasional vesicles and bullae; edema of hands and feet; mucosal erythema; second week morbilliform or urticarial eruption occurs with desquamation at 10–21 days *JAAD 39:383–398, 1998; Rev Infect Dis 11 (Suppl 1):S1–7, 1989; JAAD 8:343–347, 1983*

*Toxoplasma gondii AD 136:791–796, 2000*

*Trichosporon beigelii* – disseminated – papulopustular *AD 129:1020–1023, 1993*

*Tsukamurella paurometabolum J Clin Inf Dis 23:839–840, 1996*

Tufted folliculitis *BJD 138:799–805, 1998*

Tularemia – *Franciscella tularensis* (non-encapsulated Gram-negative coccobacillus); transmitted in tick feces; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; typhoidal, pneumonic, oropharyngeal, and gastrointestinal types; toxemic stage heralds macular, generalized morbilliform eruption, vesicular, pustular, nodular or plaque-like secondary eruption; erythema multiforme-like rash, crops of red nodules on extremities *JAAD 49:363–392, 2003; Cutis 54:279–286, 1994; Medicine 54:252–269, 1985;* vesiculopapular lesions of trunk and extremities *Tyring p.104, 2002; Cutis 54:279–286, 1994; Photodermatology 2:122–123, 1985*

Tumbu fly myiasis *AD 131:951, 1995*

Tungiasis – pustules of hand *Acta Dermatovenereol (Stockh) 76:495, 1996; Cutis 56:206–207, 1995*

Vaccinia *Tyring p.45–47, 2002; JAAD 44:1–14, 2001*

Varicella *Rook p.1017–1018, 1998, Sixth Edition*

Variola – papulovesiculopustule *Tyring p.3,42, 2002; Rook p.998, 1998, Sixth Edition*

Viral syndrome

*Yersinia enterocolitica*

Zygomycosis – red plaque with pustules *JAAD 30:904–908, 1994*

## INFILTRATIVE DISORDERS

Congenital self-healing histiocytosis (Hashimoto–Pritzker disease) – congenital crusted red or blue nodules, pustules *Ped Derm 18:41–44, 2001*

Langerhans cell histiocytosis – children; adults – follicular pustules in scalp and groin *JAAD 29:166–170, 1993;* vesicopustules *Curr Prob Derm 14:41–70, 2002; JAAD 13:481–496, 1985;* pustules, ulcers *Obstet Gynecol 67:46–49, 1986*

## INFLAMMATORY DISORDERS

Acute generalized exanthematous pustulosis – pustules, purpura, fever and rash – etiologies include multiple drugs, mercury, enterovirus, adenovirus, Epstein–Barr virus, cytomegalovirus, hepatitis B virus, mycoplasma pneumoniae *Ped Derm 17:399–402, 2000*

Crohn's disease – vesiculopustular lesions; palmoplantar pustulosis *JAAD 36:697–704, 1997;* pustular eruption *Ped Derm 13:127–130, 1996*

Dissecting cellulitis of the scalp (perifolliculitis capitis abscessus et suffodiens) *JAAD 53:1–37, 2005*

Erythema multiforme with subcorneal pustules

Folliculitis decalvans *JAAD 53:1–37, 2005; J Dermatol 28:329–331, 2001; JAAD 39:891–893, 1998*

Hidradenitis suppurativa *AD 133:967–970, 1997*

Malignant pyoderma – head and neck variant of pyoderma gangrenosum *Eur J Dermatol 11:595–596, 2001; AD 122:295–302, 1986*

Miliaria pustulosa *JAMA 148:1097–1100, 1952*

Neutrophilic eccrine hidradenitis *Ped Derm 6:33–38, 1989; AD 131:1141–1145, 1995; JAAD 38:1–17, 1998*

Pustulotic arthro-osteitis *Semin Musculoskelet Radiol 5:89–93, 2001;* pustular vasculitis with sternoclavicular hyperostosis *Dermatology 186:213–216, 1993*

Pyoderma gangrenosum – solitary pustule *Rook p.2187, 1998, Sixth Edition; JAAD 18:359–368, 1988;* pustular pyoderma gangrenosum with colitis in children *JAAD 15:608–614, 1986;* pyoderma gangrenosum, palmoplantar pustulosis, and chronic recurrent multifocal osteomyelitis *Ped Derm 15:435–438, 1998*

Pyoderma fistulans sinifica (fox den disease) *J Clin Inf Dis 21:162–170, 1995*

Pyoderma vegetans – crusted hyperplastic plaques, mimic blastomycosis; ulceration mimicking pyoderma gangrenosum; crusted red plaques with pustules *J Cutan Med Surg 5:223–227, 2001; BJD 144:1224–1227, 2001; J Derm 19:61–63, 1992; JAAD 20:691–693, 1989; J Derm Surg Onc 12:271–273, 1986;* with pyostomatitis vegetans *JAAD 46:107–110, 2002*; pustules on a plaque *JAAD 31:336–341, 1994*

Pyostomatitis vegetans *JAAD 50:785–788, 2004; Oral Surg Oral Med Oral Pathol 75:220–224, 1993; Gastroenterology 103:668–674, 1992; JAAD 21:381–387, 1989; AD 121:94–98, 1985*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – red plaque with pustules *JAAD 41:335–337, 1999;* pustules *JAAD 50:159–161, 2004*

Sarcoidosis – pustular folliculitis *AD 133:882–888, 1997*

Stevens–Johnson syndrome *Ped Derm 17:202–204, 2000*

Superficial granulomatous pyoderma *BJD 153:684–686, 2005; JAAD 18:511–521, 1988*

Ulcerative colitis – pustular vasculitis *Cutis 56:297–300, 1995;* vesicopustular eruption *AD 119:91–93, 1983; AD 114:1061–1064, 1978*

Vulvar pustulosis – associated with plantar pustulosis *Clin Exp Dermatol 13:344–346, 1988*

## METABOLIC

Acrodermatitis enteropathica

Hepatobiliary disease – vesiculopustular eruption *Int J Dermatol 36:837–844, 1997*

Miliaria pustulosa

Myeloperoxidase deficiency – pustular candidal dermatitis *J Clin Inf Dis 24:258–260, 1997*

Prolidase deficiency – papulopustular dermatitis, telangiectasias, chronic otitis media, sinusitis, splenomegaly *Ghatan p.202, 2002, Second Edition; J Ped 11:242, 1971*

Pruritic folliculitis of pregnancy *Am Fam Physician 39:189–193, 1989*

Vitamin A deficiency *JAAD 29:447–461, 1993*

Vitamin C deficiency *JAAD 29:447–461, 1993*

Zinc deficiency – papulopustular acneform eruption *Rook p.1953, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Epstein–Barr virus associated lymphoproliferative lesions – papulopustules *BJD 151:372–380, 2004*

Glucagonoma *JAAD 19:377, 1988*

IgA intraepidermal pustulosis with IgA myeloma *Dermatologica 181:261–263, 1990*

Leukemia – chronic lymphocytic leukemia – transient annular erythema with pustular folliculitis *BJD 150:1129–1135, 2004*

Leukemoid eruption, congenital *JAAD 35:330–333, 1996*

Lymphoma – cutaneous T-cell lymphoma *JAAD 46:325–357, 2002; Cutis 54:202–204, 1994; AD 93:221, 1966*; $CD30^+$ anaplastic large cell lymphoma *Am J Surg Pathol 23:244–246, 1999;* palmoplantar pustulosis *JAAD 23:758–759, 1990;* vesiculopustular palmoplantar keratoderma *AD 131:1052–1056, 1995;* lymphomatoid granulomatosis *AD 127:1693–1698, 1991;* erythrodermic CTCL with pustulosis *BJD 144:1073–1079, 2001*

Lymphomatoid papulosis *JAAD 27:627, 1992;* papulopustules *JAAD 38:877–905, 1998*

Nevus comedonicus, inflammatory – papulopustules *JAAD 38:834–836, 1998*

Polycythemia vera – disseminated pustular dermatosis *JAAD 18:1212, 1988*

Squamous syringometaplasia of the eccrine glands *AD 123:1202–1204, 1987*

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003;* in trisomy 21 or normal patients; periorbital vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

## PARANEOPLASTIC DISORDERS

Neutrophilic dermatosis associated with cutaneous T-cell lymphoma *AD 141:353–356, 2005*

## PHOTODERMATITIS

Acne aestivalis

Actinic superficial folliculitis *BJD 138:1070–1074, 1998; Clin Exp Dermatol 14:69–71, 1989; BJD 113:630–631, 1985*

Hydroa vacciniforme – pustules *Ped Derm 18:71–73, 2001*

## PRIMARY CUTANEOUS DISEASES

Acne keloidalis nuchae *JAAD 39:661, 1998; Dermatol Clin 6:387–395, 1988*

Acne necrotica miliaris *AD 132:1367–1370, 1996*

Acne neonatorum – neonatal *Malassezia furfur* pustulosis *AD 132:190–193, 1996*

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition; AD 134:679–683, 1998*

Acne vulgaris, pyoderma faciale, acne conglobata *J Derm 19:61–63, 1992*

Acrodermatitis continua of Hallopeau – palms and soles *BJD 135:644–646, 1996; JAAD 11:755–62, 1984*

Acropustulosis of infancy (infantile acropustulosis) – vesicopustules on palms, soles, sides of feet, dorsal aspects of hands, feet, fingers *Ped Derm 15:337–341, 1998; AD 132:1365–1366, 1368–1369, 1996; AD 122:1155–1160, 1986; Dermatologica 165:615–619, 1982; AD 115:831–833, 1979; AD 115:834–836, 1979*

Acute generalized exanthematous pustulosis – in children may be associated with viral infection or vaccinations *AD 140:1172–1173, 2004*

Acute palmoplantar pustulosis

Acute parapsoriasis (Mucha–Habermann disease) – mimicking varicella

Alopecia mucinosa *Derm 197:178–180, 1998*

Atopic dermatitis *Acta Derm Vener suppl 171:1–37, 1992*

Chronic recalcitrant pustular eruptions of the palms and soles

Darier's disease *J Derm 25:469–475, 1998*

Dermatitis repens

Dissecting cellulitis of the scalp (perifolliculitis capitis anscedens et suffodiens) *Minn Med 34:319–325, 1951; AD 23:503–518, 1931*

Disseminated and recurrent infundibulofolliculitis – occasional pustules *J Derm 25:51–53, 1998; AD 105:580–583, 1972*

Dyshidrosis with secondary infection

Elastosis perforans serpiginosa *J Derm 20:329–340, 1993*

Eosinophilic pustular folliculitis – red plaque with pustules *JAAD 51:S71–73, 2004; JAAD 46:S153–155, 2002;* sterile papules, pustules, and plaques of face, trunk, arms, palms, soles *JAAD 23:1012–1014, 1990; JAAD 14:469–474, 1986;* palmar pustulosis *Dermatology 185:276–280, 1992; AD 121:917–920, 1985;* eosinophilic pustular folliculitis of childhood – may see pustules on scalp, limbs, genitals, behind ears *JAAD 27:55–60, 1992; Ped Derm 8:189–193, 1991;* of infancy – mostly of scalp *Ped Derm 16:118–120, 1999; BJD 132:296–299, 1995*

Erosive pustular dermatosis of the scalp *AD 139:712–714, 2003; Dermatol Surg 27:766–767, 2001; JAAD 28:96–98, 1993; Hautarzt 43:576–579, 1992*

Granuloma annulare – follicular, pustular granuloma annulare *BJD 138:1075–1078, 1998;* pustular generalized granuloma annulare *BJD 149:866–868, 2003*

Hailey–Hailey disease *Australas J Dermatol 37:196–198, 1996; BJD 126:275–282, 1992; Arch Dermatol Syphilol 39:679–685, 1939*

Ichthyosiform erythroderma with generalized pustulosis *BJD 138:502–505, 1998*

Ichthyosis bullosa of Siemens

Impetigo herpetiformis (pustular psoriasis of pregnancy) – symmetrical and grouped lesions, starting in flexures (inguinocrural areas) *AD 136:1055–1060, 2000; AD 127:91–95, 1996; Acta Obstet Gynecol Scand 74:229–232, 1995; AD 118:103–105, 1982*

Infantile acropustulosis *Caputo p.14, 2000*

Keratosis pilaris *Ann Derm Vener 118:69–75, 1991*

Kyrle's disease *J Derm 20:329–340, 1993*

Lichen nitidus *Cutis 62:247–248, 1998*

Lichen planopilaris *JAAD 27:935–942, 1992*

Lichen spinulosus *Int J Derm 34:670–671, 1985*

Miliaria, including congenital miliaria crystallina *Cutis 47:103–106, 1991*

Ofuji's disease – pustulosis of the palms *Cutis 44:407–409, 1989*

Perioral dermatitis *Derm 195:235–238, 1997*

Pityriasis rosea *The Clinical Management of Itching; Parthenon; p.137, 2000; Rook p.1094, 1998, Sixth Edition*

Pityriasis rubra pilaris *BJD 133:990–993, 1995*

Pseudofolliculitis – barbae *Derm Surg 26:737–742, 2000; J Emerg Med 4:283–286, 1986;* pubis; of scalp *AD 113:328–329, 1977;* of nasal hairs *AD 117:368–369, 1981*

Psoriasis – pustular psoriasis (von Zumbusch) *Ped Derm 13:45–46, 1996; Dermatol Clin 13:757–770, 1995; Dermatol Clin 2:455–470, 1984;* psoriasis with pustules *Rook p.1641, 1998, Sixth Edition;* acropustulosis with destructive pustulation of nail unit *Rook p.2840, 1998, Sixth Edition;* annular pustular psoriasis *Ped Derm 19:19–25, 2002*; palmoplantar pustular psoriasis *Caputo p.12–13, 2000;* psoriasis with pustules

Pustular bacterid of Andrews *Hautarzt 44:221–224, 1993;* generalized pustular bacterid

Pustulosis vegetans *AD 120;1355–1359, 1984*

Scleredema of Buschke (pseudoscleroderma) – in diabetics, preceded by erythema or pustules *Clin Exp Dermatol 14:385–386, 1989*

Subcorneal pustular dermatosis of Sneddon–Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *BJD 144:1224–1227, 2001; J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998; BJD 68:385–394, 1956*; subcorneal pustular dermatosis associated with IgA paraproteinemia *JAAD 24:325–8, 1991*

Transient acantholytic dermatosis (Grover's disease) – pustular or vesiculopustular *JAAD 35:653–666, 1996*

### SYNDROMES

Behçet's disease – papulopustules seen more frequently in patients with arthritis *BJD 147:331–336, 2002; Ann Rheum Dis 60:1074–1076, 2001; JAAD 40:1–18, 1999; JAAD 41:540–545, 1999; NEJM 341:1284–1290, 1999; JAAD 19:767–779, 1988; JAAD 36:689–696, 1997*

Down's syndrome – with transient myeloproliferative disorder (leukemoid reactions) – neonatal pustules, vesicles, papulovesicles *Ped Derm 20:232–237, 2003*

Familial Mediterranean fever

Hereditary acrokeratotic poikiloderma – vesiculopustules of hands and feet at age 1–3 months which resolve *AD 103:409–422, 1971*

Incontinentia pigmenti *JAAD 47:169–187, 2002*

Jung's syndrome – atopic dermatitis, pyoderma, folliculitis, blepharitis *Lancet ii:185–187, 1983*

Kawasaki's disease – pustular, macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, erythema marginatum-like exanthems *Cutis 72:354–356, 2003; JAAD 39:383–398, 1998; Am J Dermatopathol 10:218–223, 1988; Hifubyo Shinryo* (*Japan*) *2:956–961, 1980*

Keratosis follicularis spinulosa decalvans – X-linked dominant and autosomal dominant; alopecia, xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, palmoplantar keratoderma *JAAD 53:1–37, 2005 Ped Derm 22:170–174, 2005*

Lipoid proteinosis – vesiculopustular periorbital eruption *JAAD 39:149–171, 1998; Ped Derm 14:22–25, 1997;* extrafacial pustules *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002*

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome – hemorrhagic pustular nodules *AD 138:361–365, 2002; JAAD 43:870–874, 2000; JAAD 32:192–198, 1995*

Pseudohypoaldosteronism type I – pustular miliaria, acneform eruptions, extensive scaling of the scalp *Ped Derm 19:317–319, 2002*

Reiter's syndrome – keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

SAPHO syndrome – pustulosis palmaris et plantaris with chronic recurrent multifocal osteomyelitis *JAAD 12:927–930, 1985;* palmoplantar pustulosis with sternoclavicular hyperostosis *Dtsch Med Wochenschr 124:114–118, 1999; Cutis 62:75–76, 1998; J Pediatr 93:227–231, 1978*

Sweet's sydrome – pustules and/or pustular plaques *Hautarzt 46:283–284, 1995; JAAD 16:458–462, 1987; AD 123:519–524, 1987; BJD 76:349–356, 1964;* neutrophilic pustulosis with CML – a unique form of Sweet's syndrome *Acta Haematol 88:154–157, 1992*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – palmar pustules, poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

### TOXINS

Arsenic – acute arsenic intoxication; initially morbilliform eruption with development of vesicles, pustules on red background; followed by generalized desquamation and palmoplantar lamellar desquamation *BJD 141:1106–1109, 1999*

Mercury intoxication – acute generalized exanthematous pustulosis *AD 139:1181–1183, 2003; JAAD 37:653–655, 1997; Contact Dermatitis 9:411–417, 1983;* pustular eruption *JAAD 43:81–90, 2000*

### TRAUMA

Chilblains – pustular chilblains (acrodermatitis pustulosa hiemalis) *Rook p.960–961, 1998, Sixth Edition*

Occlusion folliculitis – beneath adhesive dressings or plasters *Rook p.1117, 1998, Sixth Edition*

Physical or chemical trauma – folliculitis *Rook p.1117, 1998, Sixth Edition*

### VASCULAR DISEASES

Degos' disease – ulceropustular lesions *Ann DV 79:410–417, 1954*

Henoch–Schönlein purpura

Primary idiopathic cutaneous pustular vasculitis *JAAD 14:939–944, 1986*

Vasculitis – including leukocytoclastic vasculitis *AD 134:309–315, 1998;* pustular vasculitis – annular pustular plaques with central necrosis *Rook p.2167, 1998, Sixth Edition;* acral vesiculopustular lesions *Rook p.2179, 1998, Sixth Edition*

Venous insufficiency – erosive pustular dermatosis of the legs – in setting of chronic venous insufficiency *BJD 147:765–769, 2002*

Wegener's granulomatosis *JAAD 10:341–346, 1984*

## RED ELBOW

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – poison ivy; allergic contact dermatitis (dermal hypersensitivity) to titanium elbow implant

Dermatomyositis *JAAD 49:295–298, 2003*

Dermatitis herpetiformis

Linear scleroderma

Lupus erythematosus – systemic, discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Pemphigus foliaceus

Rheumatoid arthritis – intravascular or intralymphatic histiocytosis in rheumatoid arthritis; confluent papules over swollen elbows *JAAD 50:585–590, 2004*

Scleroderma – CREST syndrome with calcinosis cutis of elbows

Still's disease (juvenile rheumatoid arthritis)

### DRUGS

Drug eruption

### EXOGENOUS AGENTS

Foreign body reaction (granuloma) – orthopedic implants mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Ann DV 123:686–690, 1996*

### INFECTIONS AND INFESTATIONS

Erysipelas/cellulitis, including 'transplant elbow' *Rook p.1114, 1998, Sixth Edition*

Herpes simplex virus infection, disseminated

Human herpesvirus 8 – relapsing inflammatory syndrome; fever, lymphadenopathy, splenomegaly, edema, arthrosynovitis, exanthema of hands, wrists, and elbows *NEJM 353:156–163, 2005*

Leprosy – tuberculoid, erythema nodosum leprosum *JAAD 51:416–426, 2004*

Lyme disease

Meningococcus – periarticular erythema of chronic meningococcemia

*Mycobacterium haemophilum* cellulitis

*Mycobacterium marinum*

Olecranon bursitis – staphylococcal, sterile; *Scedosporium apiospermium* (asexual state of *Pseudallescheria boydii*) *Clin Inf Dis 34:398–399, 2002;* transplant elbow (*Staphylococcus aureus* bursitis)

Parvovirus B19

Scabies

Septic arthritis

Suppurative panniculitis

Tinea corporis

Toxoplasmosis

"Transplant elbow"

### INFLAMMATORY DISEASES

Erythema nodosum

Erythema multiforme

Erythema nodosum

Olecranon bursitis with or without psoriasis

Sarcoid

### METABOLIC DISEASES

$\alpha_1$-anti-trypsin panniculitis

Chronic obstructive pulmonary disease – frictional erythema of elbow

Gouty tophi

Necrolytic migratory erythema

Pruritic urticarial papules and plaques of pregnancy (PUPPP)

Zinc deficiency, acquired

### PHOTODERMATITIS

Actinic granuloma

### NEOPLASTIC DISEASE

Ruptured epidermoid cyst

Waldenström's macroglobulinemia – IgM storage papule

### PRIMARY CUTANEOUS DISEASES

Dyshidrosis

Epidermolysis bullosa – dominant dystrophic

Erythema elevatum diutinum *Cutis 34:41–43, 1984*

Granuloma annulare

Generalized essential telangiectasia

Papular prurigo (itchy red bump disease) (subacute prurigo)

Pityriasis rubra pilaris

Pruritic urticarial papules and plaques of pregnancy

Psoriasis

### SYNDROMES

Haim–Munk syndrome – autosomal recessive; mutation in cathepsin C gene (like Papillon–Lefevre syndrome); palmoplantar keratoderma, scaly red patches on elbows, knees, forearms, shins, atrophic nails, gingivitis with destruction of periodontium, onychogryphosis, arachnodactyly, recurrent pyogenic infections *BJD 152:353–356, 2005*

Keratosis linearis with ichthyosis congenita and sclerosing keratoderma (KLICK syndrome) *BJD 153:461, 2005; Acta DV (Stockh) 77:225–227, 1997; AD 125:103–106, 1989*

Lipoid proteinosis

Multicentric reticulohistiocytosis

Rothmund–Thomson syndrome

### TRAUMA

Frictional lichenoid dermatitis

Pressure

### VASCULAR

Cholesterol emboli

Lymphangiosarcoma in lymphedematous extremity

Wegener's granulomatosis – palisaded neutrophilic and granulomatous dermatitis *Cutis 70:37–38, 2002*

## RED FACE

***Clinics in Dermatology 11:189–328, 1993; See Erythrodermas***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – poison ivy; multiple causes; facial cosmetics *JAAD 49:S259–261, 2003; Clin Dermatol 11:289–295, 1993;* mango ingestion

Cholinergic urticaria

Dermatomyositis *AD 140:723–727, 2004; Rook p.2558–2560, 1998, Sixth Edition; Clin Dermatol 11:261–273, 1993*

Graft vs. host disease, chronic – begins with facial erythema then becomes lichenoid *Rook p.2517, 1998, Sixth Edition*

Lupus erythematosus – systemic, SCLE, tumid, discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; edematous, neonatal *Int J Dermatol 35:44–44, 1996; Clin Dermatol 11:253–260, 1993;* neonatal lupus *Ped Derm 22:240–242, 2005*

Pemphigus erythematosus

Pemphigus foliaceus

Pemphigus vulgaris *AD 141:680–682, 2005*

Scleroderma – progressive systemic sclerosis and linear scleroderma resembling heliotrope *JAAD 7:541–544, 1982; Ann Intern Med 80:273, 1974*

### DRUG-INDUCED

Cimetidine – seborrheic dermatitis-like eruption

Cisplatin – lighting up of actinic keratoses *JAAD 17:192–197, 1987*

Corticosteroid (topical) atrophy; steroid (topical) rosacea

Corticosteroid abuse and withdrawal *JAAD 41:435–442, 1999*

Cyclosporine, intravenous

Dactinomycin–dacarbazine–vincristine sulfate – lighting up of actinic keratoses *JAAD 17:192–197, 1987*

Deoxycoformycin – lighting up of actinic keratoses *JAAD 17:192–197, 1987*

Disulfiram

Doxorubicin – lighting up of actinic keratoses *JAAD 17:192–197, 1987*

EMLA

5-fluorouracil – topical or systemic *JAAD 17:192–197, 1987*

Fludarabine – lighting up of actinic keratoses *JAAD 17:192–197, 1987*

Hydroxyurea *JAAD 49:339–341, 2003*

Isotretinoin (Accutane)

Itraconazole – photodermatitis and retinoid-like dermatitis *J Eur Acad Dermatol Venereol 14:501–503, 2000*

Methyl-dopa – seborrheic dermatitis-like eruption

Penicillamine – seborrheic dermatitis-like eruption

Phototoxic drug eruption

Retinoids – topical, systemic

Rifampin overdosage in children

Vancomycin – red man syndrome *Pediatrics 86:572–580, 1990*

Voriconazole – photodermatitis and retinoid-like dermatitis *Ped Derm 21:675–678, 2004; Pediatr Infect Dis J 21:240–248, 2002; Clin Exp Dermatol 26:648–653, 2001*

## EXOGENOUS AGENTS

Alcohol-induced flushing, especially in Asians

Contact dermatitis – airborne, irritant, allergic

Sorbic acid – immediate non-allergic facial erythema from cosmetics – *Cutis 61:17, 1998; Cutis 40:395–397, 1987*

Tacrolimus and alcohol ingestion – facial flushing

## INFECTIONS

Chikungunya fever – flushed face *Tyring p.513, 2002*

Crimean–Congo hemorrhagic fever – flushing and edema of face and neck *Tyring p.425,440, 2002*

Demodicidosis

Eczema herpeticum *Tyring p.79, 2002*

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980*

Epstein–Barr virus – swollen erythema of face *BJD 143:1351–1353, 2000*

Erysipelas *Clin Dermatol 11:307–313, 1993; Rook p.1114, 1998, Sixth Edition*

*Fusarium* – of sinuses; malar erythema *JAAD 47:659–666, 2002*

Herpes zoster *Tyring p.127, 2002*

Leprosy – autoaggressive Hansen's disease *JAAD 17:1042–1046, 1987*

Lyme disease – malar erythema *NEJM 321:586–596, 1989; AD 120:1017–1021, 1984*; acrodermatitis chronica atrophicans *Dermatology 189:430–431, 1994*

Mucormycosis

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; plaque form – psoriasiform, irregular scarring, serpiginous margins *Rook p.1197, 1998, Sixth Edition; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Necrotizing fasciitis

Noma

Omsk hemorrhagic fever – hyperemia of face, upper body, and mucous membranes *Tyring p.488, 2002*

Parvovirus B19 infection – erythema infectiosum *Tyring p.297, 2002; Hum Pathol 31:488–497, 2000; J Clin Inf Dis 21:1424–1430, 1995*

Rift Valley fever – flushed face *Tyring p.444, 2002*

Rubella *Rook p.1084, 1998, Sixth Edition*

Rubeola

Scabies, crusted (Norwegian scabies) *Dermatology 197:306–308, 1998; AD 124:121–126, 1988*

Scarlet fever – *Streptococcus pyogenes*; scarlatiniform (sandpaper) rash, red face with perioral pallor; erythema marginatum *JAAD 39:383–398, 1998*

Staphylococcal scalded skin syndrome

*Streptococcus*, group B – facial cellulitis *Textbook of Neonatal Dermatology, p.189, 2001*

Tacaribe viruses – Argentinian, Bolivian and Venezuelan hemorrhagic fevers – erythema of face, neck and thorax with petechiae *Lancet 338:1033–1036, 1991; JAMA 273:194–196, 1994*

Tinea faciei *JAAD 29:119–120, 1993;* tinea incognito *J Dermatol 22:706–707, 1995*

Toxic shock syndrome, *Staphylococcus aureus*

Viral exanthems

Varicella

## INFILTRATIVE DISEASES

Lymphocytoma cutis

## INFLAMMATORY DISEASES

Rosai–Dorfman disease *BJD 149:672–674, 2003*

Sarcoid, erythrodermic

Stevens–Johnson syndrome

Toxic epidermal necrolysis

## METABOLIC DISEASES

Cushing's syndrome

Diabetes mellitus – diabetic rubor *Dermatol Clin 7:531–546, 1989*

Exercise-induced erythema

Flushing (see section on flushing, p.227)

Hyperthyroidism – flushing of face *JAAD 26:885–902, 1992*

Miliaria rubra

Polycythemia vera

Porphyria – congenital erythropoietic porphyria (Gunther's disease), erythropoietic protoporphyria

## NEOPLASTIC DISEASES

Atrial myxoma – malar flush with erythema and cyanosis of digit – *Br M J 36:839–840, 1974*

Breast cancer – metastatic telangiectatic breast carcinoma *JAAD 48:635–636, 2003*

Carcinoid syndrome

Intranasal carcinoma – mimics rosacea

Leukemia – mimicking viral exanthem *J Dermatol 26:216–219, 1999;* juvenile chronic myelogenous leukemia – eczematous dermatitis *JAAD 26:620–628, 1992*

Lymphoma – cutaneous T-cell, B-cell, HTLV-1 lymphoma *Clin Dermatol 11:319–328, 1993*

Melanoma – amelanotic lentigo maligna – red patch of cheek *JAAD 50:792–796, 2004*

Pancreatic tumor with ectopic secretion of luteinizing hormone *J Endocrinol Invest 27:361–365, 2004*

## PARANEOPLASTIC DISORDERS

Carcinoid syndrome – persistent erythema with or without telangiectasia *Rook p.2717, 1998, Sixth Edition*

Sweet's syndrome, bullous

## PHOTOSENSITIVITY DISORDERS

Actinic prurigo – eczematous dermatitis *JAAD 26:683–692, 1992*

Chronic actinic dermatitis, including actinic reticuloid *Clin Dermatol 11:297–305, 1993*

Dermatoheliosis

Hydroa vacciniforme – initial erythema and edema *Ped Derm 18:71–73, 2001*

Photocontact dermatitis *Clin Dermatol 11:289–295, 1993*

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Acne rosacea

Acne vulgaris

Atopic dermatitis *Rook p.695–696, 1998, Sixth Edition*

Dowling–Degos disease

Eosinophilic pustular folliculitis *AD 121:917–920, 1985*

Erythrokeratoderma variabilis *BJD 152:1143–1148, 2005*

Erythromelanosis follicularis faciei et colli *Cutis 51:91–92, 1992; JAAD 5:533–534, 1981*

Erythrose peribuccale pigmentaire

Granulosis rubra nasi

Keratosis pilaris faciei including ulerythema ophyrogenes

Keratosis rubra pilaris *BJD 147:822–824, 2002*

Lichen planus – facial erythema of actinic lichen planus *BJD 1032–1034, 2002*

Papuloerythroderma of Ofuji

Pityriasis folliculorum – red patch *JAAD 21:81–84, 1989*

Pseudochromhidrosis *BJD 142:1219–1220, 2000*

Psoriasis

Symmetric progressive erythrokeratoderma (Gottron's syndrome) – autosomal dominant; large fixed geographic symmetric scaly red–orange plaques; shoulders, cheeks, buttocks, ankles, wrists *AD 122:434–440, 1986; Dermatologica 164:133–141, 1982*

Seborrheic dermatitis *Am J Clin Dermatol 1:75–80, 2000*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Amyoplasia congenita disruptive sequence – mid-facial macular telangiectatic nevi *Am J Med Genet 15:571–590, 1983*

Beckwith–Wiedemann syndrome (Exomphalos–Macroglossia–Gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Bregeat's syndrome (oculo-orbital-thalamoencephalic angiomatosis) – port wine stain of forehead and scalp with contralateral angiomatosis of the eye (subconjunctival masses around the limbus) and orbit (resulting in exophthalmos), and thalamoencephalic angiomatosis of the choroid plexus *Bull Soc Fr Ophthalmol 71:581–594, 1958*

Bloom's syndrome *JAAD 17:479–488, 1987*

Coats' disease – cutaneous telangiectasia or unilateral macular telangiectatic nevus with retinal telangiectasia *AD 108:413–415, 1973*

Glabellar port wine stain, mega cisterna magna, communicating hydrocephalus, posterior cerebellar vermis agenesis; autosomal dominant *J Neurosurg 51:862–865, 1979*

Haber's syndrome *JAAD 40:462–467, 1999*

Hereditary neurocutaneous angioma – autosomal dominant; port wine stains with localized CNS vascular malformations *J Med Genet 16:443–447, 1979*

Incontinentia pigmenti – facial erythema preceding blisters in Blaschko distribution *AD 139:1163–1170, 2003*

Kawasaki's disease

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Ped Derm 18:403–405, 2001; BJD 144:885–889, 2001*; *JAAD 36:342–346, 1997; Am J Surg Pathol 14:872–876, 1990*

Lethal multiple pterygium syndrome – mid-facial macular telangiectatic nevi *Am J Med Genet 12:377–409, 1982*

MARSH syndrome *Clin Exp Dermatol 24:42–47, 1999*

Netherton's syndrome *AD 140:1275–1280, 2004;* facial erythema (especially perioral) and peeling *AD 122:1420–1424, 1986*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis; type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus *J Dermatol 26:834–836, 1999; AD 121:651–653, 1985*

Prader–Willi syndrome *Lancet 345:1590, 1995*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Reiter's syndrome

Robert's syndrome (hypomelia–hypotrichosis–facial hemangioma syndrome) – autosomal recessive; mid-facial port wine stain extending from forehead to nose and philtrum, cleft lip with or without cleft palate, sparse silver-blond hair, limb reduction malformation, characteristic facies, malformed ears with hypoplastic lobules, marked growth retardation *Clin Genet 31:170–177, 1987; Clin Genet 5:1–16, 1974*

Rombo syndrome – perioral cyanotic erythema

Rothmund–Thompson syndrome *JAAD 27:750–762, 1992*

Rubinstein–Taybi syndrome – port wine stain of forehead *Rook p.581, 1998, Sixth Edition*

Sturge–Weber syndrome (encephalofacial angiomatosis) – facial port wine stain with homolateral leptomeningeal angiomatosis *Pediatrics 76:48–51, 1985*

Sweet's syndrome

Trisomy 13 – ACC of scalp with holoprosencephaly, eye anomalies, cleft lip and/or palate, polydactyly, port wine stain of forehead *Rook p.581, 1998, Sixth Edition; J Med Genet 5:227–252, 1968; Am J Dis Child 112:502–517, 1966*

Thrombocytopenia–absent radii (TAR) syndrome – congenital thrombocytopenia, bilateral absent or hypoplastic radii, port wine stain of head and neck *AD 126:1520–1521, 1990; Am J Pediatr Hematol Oncol 10:51–64, 1988*

Wyburn–Mason (Bonnet–Duchaume–Blanc) syndrome – unilateral salmon patch with punctate telangiectasias or port wine stain; unilateral retinal arteriovenous malformation, ipsilateral aneurysmal arteriovenous malformation of the brain *Am J Ophthalmol 75:224–291, 1973*

Xeroderma pigmentosum

### TOXINS

Acrodynia (pink disease) – mercury poisoning; red cheeks and nose *Ped Derm 21:254–259, 2004; AD 124:107–109, 1988*

Dioxin exposure – *JAAD 19:812–819, 1988*

Mustard gas exposure – sunburn-like erythema *JAAD 19:529–536, 1988*

Scombroid fish poisoning

Self-defense sprays *Ann DV 114:1211–1216, 1987*

### TRAUMA

Airbag dermatitis – bizarre shapes of erythema, resembling factitial dermatitis *JAAD 33:824–825, 1995*

Burns – thermal, ultraviolet, X-ray, laser

Changes in temperature

Cold panniculitis in children *Burns Incl Therm Inj 14:51–52, 1988*

Dermabrasion

Erythema ab igne

Frostbite

Neonatal cold injury – facial erythema or cyanosis; firm pitting edema of extremities spreads centrally; skin is cold; mortality of 25% *Rook p.482, 1998, Sixth Edition; Br Med J 1:303–309, 1960*

Physical trauma

Popsicle panniculitis

Sunburn

### VASCULAR DISEASES

Angiosarcoma of the face – resembles rosacea *JAAD 38:837–840, 1998*

Cutis marmorata telangiectatica congenita – hyperemic face *BJD 137:119–122, 1997; JAAD 20:1098–1104, 1989; AD 118:895–899, 1982; Am J Dis Child 112:72–75, 1966*

Port wine stain

Salmon patch (nevus simplex) ('stork bite') – pink macules with fine telangiectasias of the nape of the neck, glabella, forehead upper eyelids, tip of nose, upper lip, midline lumbosacral area *Ped Derm 6:185–187, 1989; Ped Derm 73:31–33, 1983*

Superior vena cava syndrome

## RED FEET

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Caputo p.8, 2000*

Bullous pemphigoid

Dermatomyositis

Goodpasture's syndrome (annular erythematous macules) *AD 121:1442–1444, 1985*

Graft vs. host reaction

Lupus erythematosus – systemic; reticulated telangiectatic erythema of thenar and hypothenar eminences, finger pulps, toes, lateral feet, and heels; bluish red with small white scars *Rook p.2473, 1998, Sixth Edition;* discoid lupus erythematosus *JAAD 45:142–144, 2001*

Pemphigus erythematosus

Rheumatoid arthritis

Rheumatoid neutrophilic dermatitis

Serum sickness *Tyring p.369, 2002*

Vasculitis

### CONGENITAL ANOMALIES

Acrocyanosis *Eichenfeld p.99, 2001*

Syringomyelia

### DEGENERATIVE DISEASES

Neurotrophic erythema

Thermally induced cutaneous vasodilatation in aging *J Gerontol 48:M53–57, 1993*

### DRUG-INDUCED

Capecytabine (Xeloda) – acral dysesthesia syndrome

Cyclophosphamide and vincristine – acral erythema of proximal nail fold and onychodermal band *Cutis 52:43–44, 1993*

Bromocriptine ingestion mimicking erythromelalgia *Neurology 31:1368–1370, 1981*

Chemotherapy-induced acral dysesthesia syndrome (palmoplantar erythrodysesthesia syndrome) *AD 131:202–206, 1995; JAAD 24:457–461, 1991; AD 122:1023–1027, 1986*

Chemotherapy-induced Raynaud's phenomenon *Ann Intern Med 95:288–292, 1981*

Coumadin purple toe syndrome

Dilantin hypersensitivity syndrome

Docataxel

Erythromelalgia, drug-induced – erythema and edema of feet; nifedipine, pergolide, bromocriptine, felodipine, nicardipine *Cutis 75:37–40, 2005*

Felodipine – erythromelalgia *Cutis 75:37–40, 2005*

Hydroxyurea – dermatomyositis-like lesions associated with long-term hydroxyurea administration *JAAD 21:797–799, 1989*

Morbilliform or scarletiniform drug eruptions

Necrotizing eccrine squamous syringometaplasia *J Cut Pathol 18:453–456, 1991*

Nicardipine – erythromelalgia *Cutis 75:37–40, 2005*

Nifedipine – erythromelalgia *Cutis 75:37–40, 2005*

Pergolide – erythromelalgia *Cutis 75:37–40, 2005*

Verapamil – erythromelalgia *BJD 127:292–294, 1992*

## EXOGENOUS AGENTS

Irritant contact dermatitis

Sea urchin spine injury *Harefuah 118:639–640, 1990*

## INFECTIONS AND INFESTATIONS

AIDS – acute HIV infection – acral erythema *Cutis 40:171–175, 1987*

Cellulitis

Erysipelas – bullous erysipelas

Leprosy

Lyme disease

Painful plaque-like pitted keratolysis *Ped Derm 9251–254, 1992*

Papular–purpuric gloves and socks syndrome (parvovirus B19) *Tyring p.300, 2002; Caputo p.159, 2000*

Scopulariopsis *Dermatology 193:149–151, 1996*

Septic emboli

Syphilis – secondary

Tinea pedis, moccasin type *Caputo p.148, 2000*

Vibrio vulnificus – edema, erythema, and purpura of ankles *BJD 145:280–284, 2001*

## INFILTRATIVE DISORDERS

Mastocytosis – diffuse infiltrative mastocytosis (xanthelasmoidea)

## INFLAMMATORY DISEASES

Angioedema

Erythema multiforme

Erythema nodosum *JAAD 29:284, 1993; AD 129:1064–1065, 1993*

Hashimoto–Pritzker Langerhans cell histiocytosis – urticating lesions *Ped Derm 18:41–44, 2001*

Lipoatrophic panniculitis *AD 123:1662–1666, 1987*

Neutrophilic eccrine hidradenitis, including recurrent palmoplantar hidradenitis in children *AD 131:817–820, 1995*

## METABOLIC DISEASES

Cold agglutinins

Cryofibrinogenemia

Cryoglobulinemia

Diabetes mellitus – erysipelas-like erythema of legs or feet *Acta Med Scand 196:333–342, 1974*

Gout – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Hyperestrogenic states – liver disease, exogenous estrogens

Hyperthyroidism

Neuropathy-associated acral paresthesia and vasodilatation

Nutritional melalgia – nutritional deficiency associated with anorexia nervosa *AD 140:521–524, 2004*

Pellagra *Int J Dermatol 37:599, 1998*

Porphyria – congenital erythropoietic porphyria

Waldenström's macroglobulinemia

## NEOPLASTIC DISEASES

Atrial myxoma *Br Heart J 36:839–840, 1974*

Essential thrombocythemia – acral ischemia with lividity

Inflammatory carcinoma *JAAD 31:689–690, 1994*

Kaposi's sarcoma

Leukemia – acral livedo with leukostasis in chronic myelogenous leukemia *AD 123:921–924, 1987*

Plantar fibromatosis *JAAD 12:212–214, 1985*

Polycythemia vera – acral ischemia with lividity

## PARANEOPLASTIC DISEASES

Acrokeratosis paraneoplastica (Bazex syndrome) *Hautarzt 43:496–499, 1992*

Erythromelalgia associated with thrombocythemia *JAAD 24:59–63, 1991*

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis chronica atrophicans – mimicking peripheral vascular disorder *Acta Med Scand 220:485–488, 1986*

Acrodermatitis continua of Hallopeau *Dtsch Med Wochenschr 123:386–390, 1998*

Atopic hand and foot dermatitis

Cutis laxa – acral localized acquired cutis laxa *JAAD 21:33–40, 1989*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997*

Erythema elevatum diutinum

Erythroderma

Erythrokeratoderma variabilis

Erythrokeratolysis hiemalis (Oudtshoorn disease) (keratolytic winter erythema) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Familial acral erythema *AD 95:483–486, 1967*

Greither's palmoplantar keratoderma (transgrediens et progrediens palmoplantar keratoderma) – red hands and feet;

hyperkeratoses extending over Achilles tendon, backs of hands, elbows, knees; livid erythema at margins *Ped Derm 20:272–275, 2003; Cutis 65:141–145, 2000*

Follicular mucinosis, erythrodermic

Granuloma annulare, generalized *JAAD 20:39–47, 1989*

Juvenile plantar dermatosis *Clin Exp Dermatol 11:529–534, 1986; Semin Dermatol 1:67–75, 1982; Clin Exp Dermatol 1:253–260, 1976*

Lamellar ichthyosis

Lichen planus

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Pityriasis rubra pilaris

Progressive symmetric erythrokeratoderma

Psoriasis, including pustular psoriasis *Caputo p.11–13, 2000*

Symmetrical lividity of the soles *Int J Dermatol 17:739–744, 1978; BJD 37:123–125, 1925*

### SYNDROMES

Acrogeria *J Dermatol 20:572–576, 1993*

Antiphospholipid antibody syndrome

Familial Mediterranean fever – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Isr Med Assoc J 1:31–36, 1999; Q J Med 75:607–616, 1990*

Goodpasture's syndrome – annular erythematous macules on instep – *AD 121:1442–4, 1985*

Hereditary lactatate dehydrogenase M-subunit deficiency – annually recurring acroerythema *JAAD 27:262–263, 1992*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – palmoplantar erythema; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Ped Derm 12:195, 1995; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Kawasaki's disease

Klippel–Trenaunay–Weber syndrome

Netherton's syndrome

Reflex sympathetic dystrophy

Schopf–Schulz–Passarge syndrome – psoriasiform plantar dermatitis (palmoplantar keratoderma); eyelid cysts (apocrine hidrocystomas), hypotrichosis, decreased number of teeth, brittle and furrowed nails *AD 140:231–236, 2004; BJD 127:33–35, 1992; JAAD 10:922–925, 1984; Birth Defects XII:219–221, 1971*

Scleroatrophic syndrome of Huriez – red hands and feet early in disease *Ped Derm 15:207–209, 1998*

Sweet's syndrome

Wells' syndrome – red plaques of soles *Cutis 72:209–212, 2003*

### TOXINS

Ciguatera fish poisoning *Dtsch Med Wochenschr 126:812–814, 2001*

Eosinophilia myalgia syndrome *JAAD 23:1063–1069, 1990*

Mercury – infantile acrodynia (erythema with or without exfoliation) *AD 124:107–109, 1988*

### TRAUMA

Chilblains *JAAD 23:257–262, 1990; AD 117:26–28, 1981*

Delayed pressure urticaria

Frostbite, recovery phase

Heat exposure

Long-distance running

Reflex sympathetic dystrophy (causalgia), stage 1 *JAAD 22:513–520, 1990*

Thermal burn

Traumatic plantar urticaria (delayed pressure urticaria) *JAAD 18:144–146, 1988*

Vibratory urticaria

### VASCULAR

Acquired progressive lymphangioma – plantar red plaques *JAAD 49:S250–251, 2003*

Acral ischemia with lividity in polycythemia vera or essential thrombocythemia

Acrocyanosis with atrophy *AD 124:263–268, 1988*

Angiodyskinesia – dependent erythema after prolonged exercise or idiopathic *Surgery 61:880–890, 1967*

Arteriosclerotic peripheral vascular disease (arterial insufficiency, arteriosclerosis obliterans) – dependent erythema of the dorsum of the foot (Buerger's sign) *JAAD 50:456–460, 2004; Caputo p.186, 2000; Rook p.2231, 1998, Sixth Edition*

Cholesterol emboli

Endocarditis

Erythrocyanosis

Erythromelalgia *BJD 153:174–177, 2005; AD 139:1337–1343, 2003; JAAD 43:841–847, 2000; AD 136:330–336, 2000*

Fat emboli

Generalized essential telangiectasia

Hemangiomatosis *Acta DV 66:449–451, 1986*

Klippel–Trenaunay–Weber syndrome *Caputo p.60, 2000*

Nevus flammeus

Polyarteritis nodosa *AD 130:884–889, 1994*

Progressive ascending telangiectasia

Raynaud's disease or phenomenon – hyperperfusion phase

Thromboangiitis obliterans

Vascular malformation

Vasculitis, leukocytoclastic

Venous congestion, acute

Venous gangrene – erythema *AD 123:933–936, 1987*

Venous stasis

Wegener's granulomatosis *AD 130:861–867, 1994*

## RED NOSE

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Dermatomyositis

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; subacute cutaneous LE, systemic lupus – facial erythema and telangiectasia; nasal chondritis *Clin Exp Rheumatol 5:349–353, 1987*

Pemphigus, multiple types *JAAD 47:875–880, 2002*

Urticaria

## CONGENITAL DISEASES

Nevus simplex (capillary ectasias) – glabella, eyelids, nose, upper lip, nape of neck *Eichenfeld p.100, 2001*

## DRUG-INDUCED

Corticosteroids – topical corticosteroid-induced telangiectasia and atrophy

Tetracycline and doxycycline photosensitivity

## EXOGENOUS AGENTS

Irritant contact dermatitis

## INFECTIONS AND INFESTATIONS

Actinomycosis – indurated red nose *JAAD 38:310–313, 1998*

AIDS – seborrheic dermatitis

Aspergillosis *Oral Surg Oral Med Oral Pathol 59:499–504, 1985*

Candidiasis – chronic mucocutaneous candidiasis

Cat scratch disease

Cryptococcosis – indurated red nose *JAAD 38:310–313, 1998*

Erysipelas/cellulitis *Rook p.1114, 1998, Sixth Edition*

*Fusarium* – of sinuses; nasal erythema with conjunctivitis *JAAD 47:659–666, 2002*

Herpes simplex virus infection *Tyring p.312, 2002*

Herpes zoster

Histoplasmosis – indurated red nose *JAAD 38:310–313, 1998*

Leishmaniasis – indurated red nose *JAAD 38:310–313, 1998*

Leprosy – indeterminate – red macules *Rook p.1222, 1998, Sixth Edition;* lepromatous leprosy *Rook p.1224, 1998, Sixth Edition;* indurated red nose *JAAD 38:310–313, 1998*

*Mycobacterium tuberculosis* – lupus vulgaris with indurated red nose *JAAD 38:310–313, 1998*

North American blastomycosis – indurated red nose *JAAD 38:310–313, 1998*; red plaque with pustules *JAAD 53:740–741, 2005*

Paracoccidiodomycosis – indurated red nose *JAAD 38:310–313, 1998*

Rhinoscleroma – indurated red nose *JAAD 38:310–313, 1998; Cutis 40:101–103, 1987*

Sporotrichosis – indurated red nose *JAAD 38:310–313, 1998*

*Staphylococcus aureus* – nasal carriage with intranasal folliculitis or vestibulitis

Syphilis – indurated red nose *JAAD 38:310–313, 1998*

Tinea faciei – tinea incognito, treated with topical corticosteroids

Varicella – with or without secondary Staphylococcal infection

## INFILTRATIVE DISEASES

Amyloidosis, including nodular amyloidosis *J Cut Med Surg 5:101–104, 2001*

Hereditary progressive mucinous histiocytosis *JAAD 35:298–303, 1996*

Histiocytosis – non-Langerhans cell histiocytosis *JAAD 30:367–370, 1994*

Jessner's lymphocytic infiltrate

Lichen myxedematosus

Lymphocytoma cutis

## INFLAMMATORY DISEASES

Rosai–Dorfman disease (sinus histiocytosis with lymphadenopathy) *BJD 134:749–753, 1996*

Sarcoidosis – lupus pernio – indurated red nose *JAAD 38:310–313, 1998*

## METABOLIC DISEASES

Flushing

Porphyria – porphyria cutanea tarda, erythropoietic protoporphyria, congenital erythropoietic porphyria, variegate porphyria

Pregnancy

## NEOPLASTIC DISEASES

Aggressive intranasal carcinoma – edema and erythema *Cutis 42:288–293, 1988*

Angiofibroma

Angiosarcoma – indurated red nose *JAAD 38:310–313, 1998; JAAD 38:837–840, 1998*

Basal cell carcinoma mimicking rhinophyma – indurated red nose *JAAD 38:310–313, 1998*

Carcinoid syndrome

Epithelioid sarcoma *J Cutan Pathol 27:186–190, 2000*

Kaposi's sarcoma *Tyring p.376, 2002*

Keratoacanthoma

Leukemia

Lymphoma – indurated red nose *JAAD 38:310–313, 1998;* malignant lymphoma of the nasal cavity *Acta Pathol Jpn 42:333–338, 1992;* cutaneous T-cell lymphoma; nasal lymphoma *JAAD 38:310–313, 1998*

Merkel cell tumor

Metastatic carcinoma – cervical carcinoma *Dermatology 199:171–173, 1999;* indurated red nose *JAAD 38:310–313, 1998*

Nasal septal carcinoma – mimicking rosacea *J Derm Surg 13:1021–1024, 1987*

Sebaceous carcinoma – indurated red nose *JAAD 38:310–313, 1998*

Squamous cell carcinoma – indurated red nose *JAAD 38:310–313, 1998*

## PARANEOPLASTIC DISORDERS

Bazex syndrome (acrokeratosis paraneoplastica) *AD 141:389–394, 2005*

## PHOTODERMATOSES

Actinic prurigo

Chronic actinic damage

Chronic actinic dermatitis

Polymorphic light eruption

### PRIMARY CUTANEOUS DISEASES

Acne vulgaris

Acne rosacea, including granulomatous rosacea – indurated red nose *JAAD 38:310–313, 1998*

Granuloma faciale

Granulosis rubra nasi *Ann DV 123:106–108, 1996; G Ital DV 125:275–276, 1990; Derm Z 71:79–84, 1935*

Lichen simplex chronicus

Perioral dermatitis

Psoriasis

Rhinophyma – indurated red nose *JAAD 38:310–313, 1998*

Seborrheic dermatitis

### SYNDROMES

Amyoplasia congenita disruptive sequence – mid-facial macular telangiectatic nevi *Am J Med Genet 15:571–590, 1983*

Beckwith–Wiedemann syndrome (exomphalos–macroglossia–gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Bloom's syndrome

Bonnet–Dechaume–Blanc syndrome – midfacial arteriovenous malformation *Textbook of Neonatal Dermatology, p.329, 2001*

Cornelia de Lange syndrome – specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, cutis marmorata, skin around eyes and nose with bluish tinge, red nose *Ped Derm 19:42–45, 2002; Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*

Lethal multiple pterygium syndrome – mid-facial macular telangiectatic nevi *Am J Med Genet 12:377–409, 1982*

Lipoid proteinosis *Ped Derm 9:264–267, 1992*

Multicentric reticulohistiocytosis

Robert's syndrome (hypomelia–hypotrichosis–facial hemangioma syndrome) – autosomal recessive; mid-facial port wine stain extending from forehead to nose and philtrum, cleft lip +/– cleft palate, sparse silver-blond hair, limb reduction malformation, characteristic facies, malformed ears with hypoplastic lobules, marked growth retardation *Clin Genet 5:1–16, 1974; Clin Genet 31:170–177, 1987*

Sjögren's syndrome – erythema of nose and cheeks *Rook p.2572, 1998, Sixth Edition*

Sphenopalatine syndrome – chronic and intermittent edema of face with unilateral lacrimation, rhinitis, erythema of the bridge of the nose *Rook p.2782, 1998, Sixth Edition*

Trichorhinophalangeal syndrome (bulbous nose) *Ped Derm 10:385–387, 1993*

Tuberous sclerosis – adenoma sebaceum *Plast Reconstruct Surg 70:91–93, 1981*

### TOXIC

Acrodynia (mercury) *AD 124:107–109, 1988*

### TRAUMA

Cold-induced injury – indurated red nose *JAAD 38:310–313, 1998*

Factitial dermatitis

Postrhinoplasty *Plast Recontr Surg 67:661–664, 1981*

Pseudorhinophyma – eyeglass frames restricting superficial venous and lymphatic drainage from nose *Skin and Allergy News, p.42, November 2001*

### VASCULAR

Angioendotheliosarcoma *Acta DV64:88–90, 1984*

Angiomatous nevus

Arteriovenous and cavernous angioma *Dtsch Med Wochenschr 116:416–420, 1991*

Hemangioma

Progressive ascending telangiectasia

Salmon patch (nevus simplex) ('stork bite') – pink macules with fine telangiectasias of the nape of the neck, glabella, forehead, upper eyelids, tip of nose, upper lip, midline lumbosacral area *Ped Derm 73:31–33, 1983*

Sturge–Weber syndrome

Symmetric peripheral gangrene

Vascular malformation

Wegener's granulomatosis – indurated red nose *JAAD 38:310–313, 1998*

## RED PATCH

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*; painful oral erythema due to 2-hydroxyethyl methacrylate *Australas J Dermatol 42:203–206, 2001*

Arthus reaction – erythema, edema, hemorrhage, occasional necrosis *Rook p.3364, 1998, Sixth Edition*

Dermatitis herpetiformis *Rook p.1890, Sixth Edition;* oral erythema *Oral Surg 62:77–80, 1986*

Dermatomyositis – over scalp, face, arms, thighs, trunk *Rook p.2558–2560, 1998, Sixth Edition*

Flavorings (cinnamic aldehyde) – oral erythema *QJM 93:507–511, 2000*

Food additives (benzoic acid) – oral erythema *QJM 93:507–511, 2000*

Graft vs. host disease – acute – oral erythema *Rook p.3081, 1998, Sixth Edition;* chronic – erythema *Rook p.2517, 1998, Sixth Edition*

Lupus erythematosus – systemic lupus erythematosus *BJD 135:355–362, 1996;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005;* intraoral red patch of hard palate; red oral mucosa *BJD 144:1219–1223, 2001; Rook p.3057, 1998, Sixth Edition; Int J Oral Surg 13:101–147, 1984;* follicular erythema and petechiae of SLE *BJD 147:157–159, 2002;* lupus profundus *Ann Intern Med 142:47–55, 2005*

Morphea, early *Ann Intern Med 142:47–55, 2005;* resembles macular vascular nevus *Rook p.2509, 1998, Sixth Edition;* superficial morphea *JAAD 51:S84–86, 2004*

Pemphigus foliaceus of children *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986*

Still's disease – salmon-pink urticaria-like macular lesions *JAAD 50:813–814, 2004*

Urticaria *Rook p.2116–2117, 1998, Sixth Edition;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

## CONGENITAL DISEASES

Erythema toxicum neonatorum *Eichenfeld p.92, 2001*

Harlequin color change – neonatal vasomotor instability; occurs days 2–5 lasting 30 seconds to 20 minutes; increased prostaglandin E1; *Ped Derm 21:573–576, 2004; Eichenfeld p.97, 2001; Lancet 263:1005–1007, 1952*

Nevus simplex (capillary ectasias) – glabella, eyelids, nose, upper lip, nape of neck *Eichenfeld p.100, 2001*

Spinal dysraphism with overlying port wine stain *AD 114:573–577, 1978; AD 112:1724–1728, 1976*

## DEGENERATIVE DISEASES

Sympathetic nerve dystrophy – erythema *Rook p.2780, 1998, Sixth Edition*

## DRUGS

Colchicine *BJD 150:581–588, 2004*

Docataxel radiation recall reaction *BJD 153:674–675, 2005*

Fixed drug eruption – mimicking cellulitis *NEJM 350:904–912, 2004*

Injection site reactions *JAAD 49:826–831, 2003*

Prostacyclin (epoprostenol) – diffuse erythema with or without mottling, exfoliation, or palpable purpura *JAAD 51:98–102, 2004*

Retinoid dermatitis

## EXOGENOUS AGENTS

Foreign body reaction (granuloma) – orthopedic implants mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Ann DV 123:686–690, 1996*

Injection of ricin – infectious and toxic cellulitis *BJD 150:154, 2004*

Irritant contact dermatitis *The Clinical Management of Itching; Parthenon; p.79, 2000*

## INFECTIONS AND INFESTATIONS

Acanthamebiasis in AIDS *AD 131:1291–1296, 1995*

Acinetobacter calcoaceticus – cellulitis *Medicine 56:79–97, 1977*

*Aeromonas hydrophila* – cellulitis complicating injuries in fresh water or soil *NEJM 350:904–912, 2004; Clin Inf Dis 19:77–83, 1994; Clin Inf Dis 16:79–84, 1993*

Anaerobic myonecrosis – gas gangrene; *Clostridium perfringens*, septicum *NEJM 350:904–912, 2004*

Anthrax – confused with cellulitis *NEJM 350:904–912, 2004*

Aspergillosis – primary cutaneous aspergillosis in premature infants; red patch with pustules *Ped Derm 19:439–444, 2002*

Bacillary angiomatosis – intraoral red patch *Rook p.3057, 1998, Sixth Edition*

Candidiasis – intraoral red patch *Rook p.3057,3107, 1998, Sixth Edition*

Cellulitis *NEJM 350:904–912, 2004; Rook p.2293, 1998, Sixth Edition*
- Periorbital cellulitis – *Staphylococcus aureus*, pneumococcus, group A streptococcus
- Buccal cellulitis – *Haemophilus influenzae*
- Cellulitis complicating body piercing – *Staphylococcus aureus*, group A streptococcus
- Mastectomy – non-group A hemolytic streptococcus
- Lumpectomy – non-group A hemolytic streptococcus
- Harvest of saphenous vein for coronary artery bypass – group A or non-group A hemolytic streptococcus
- Liposuction – group A streptococcus, peptostreptococcus
- Postoperative (very early) wound infection – group A streptococcus
- Injection drug user – *Staphylococcus aureus*, streptococci (groups A, C, F, G), *Enterococcus faecalis*, viridans-group streptococci, coagulase-negative staphylococci, anaerobic bacteria (*Bacteroides*, *Clostridium*), Enterobacteriaceae
- Perianal cellulitis – group A streptococcus
- Crepitant cellulitis – gas gangrene; *Clostridium perfringens*, septicum
- Gangrenous cellulitis
- Erythema migrans – *Borrelia burgdorferi*
- Paraplegia
- Dog or cat bite – *Pasteurella multocida*, *Staphylococcus aureus*, *S. intermedius*, *Neisseria canis*, *Haemophilus felix*, *Capnocytophagia canimorsus*, anaerobes
- Human bites – Bacteroides species, peptostreptococci, *Eikenella corrodens*, viridans streptococci, *Staphylococcus aureus*

Centipede bite – cellulitis-like

Chagas' disease (reactivation post-transplant) *Cutis 48:37–40, 1991*

*Citrobacter diversus* – cellulitis *Cutis 61:158–159, 1998*

Cryptococcosis – cellulitis *Cutis 72:320–322;2003; J Dermatol 30:405–410, 2003; Clin Inf Dis 33:700–705, 2001; Australas J Dermatol 38:29–32, 1997; JAAD 32:844–850, 1995; Scand J Infect Dis 26:623–626, 1994; Clin Inf Dis 16:826–827, 1993; Clin Inf Dis 14:666–672, 1992; Int J Dermatol 29:41–44, 1990; JAAD 17:329–332, 1987; Cutis 34:359–361, 1984*

Dematiaceous fungal infections in organ transplant recipients
- *Alternaria*
- *Bipolaris hawaiiensis*
- *Exophiala jeanselmei*, *E. spinifera*, *E. pisciphera*, *E.castellani*
- *Exserohilum rostratum*
- *Fonsacaea pedrosoi*
- *Phialophora parasitica*

Echovirus 25,32 – cherry spots *Tyring p.464, 2002*

*Ehrlichia chaffeensis* – diffusely erythematous or morbilliform, scattered petechiae or macules *Clin Inf Dis 33:1586–1594, 2001*

*Eikenella corrodens* – cellulitis *Clin Infect Dis 33:54–61, 2001*

*Erysipelothrix insidiosa NEJM 350:904–912, 2004*

Erythrasma

*Escherichia coli* sepsis – rose spots

Fish stings – venomous fish; lesser weever fish, spiny dogfish, stingray, scorpion fish, catfish, rabbit fish, stone fish, stargazers, toadfish – erythema, edema mimicking cellulitis *Rook p.1479, 1998, Sixth Edition*

*Fusarium* – sepsis; red–gray macules *JAAD 47:659–666, 2002; Fusarium solanae* – digital cellulitis *Rook p.1375, 1998, Sixth Edition*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gnathostomiasis/paragonimus – migratory cellulitis-like plaques *JAAD 33:825–828, 1995; JAAD 13:835–836, 1985*; *AD 120:508–510, 1984*

*Haemophilus influenzae* – facial cellulitis in children *Am J Med 63:449, 1977*

*Helicobacter cinaedi* – cellulitis *Ann Intern Med 121:90–93, 1994; J Clin Inf Dis 20:564–570, 1995*

Herpes simplex

Herpes zoster

Histoplasmosis – in AIDS *JAAD 23:422–8, 1990;* cellulitis *AD 118:3–4, 1982; S Med J 74:635–637, 1981; AD 95:345–350, 1967*

Insect bites *NEJM 350:904–912, 2004; The Clinical Management of Itching; Parthenon; p.60, 2000;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Janeway lesion – faint red macular lesions of thenar and hypothenar eminences *NEJM 295:1500–1505, 1976;* hemorrhagic lesions *Med News 75:257–262, 1899*

*Klebsiella pneumoniae* – cellulitis *JAAD 51:836, 2004*

*Legionella micdadei* – cellulitis *Am J Med 92:104–106, 1992*

Leishmaniasis – Kala-azar – red patches *Ghatan p.322, 2002, Second Edition*

Leprosy – indeterminate – red macules of face, arms, buttocks, trunk *Rook p.1222, 1998, Sixth Edition;* lepromatous leprosy *Rook p.1224, 1998, Sixth Edition*

*Listeria monocytogenes* – red macules progressing to pustules *Textbook of Neonatal Dermatology, p.191, 2001*

Meningococcemia, chronic – periarticular erythema

*Morganella morganii*

Mucormycosis

*Mycobacterium abscessus* – cellulitis *J Clin Inf Dis 24:1147–1153, 1997;* breast implants adulterated with *Mycobacterium abscessus*

*Mycobacterium avium intracellulare JAAD 33:528–531, 1995; JAAD 21:574–576, 1989*

*Mycobacterium bovis AD 126:123–124, 1990*

*Mycobacterium chelonae* – cellulitis *J Infect Dis 166:405–412,1992;* with pustules *JAAD 24:867–870, 1991*

*Mycobacterium fortuitum* – panniculitis *JAAD 39:650–653, 1998;* cellulitis *Dermatol Surg 26:588–590, 2000*

*Mycobacterium hemophilum Am J Transplant 2:476–479, 2002; BJD 149:200–202, 2003; JAAD 40:804–806, 1994*

*Mycobacterium szulgai* – diffuse cellulitis, nodules, and sinuses *Am Rev Respir Dis 115:695–698, 1977*

*Mycobacterium tuberculosis Clin Exp Dermatol 25:222–223, 2000*

Myiasis – palpebral myiasis presenting as preseptal cellulitis *Arch Ophthalmol 116:684, 1998*

Necrotizing fasciitis *NEJM 350:904–912, 2004; Streptococcus pyogenes Ann DV 128:376–381, 2001; AD 130:1150–1158, 1994; Pseudomonas aeruginosa*, *Escherichia coli*, *Klebsiella* species, *Peptostreptococcus*, *Bacteroides fragilis Clin Inf Dis 33:6–15, 2001; Streptococcus pneumoniae* – due to intramuscular injection *Clin Inf Dis 33:740–744, 2001; Serratia marcescens Clin Inf Dis 23:648–649, 1996; JAAD 20:774–778, 1989; Bacteroides* spp. in penile necrotizing fasciitis *JAAD 37:1–24, 1997;* neonatal *Pediatrics 103:e53, 1999;* in infancy *Ped Derm 2:55–63, 1984;* clostridial cellulitis (gangrene); progressive synergistic gangrene; gangrenous cellulitis (*Pseudomonas*); Fournier's gangrene *Rook p.1164, 1998, Sixth Edition;* necrotizing fasciitis associated with injection drug abuse – Gram-positive aerobes – *Staphylococcus aureus*, viridans group streptococci, *Streptococcus pyogenes*, coagulase-negative *Staphylococcus* species, *Enterococcus* species; Gram-negatives – *Pseudomonas aeruginosa*, *Enterococcus* species; *Clostridium perfringens*, *Clostridium* species *Clin Inf Dis 33:6–15, 2001*

*Neisseria meningitidis* – meningococcal endocarditis presenting as cellulitis *Clin Inf Dis 21:1023–1025, 1995;* periarticular erythema of chronic meningococcemia

Nocardiosis *JAAD 23:399–400, 1990; JAAD 13:125–133, 1985*; *Nocardia asteroides AD 121:898–900, 1985*

Onchocerciasis

*Paecilomyces lilacinus* (cutaneous hyalohyphomycosis) – red macules with fine scale *JAAD 39:401–409, 1998*

Periductal mastitis – cellulitis-like *JAAD 43:733–751, 2000*

Phaeohyphomycosis *JAAD 18:1023–1030, 1988*

Phlegmon

Pinta – primary *AD 135:685–688, 1999*

Plague – *Yersinia pestis*; flea bite; cellulitic plaque becomes bullous and crusted like anthrax *West J Med 142:641–646, 1985*

*Prevotella* species *J Clin Inf Dis (Suppl 2):S88–93, 1997*

Protothecosis *JAAD 31:920–924, 1994; AD 125:1249–1252, 1989;* cellulitis *Cutis 63:185–188, 1999; JAAD 32:758, 1995; BJD 146:688–693, 2002*

*Pseudallescheria boydii JAAD 21:167–179, 1989*

*Pseudomonas aeruginosa JAMA 248:2156, 1982;* ecthyma gangrenosum in *Pseudomonas* sepsis *Arch Int Med 128:591–595, 1971*

Psittacosis *AD 120:1227–9, 1984*

Pyomyositis – faint erythema overlying edema *JAAD 51:308–314, 2004*

Rheumatic fever *Ghatan p.7, 2002, Second Edition*

*Rhizopus Arch Surg 111:532, 1976*

Rose spots – typhoid fever *NEJM 347:1770–1782, 2002*; E. coli sepsis

*Serratia marcescens* – cellulitis *JAAD 49:S193–194, 2003; JAMA 250:2348, 1983*

*Shewanella putrefaciens* – cellulitis *J Clin Inf Dis 25:225–229, 1997*

Snake bites – edema, erythema, pain, and necrosis *NEJM 347:347–356, 2002*

Spider bites – cellulitis-like; black widow spider (*Latrodectus mactans*) – punctum with erythema and edema *AD 123:41–43, 1987;* brown recluse spider (*Loxosceles reclusa*) – erythema, edema, central bulla; targetoid lesion with central blue/purple, ischemic halo, outer rim of erythema; at 3–4 days central necrosis, eschar, ulcer, scar *South Med J 69:887–891, 1976;* wolf spider (*Lycosa*) – erythema and edema *Cutis 39:113–114, 1987*

Sporotrichosis *JAAD 40:272–274, 1999*

*Staphylococcus aureus Ped 18:249, 1956*

*Staphylococcus epidermidis AD 120:1099, 1984*

*Streptococcus* – group B streptococcal disease – cellulitis *Clin Inf Dis 33:556–561, 2001;* neonatal group B streptococcal cellulitis *Ped Derm 10:58–60, 1993*; group G streptococcus *Arch Derm 118:934, 1982; Streptococcus zooepidemicus* (Lancefield group C) – cellulitis *Aust NZ Med 20:177–178, 1990*

*Streptococcus iniae NEJM 337:589–594, 1997*

*Streptococcus pneumoniae Am J Med 59:293, 1975*

Group G streptococcus *AD 118:934, 1982*

*Streptococcus zooepidemicus Aust NZ J Med 20:177–178, 1990*

Syphilis – secondary; macular syphilid

Tinea versicolor

*Trichophyton rubrum* – Majocchi's granuloma; invasive *Trichophyton rubrum Cutis 67:457–462, 2001*

*Trichosporon cutaneum AD 129:1020–1023, 1993*

*Trypanosoma brucei rhodesiense* (African trypanosomiasis) – annular red patch *NEJM 342:1254, 2000*

Typhoid fever – rose spots *NEJM 346:752–763, 2002*

Vaccinia – vaccination site *NEJM 350:904–912, 2004;* progressive vaccinia – cellulitis with bullae *J Clin Inf Dis 25:911–914, 1997*

*Vibrio alginolyticus* – cellulitis *Acta DV 63:559–560, 1983*

*Vibrio vulnificus* sepsis – cellulitis *JAAD 24:397–403, 1991; J Infect Dis 149:558–564, 1984;* edema, erythema, and purpura of ankles *BJD 145:280–284, 2001*

Viral exanthem

*Yersinia enterocolitica* – cellulitis *J Infect Dis 165:740–743, 1992*

*Xanthomonas maltophilia AD 128:702, 1992*

Zygomycosis *Ped Inf Dis J 4:672–676, 1985;* red plaque with central eschar *AD 131:833–834, 836–837, 1995*

## INFILTRATIVE DISEASES

Intravascular or intralymphatic histiocytosis in rheumatoid arthritis *JAAD 50:585–590, 2004*

Mastocytosis, systemic *Leuk Res 25:519–528, 2001*

## INFLAMMATORY DISEASES

Dissecting cellulitis of the scalp – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Erythema multiforme – including oral lesions *Oral Surg 67:36–40, 1989; Oral Surg 52:257–260, 1981*

Erythema nodosum – cellulitis-like

Erythema overlying infection or inflammation of underlying structure (erythema of flank overlying area of bowel perforation)

Hidradenitis suppurativa – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Panniculitis – Weber–Christian disease, cytophagic histiocytic panniculitis, post-steroid panniculitis all mimicking cellulitis *Ann Intern Med 142:47–55, 2005*

Pyoderma gangrenosum mimicking cellulitis *NEJM 350:904–912, 2004*

Sarcoid – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Am Fam Physician 65:1581–1584, 2002; Rook p.2691, 1998, Sixth Edition*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – macular erythema; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *Am J Dermatopathol 17:384–388, 1995; Cancer 30:1174–1188, 1972*

Subcutaneous fat necrosis of the newborn – cellulitis-like *AD 117:36–37, 1981; AD 134:425–426, 1998*

Toxic epidermal necrolysis *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

## METABOLIC DISEASES

$\alpha_1$-antitrypsin deficiency panniculitis – trunk and proximal extremities *JAAD 51:645–655, 2004; JAAD 45:325–361, 2001*; cellulitis-like *JAAD 18:684–692, 1988*

Biotinidase deficiency – facial red patches *AD 141:1457–1462, 2005*

Calciphylaxis – early erythema mimicking cellulitis *Ann Intern Med 142:47–55, 2005; Kidney Int 61:2210–2217, 2002*

Cholinergic erythema *BJD 109:343–348, 1983*

Diabetes mellitus – erysipelas-like erythema of legs or feet *Acta Med Scand 196:333–342, 1974;* diabetic rubor of cheeks *Diabetes 14:201–208, 1965;* erythema, edema and atrophy of skin of legs *Rook p.2231,2265,2675, 1998, Sixth Edition*

Gout – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004*

Kwashiorkor – xerosis; begin as red–purple–brown patches which heal as flaky paint scaling *Cutis 67:321–327, 2001; JAAD 21:1–30, 1989*

Methylmalonic acidemia – erosive erythema; newborn and early infancy *Textbook of Neonatal Dermatology, p.150, 2001*

Pancreatic panniculitis *Ann Intern Med 142:47–55, 2005*

Pellagra *Rook p.2660, 1998, Sixth Edition*

Persistent cholinergic erythema *Rook p.2128, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Proliferative actinic keratosis – red patch with erosions *Derm Surg 26:65–69, 2000*

Acquired progressive lymphangioma *JAAD 24:813–5, 1991*

Amelanotic melanoma *AD 137:923–929, 2001*

Carcinoma of the breast (primary) *Rook p.3160, 1998, Sixth Edition*

Carcinoma erysipelatoides – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; J R Soc Med 78:Suppl 11:43–45, 1985; AD 113:69–70, 1977*

Dermal dendrocyte hamartoma – medallion-like; annular brown or red congenital lesion of central chest with slightly atrophic wrinkled surface *JAAD 51:359–363, 2004*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *JAAD 47:429–435, 2002; Ped Derm 13:139–142, 1996; JAAD 37:523–549, 1997*

Erythroplasia, oral – underside of tongue, floor of mouth, soft palate *J Oral Pathol 12:11–29, 1983*

Kaposi's sarcoma – intraoral red macule *JAAD 41:860–862, 1999; Rook p.1063, 1998, Sixth Edition; JAAD 38:143–175, 1998; Dermatology 190:324–326, 1995*

Leukemia cutis – monocytic leukemia – red, brown, violaceous patch or nodule *AD 123:225–231, 1971;* T-cell prolymphocytic leukemia – mimicking cellulitis *Ann Intern Med 142:47–55, 2005*

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Cancer 1:64–81, 1948*

Lymphoma – pilotropic (follicular) CTCL – erythema of forehead *AD 138:191–198, 2002;* nasal NK/T-cell lymphoma *JAAD 46:451–456, 2002;* angiocentric lymphoma *J Dermatol 24:165–169, 1997; Am J Med Sci 301:178–181, 1991;* primary skeletal muscle lymphoma – mimicking cellulitis *Ann Intern Med 142:47–55, 2005; Cutis 68:223–226, 2001;* HTLV-1 leukemia/lymphoma (ATLL) – red brown annular patches, red papules and nodules *BJD 152:76–81, 2005*

Melanoma – amelanotic lentigo maligna; red patch of cheek *JAAD 50:792–796, 2004*

Metastases *JAAD 29:228–236, 1993;* carcinoma erysipelatoides – includes metastases from breast, lung, melanoma, ovary, stomach, tonsils, pancreas, kidney, rectum, colon, parotid, uterus *NEJM 350:904–912, 2004; JAAD 39:876–878, 1998; JAAD 30:304–307, 1994; JAAD 31:877–880, 1994;* larynx *Eur J Dermatol 11:124–126, 2001*

Mucinous syringometaplasia *JAAD 11:503–8, 1984*

Squamous cell carcinoma – intraoral red patch *Rook p.3057, 1998, Sixth Edition; Oral Oncol 31B:16–26, 1995*; diffuse epidermal and periadnexal squamous cell carcinoma in situ – diffuse erythema and hyperkeratosis of face, neck, and scalp *JAAD 53:623–627, 2005*

## PARANEOPLASTIC DISORDERS

Generalized eruptive histiocytosis associated with acute myelogenous leukemia *JAAD 49:S233–236, 2003*

Glucagonoma syndrome – erythema mimicking cellulitis *JAAD 49:325–328, 2003*

## PRIMARY CUTANEOUS DISEASES

Circumscribed palmar or plantar hypokeratosis – red atrophic patch *JAAD 51:319–321, 2004; JAAD 49:1197–1198, 2003; JAAD 47:21–27, 2002*

Granuloma annulare – patch-type granuloma annulare *JAAD 51:39–44, 2004; JAAD 46:426–429, 2002; Rook p.2301, 1998, Sixth Edition*

Intertrigo

Lichen planus – intraoral red patch *Rook p.3057, 1998, Sixth Edition*

Progressive symmetric erythrokeratoderma (Gottron syndrome) *Ped Derm 19:285–292, 2002; AD 136:665, 668, 2000; AD 122:434–440, 1986*

Red scrotum syndrome *Genital Skin Disorders, Fischer and Margesson, Mosby p.53, 1998*

Scleredema of Buschke (pseudoscleroderma) – in diabetics, preceded by erythema *Clin Exp Dermatol 14:385–386, 1989*

## SYNDROMES

Acute anterior tibial compartment syndrome – cellulitis-like *JAAD 34:521–522, 1996*

Amyoplasia congenita disruptive sequence – mid-facial macular telangiectatic nevi *Am J Med Genet 15:571–590, 1983*

Angiokeratoma corporis diffusum

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005*

Beckwith–Wiedemann syndrome (exomphalos–macroglossia–gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macrosomia, macroglossia, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma; neonatal hypoglycemia *Curr Prob Dermatol 13:249–300, 2002; Am J Med Genet 79:268–273, 1998; JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Bowel-associated dermatitis–arthritis syndrome – red annular or oval macules, red papules, vesicles evolving into pustules *AD 138:973–978, 2002*

Cardiofaciocutaneous syndrome – port wine stain, hypotonia, mental retardation, atrial septal defect, pulmonary stenosis, dermatitis, hypotrichosis, characteristic facies *Clin Genet 42:206–209, 1992*

Carcinoid syndrome – persistent erythema with or without telangiectasia *Rook p.2717, 1998, Sixth Edition*

C syndrome (Opitz trigonocephaly syndrome) – nevus flammeus; trigonocephaly, unusual facies with wide alveolar ridges, multiple frenula, limb defects, visceral anomalies, redundant skin, mental retardation, hypotonia *Am J Med Genet 9:147–163, 1981*

Coats' disease – cutaneous telangiectasia or unilateral macular telangiectatic nevus with retinal telangiectasia *AD 108:413–415, 1973*

Cobb's syndrome (cutaneomeningospinal angiomatosis) – segmental port wine stain and vascular malformation of the spinal cord *AD 113:1587–1590, 1977; NEJM 281:1440–1444, 1969; Ann Surg 62:641–649, 1915*; PWS may be keratotic *Dermatologica 163:417–425, 1981*

Familial dysautonomia (Riley–Day syndrome) (hereditary sensory and autonomic neuropathy type III) – blotchy erythema in infancy with 2–5-cm red macules on trunk and extremities *AD 89:190–195, 1964*

Familial Hibernian fever – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; QJMed 51:469–480, 1982*

Familial Mediterranean fever – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004; Isr Med Assoc J 1:31–36, 1999; Q J Med 75:607–616, 1990*

Fegeler syndrome – acquired port wine stain following trauma *Ped Derm 21:131–133, 2004*

Goodpasture's syndrome – annular erythematous macules on instep – *AD 121:1442–4, 1985*

Hemihyperplasia–multiple lipomatosis syndrome – extensive congenital vascular stain, compressible blue nodule, multiple subcutaneous nodules, hemihypertrophy, syndactyly, thickened but not cerebriform soles, dermatomyofibroma *Soc Ped Derm Annual Meeting, July 2005; Am J Med Genet 130A:111–122, 2004; Am J Med Genet 79:311–318, 1998*

Hereditary hemorrhagic telangiectasia – arteriovenous malformation *BJD 145:641–645, 2001*

Hereditary mucoepithelial dysplasia (dyskeratosis) – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (palate, gingiva) and nasal mucous membranes, cervix, vagina, and urethra; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Hereditary neurocutaneous angioma – autosomal dominant; port wine stains with localized CNS vascular malformations *J Med Genet 16:443–447, 1979*

Hypereosinophilic syndrome – necrotizing eosinophilic vasculitis *BJD 143:641–644, 2000*

Hyper-IgD syndrome – autosomal recessive; red macules or papules, urticaria, red nodules, urticaria, combinations of periodic fever, arthritis, arthralgias, and rash, annular erythema, and pustules, abdominal pain with vomiting and diarrhea, lymphadenopathy; elevated IgD and IgA – mevalonate kinase deficiency *Ped Derm 22:138–141, 2005; AD 136:1487–1494, 2000; AD 130:59–65, 1994; Medicine 73:133–144, 1994; Lancet 1:1084–1090, 1984*

Kawasaki's disease – mimicking periorbital cellulitis *NEJM 350:904–912, 2004;* oral erythema *Oral Surg 67:569–572, 1989*; perianal erythema and desquamation *AD 124:1805–1810, 1988*

Klinefelter variants – macular telangiectatic vascular nevi *J Urol 119:103–106, 1978*

Lethal multiple pterygium syndrome – mid-facial macular telangiectatic nevi *Am J Med Genet 12:377–409, 1982*

Macrocephaly – cutis marmorata telangiectatica congenita syndrome (macrocephaly, cutis marmorata, hemangioma, and syndactyly syndrome) – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydroocephalus *Ped Derm 16:235–237, 1999; Genet Couns 9:245–253, 1998; Am J Med Genet 70:67–73, 1997*

Muckle–Wells syndrome – autosomal dominant; macular erythema, urticaria, deafness, amyloidosis *JAAD 39:290–291, 1998*

Mulibrey nanism – nevus flammeus, muscle hypotonia, triangular face, thinness *JAAD 46:161–183, 2002; Birth Defects 11:3–17, 1975*

NOMID – neonatal onset multisystem inflammatory disease – generalized evanescent urticarial macules and papules *Textbook of Neonatal Dermatology, p.302, 2001*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – PWS and linear epidermal nevus; type II – PWS and dermal melanocytosis; type III – PWS and nevus spilus; type IV – PWS, dermal melanocytosis, and nevus spilus; types II,III, and IV may also have nevus anemicus *Ped Derm 21:642–645, 2004; Curr Prob Dermatol 13:249–300, 2002; J Dermatol 26:834–836, 1999; AD 121:651–653, 1985; Jpn J Dermatol 52:1–3, 1947;* phakomatosis cesioflammea – Mongolian spots or dermal melanocytosis with one or more port wine stains *AD 141:385–388, 2005*

Proteus syndrome – extensive truncal and extremity port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *JAAD 52:834–838, 2005; Curr Prob Dermatol 13:249–300, 2002; Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Pediatrics 76:984–989, 1985; Am J Med Genet 27:87–97, 1987; Eur J Pediatr 140:5–12, 1983*

Reflex sympathetic dystrophy – geometric marginated erythema *Cutis 68:179–182, 2001*

Relapsing eosinophilic perimyositis – fever, fatigue, and episodic muscle swelling; erythema over swollen muscles *BJD 133:109–114, 1995*

Relapsing polychondritis – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Semin Arthr Rheum 31:384–395, 2002*

REM (reticular erythematous mucinosis) syndrome *JAAD 27:825–828, 1992; Ped Derm 7:1–10, 1990; Z Hautkr 63:986–998, 1988 (German); JAAD 19:859–868, 1988; AD 115:1340–1342, 1979; BJD 91:191–199, 1974; Z Hautkr 49:235–238, 1974*

Riley–Day syndrome (familial dysautonomia) – red blotches and mottling in infancy *Textbook of Neonatal Dermatology, p.457, 2001*

Robert's pseudothalidomide syndrome (hypomelia-hypotrichosis-facial hemangioma syndrome) – autosomal recessive; mid-facial port wine stain extending from forehead to nose and philtrum, cleft lip with or without cleft palate, sparse silver-blond hair, limb reduction malformation, characteristic facies, malformed ears with hypoplastic lobules, marked growth retardation *Clin Genet 5:1–16, 1974; Clin Genet 31:170–177, 1987*

Rubenstein–Taybi syndrome – arciform keloids, hypertrichosis, long eyelashes, thick eyebrows, keratosis pilaris or ulerythema ophyrogenes, low-set ears, very short stature, broad terminal phalanges of thumbs and great toes, hemangiomas, nevus flammeus, café au lait macules, pilomatrixomas, cardiac anomalies, mental retardation *Ped Derm 19:177–179, 2002; Am J Dis Child 105:588–608, 1963;* port wine stain of forehead *Rook p.581, 1998, Sixth Edition*

Short arm 4 deletion syndrome – macular telangiectatic vascular nevi *Am J Dis Child 122:421–425, 1971*

TAR syndrome (thrombocytopenia–absent radii syndrome) – congenital thrombocytopenia, bilateral absent or hypoplastic radii; foreshortened forearms, port wine stain of head and neck *AD 126:1520–1521, 1990; Am J Pediatr Hematol Oncol 10:51–64, 1988*

Trisomy 13 – port wine stain of forehead *Rook p.581, 1998, Sixth Edition; J Med Genet 5:227–252, 1968*

Trisomy 18 – reticulate vascular nevus or port wine stain *J Pediatr 72:862–863, 1968*

Von Hippel–Lindau disease – macular telangiectatic nevi, facial or occipitocervical; retinal angiomatosis, cerebellar or medullary or spinal hemangioblastoma, renal cell carcinoma pheochromocytoma, café au lait macules *Arch Intern Med 136:769–777, 1976*

Wells' syndrome *JAAD 52:187–189, 2005; NEJM 350:904–912, 2004; Trans St Johns Hosp Dermatol Soc 57:46–56, 1971*

Wyburn–Mason (Bonnet–Duchaume–Blanc) syndrome – unilateral salmon patch with punctate telangiectasias or port wine stain; unilateral retinal arteriovenous malformation, ipsilateral aneurysmal arteriovenous malformation of the brain *Am J Ophthalmol 75:224–291, 1973*

XXYY syndrome – macular telangiectatic vascular nevi *AD 94:695–698, 1966*

## TOXINS

L-tryptophan-induced eosinophilic myalgia syndrome – cellulitis-like

## TRAUMA

Acquired cold-contact urticaria – painful erythema *JAMA 180:639–642, 1962*

Airbag dermatitis – bizarre shapes of erythema, resembling factitial dermatitis *JAAD 33:824–825, 1995*

Burns

Cold panniculitis *JAAD 45:325–361, 2001;* of neonate and children (Haxthausen's disease) *JAAD 33:383–385, 1995; Burns Incl Therm Inj 14:51–52, 1988; AD 94:720–721, 1966; BJD 53:83–89, 1941;* popsicle panniculitis – cellulitis-like *Pediatr Emerg Care 8:91–93, 1992*

Coma-induced sweat gland necrosis – pressure bulla; cellulitis-like *Ann Dermato Syphiligr 98:421–428, 1971*

Compartment syndrome – often of anterior tibial compartment; erythema mimicking cellulitis *Ann Intern Med 142:47–55, 2005*

Denture-induced stomatitis *J Oral Pathol 10:65–80, 1981*

Perniosis *AD 117:26–28, 1981*

Postirradiation pseudosclerodermatous panniculitis *Ann Intern Med 142:47–55, 2005; Am J Dermatopathol 23:283–287, 2001; Mayo Clin Proc 68:122–127, 1993*

Post-surgical sternal erythema – red patch with telangiectasia *JAAD 53:893–896, 2005*

Radiation dermatitis, acute – erythema *Acta DV 49:64–71, 1969*

Radiation mucositis – intraoral red patch *Rook p.2666, 1998, Sixth Edition*

Radiation recall – erythema, vesiculation, erosions, hyperpigmentation; dactinomycin and doxorubicin *Mayo Clin Proc 55:711–715, 1980;* edatrexate, melphalan, etoposide, vinblastine, bleomycin, fluorouracil, hydroxyurea, methotrexate *Rook p.3469, 1998, Sixth Edition*

### VASCULAR DISEASES

Acquired digital arteriovenous malformation – red macule, purple macule *BJD 142:362–365, 2000*

Angioma serpiginosum

Angiosarcoma *JAAD 50:867–874, 2004*

Arteriovenous malformations (fistulae) – congenital or acquired; overlying port wine stain; extremities, head, neck, trunk including Wyburn–Mason, Bennet Dechaume–Blanc and Bregeat syndromes *Textbook of Neonatal Dermatology, p.334, 2001; Rook p.2237, 1998, Sixth Edition;* of scalp – faint pink or blue macule *JAAD 46:934–941, 2002*

Bier's spots – red or white spots in midst of cyanotic congestion after application of a tourniquet *JAAD 14:411–419, 1986*

Churg–Strauss disease *JAAD 47:209–216, 2002*

Cutaneous angiomatosis following implanted osteosynthesis nail *BJD 142:1056–1057, 2000*

Cutis marmorata telangiectatica congenital with macrocephaly – port wine stain of philtrum *Curr Prob Dermatol 13:249–300, 2002*

Deep venous thrombosis – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004*

Erythromelalgia – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Am J Med 91:416–422, 1991*

Generalized acquired telangiectasia – cellulitis-like

Glomeruloid angioendotheliomatosis – red purpuric patches and acral necrosis – associated with cold agglutinins *JAAD 49:887–896, 2003*

Glabellar port wine stain, mega cisterna magna, communicating hydrocephalus, posterior cerebellar vermis agenesis; autosomal dominant *J Neurosurg 51:862–865, 1979*

Hemangioma of infancy
- Differential diagnosis of hemangioma of infancy *JAAD 48:477–493, 2003*
  - Capillary malformation
  - Venous malformation
  - Lymphatic malformation
  - Arteriovenous malformation
  - Non-involuting congenital hemangioma
  - Rapidly-involuting congenital hemangioma
  - Pyogenic granuloma
  - Tufted angioma
  - Spindle cell hemangioendothelioma
  - Kaposiform hemangioendothelioma
  - Fibrosarcoma
  - Rhabdomyosarcoma
  - Myofibromatosis
  - Nasal glioma
  - Encephalocoele
  - Lipoblastoma
  - Dermatofibrosarcoma protuberans
  - Giant cell fibroblastoma
  - Neurofibroma

Henoch–Schönlein purpura – starts as red macules *Ped Derm 15:357–359, 1998; Ped Derm 12:314–317, 1995; Am J Dis Child 99:833–854, 1960;* in the adult *AD 125:53–56, 1989*

Klippel–Trenaunay–Weber syndrome – venous malformation, arteriovenous fistula, or mixed venous lymphatic malformation *Curr Prob Dermatol 13:249–300, 2002; Br J Surg 72:232–236, 1985; Arch Gen Med 3:641–672, 1900*

Lipodermatosclerosis – chronic venous insufficiency with hyperpigmentation, induration, inflammation *Ann Intern Med 142:47–55, 2005; Lancet ii:243–245, 1982*

Lymphangitis – chemical, thermal, infectious *Rook p.2293, 1998, Sixth Edition*

Lymphedema – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Parkes–Weber syndrome – limb hypertrophy with multiple arteriovenous fistulae; port wine stain *Curr Prob Dermatol 13:249–300, 2002; BJD 19:231–235, 1907*

Phlebitis, superficial – cellulitis-like

Pigmented purpuric eruptions – lichen aureus *JAAD 8:722–724, 1983*

Polyarteritis nodosa, infantile systemic – red patch heralding cutaneous infarction *J Pediatr 120:206–209, 1992;* oral erythema *Oral Surg 56:597–601, 1983*

Port wine stain *Curr Prob Dermatol 13:249–300, 2002*

Port wine stains *JAAD 52:555–557, 2005*
- Beckwith–Wiedemann syndrome
- Coat's disease
- Cobb syndrome
- Phakomatosis pigmentovascularis
- Proteus syndrome
- Roberts syndrome
- Rubenstein–Taybi syndrome
- Sturge–Weber syndrome
- TAR syndrome
- Von Hippel–Lindau disease

Progressive ascending telangiectasia

Proteus syndrome – vascular malformations *AD 140:947–953, 2004*

Salmon patch (nevus simplex) ('stork bite') – pink macules with fine telangiectasias of the nape of the neck, glabella, forehead upper eyelids, tip of nose, upper lip, midline lumbosacral area *Textbook of Neonatal Dermatology, p.324–325, 2001*; *Ped Derm 73:31–33, 1983*

Servelle–Martorell syndrome – association of capillary stains and dysplastic veins with undergrowth of affected limb *Curr Prob Dermatol 13:249–300, 2002; Textbook of Neonatal Dermatology, p.333, 2001*

Sturge–Weber syndrome *Curr Prob Dermatol 13:249–300, 2002*

Superficial thrombophlebitis – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Tufted angioma *Ped Derm 18:456–457, 2001*

Venous thrombosis – cellulitis-like; protein C deficiency, protein S deficiency, antithrombin III deficiency, hyperhomocystinemia, activated protein C resistance *AD 133:1027–1032, 1997*

Venous stasis – cellulitis-like

## RED PLAQUES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis, including allergic contact dermatitis to metal joint replacements; cobalt – cellulitis-like *Ann Intern Med 142:47–55, 2005; Rook p.768–769, 1998, Sixth Edition;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Angioedema – lips, eyelids, genitalia *Ann Intern Med 142:47–55, 2005; JAAD 25:155–161, 1991*

Bare lymphocyte syndrome *JAAD 17:895–902, 1987*

Bullous pemphigoid *JAAD 29:293–299, 1993*

Chronic granulomatous disease – X-linked chronic granulomatous disease – discoid lupus-like lesions of face and hands in female carriers of X-linked chronic granulomatous disease *BJD 104:495–505, 1981*

Cicatricial pemphigoid – localized red plaque is site of recurrent blisters near mucosal surfaces *Rook p.1874–1875, 1998, Sixth Edition; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982*

Combined immunodeficiency in children *JAAD 25:761–766, 1991*

Congenital neutropenia

Cyclic neutropenia – cellulitis *Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976*

Dermatitis herpetiformis *Rook p.1890, Sixth Edition*

Dermatomyositis – small plaques over knees, elbows, knuckles, backs of finger joints, around fingernails *Rook p.2558, 1998, Sixth Edition;* of the scalp; panniculitis – nodules and plaques on arms, thighs, buttocks, abdomen with lipoatrophy *AD 127:1846–1847, 1991; JAAD 23:127–128, 1990;* calcinosis cutis with cellulitis-like lesions due to extrusion of calcium *Rook p.2560, 1998, Sixth Edition;* cutaneous mucinosis *JAAD 48:S41–42, 2003*

Graft vs. host reaction, chronic – cellulitis-like *AD 134:602–612, 1998;* palmoplantar plaque *JAAD 33:711–717, 1975*

IgA pemphigus

Leukocyte adhesion deficiency

Linear IgA disease

Lupus erythematosus – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005;* subacute cutaneous LE; tumid lupus *JAAD 41:250–253, 1999*; *Rook p.2447, 1998, Sixth Edition;* lupus profundus *Ann Intern Med 142:47–55, 2005*; lupus panniculitis – plaque with bullae *Fitzpatrick J of Clin Derm 2:32–34, 1994;* chilblain lupus – purple plaque *JAAD 19:909–910, 1988*

Morphea profunda *Ann Intern Med 142:47–55, 2005; Ped Derm 8:292–295, 1991*

Pemphigus foliaceus – face

Pemphigus vulgaris

Rheumatoid arthritis – rheumatoid neutrophilic dermatosis *JAAD 45:596–600, 2001; J Dermatol 27:782–787, 2000*; intravascular or intralymphatic histiocytosis in rheumatoid arthritis; red livedoid plaques *JAAD 50:585–590, 2004*

Scleroderma – acute edematous phase; cellulitis-like

Urticaria *Rook p.2116–2117, 1998, Sixth Edition;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

X-linked agammaglobulinemia – cellulitis

## CONGENITAL LESIONS

Choristia, periumbilical – intestinal mucosal cells; crusted, red perimbilical plaques *Ann DV 105:601–606, 1978*

Ectopic respiratory epithelium – red plaque of the neck *BJD 136:933–934, 1997*

Subcutaneous fat necrosis of the newborn *Ped Derm 20:257–261, 2003; JAAD 45:325–361, 2001*

## DRUG-INDUCED

BCG granuloma *AD 129:231–236, 1993*

Bleomycin (violaceous) – hyperkeratotic *JAAD 33:851–852, 1995*

Calcium gluconate extravasation – cellulitis-like *AD 138:405–410, 2002*; *AD 134:97–102, 1998*

Chemotherapy-induced eccrine squamous syringometaplasia *AD 133:873–878, 1997*

Chlorambucil – cellulitis-like *AD 122:1358, 1986*

Clopidogrel bisulfate *Mayo Clin Proc 78:618–620, 2003*

Corticosteroids – post-steroid panniculitis *JAAD 45:325–361, 2001; Ped Derm 5:92–93, 1988; J Cutan Pathol 12:366–380, 1985*

Coumadin necrosis (early) – cellulitis-like

Docataxel – acral dysesthesia syndrome – dusky red plaque *BJD 142:808–811, 2000*

Fixed drug eruption – cellulitis-like *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004;* non-pigmenting *AD 134:929–931, 1999; JAAD 23:379, 1990;* pseudoephedrine *JAAD 48:628–630, 2003;* non-pigmenting fixed drug eruptions to pseudoephedrine and tetrahydrozoline *JAAD 17:403–407, 1987; JAAD 31:291–292, 1994;* to arsphenamine, acetaminophen; eperisine hydrochloride *BJD 144:1288–1289, 2001;* procarbazine *Med Pediatr Oncol 16:378–380, 1988;* piroxicam *JAAD 21:1300, 1989;* thiopental *Anesth Analg 70:216–217, 1990;* iothalamate (radiocontrast medium) *JAAD 23:379–381, 1990;* diflunisal *JAAD 24:1021–1022, 1991;* betahistine *Dermatology 193:248–250, 1996;* cimetidine *Dermatology 197:402–403, 1998;* paracetamol *J Invest Allergol Clin Immunol 9:399–400, 1999;* cotrimoxazole *Eur J Dermatol 10:288–291, 2000;* topotecan *J Eur Acad Dermatol Venereol 16:414–416, 2002*

Furosemide – cellulitis-like drug eruption

Heparin – local reaction *JAAD 21:703–707, 1989*

IL-2 therapy – cellulitis-like *JAAD 28:66–70, 1993*

Imatinib-associated Sweet's syndrome *AD 141:368–370, 2005*

Interferon-α – sarcoidal papules *BJD 146:320–324, 2002;* granulomatous indurated erythema at injection site *JAAD 46:611–616, 2002*

Interferon-β-1b *JAAD 37:553–558, 1997*

L-asparaginase pseudocellulitis

Methotrexate photorecall

Nadroparin-calcium injections – calcifying panniculitis; crusted red plaques *BJD 153:657–660, 2005*

Pegfilgastrim – Sweet's syndrome due to pegfilgastrim (pegylated G-CSF) *JAAD 52:901–905, 2005*

Pseudolymphoma secondary to drugs – antihistamines, allopurinol, amiloride, carbamazepine, cyclosporine, clomipramine, diltiazem phenytoin *JAAD 38:877–905, 1998; JAAD 32:419–428, 1995, AD 132:1315–1321, 1996*

Quinidine photolichenoid dermatitis

Sweet's syndrome – red plaques, nasal ulcers, perianal ulcers – celecoxib, G-CSF, all-trans retinoic acid *JAAD 45:300–302, 2001*

Vaccination reaction

Vitamin K allergy – cellulitis-like

## EXOGENOUS AGENTS

Cold urticaria – ice cube test

Foreign body reaction (granuloma) – orthopedic implants mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Ann DV 123:686–690, 1996*

Irritant contact dermatitis – cellulitis-like

Mercury exanthema *Contact Dermatitis 36:277–278, 1997*

Milk injections – cellulitis *Rook p.2422, 1998, Sixth Edition*

Paraffinoma – grease gun injury; nodule, plaque, sinus of hand *BJD 115:379–381, 1986;* sclerosing lipogranuloma *JAAD 9:103–110, 1983*

Post-vaccination *Semin Pediatr Infect Dis 14:196–198, 2003*

Silicone reaction/granuloma – recurrent cellulitis; red plaques of buttocks *AD 141:13–15, 2005; Derm Surg 27:198–200, 2001*

## INFECTIONS AND INFESTATIONS

*Acinetobacter calcoaceticus* – cellulitis *Medicine 56:79–97, 1977*

*Aeromonas hydrophila* – cellulitis complicating injuries in fresh water or soil *Clin Inf Dis 19:77–83, 1994; Clin Inf Dis 16:79–84, 1993*

African histoplasmosis

AIDS – cutaneous $CD8^+$ T-cell infiltrates in advanced HIV disease *JAAD 41:722–727, 1999;* AIDS-associated eosinophilic pustular folliculitis – red plaques with papulovesicular borders *JAAD 14:1020–1022, 1986*

Alternariosis (A. alternata) *JAAD 52:653–659, 2005; AD 124:1822–1825, 1988; Alternaria chartarum* – red, scaly plaque *BJD 142:1261–1262, 2000*

Amebiasis – acanthamoeba *JAAD 42:351–354, 2000;* cellulitis *Ann DV 128:1237–1240, 2001*

Anaerobic clostridial myositis

Anthrax *Int J Derm, p.203, April 1981*

Aspergillosis, primary cutaneous *AD 136:1165–1170, 2000; JAAD 12:313–318, 1985; JAAD 31:344–347, 1994;* primary cutaneous aspergillosis in premature infants; red patch with pustules *Ped Derm 19:439–444, 2002*

Bacillary angiomatosis – plaque with hyperkeratotic center *BJD 126:535–541, 1992*

*Bacillus* species – cellulitis *JAAD 39:285–287, 1998; Medicine 66:218–223, 1987;* plaque with hyperkeratotic center *BJD 126:535–541, 1992*

*Bacteroides fragilis* – cellulitis *J Hosp Infect 3303–304, 1982*
BCG granuloma

BCG vaccination – lupus vulgaris *Ped Derm 21:660–663, 2004*

*Bilophila wadsworthia* – cellulitis *J Clin Inf Dis (Suppl 2):S88–93, 1997*

Botryomycosis – granulomatous plaque *JAAD 24:393–396, 1991; AD 126:815–820, 1990*

Breast abscess – cellulitis-like *JAAD 43:733–751, 2000*

Brown recluse spider bite

Brucellosis – panniculitis *JAAD 35:339–341, 1996;* erysipelas-like *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

*Campylobacter jejuni* – erysipelas-like lesions in patient with hypogammaglobulinemia *Eur J Clin Microbiol Infect Dis 11:842–847, 1992*

Candidiasis – flexural candidiasis *Rook p.1342, 1998, Sixth Edition;* invasive systemic candidiasis in premature neonate *(Candida albicans);* erosive and crusted red plaques *Ped Derm 21:260–261, 2004*

Capnocytophagia canimorsus sepsis – dog and cat bites; necrosis with eschar; cellulitis *Cutis 60:95–97, 1997; JAAD 33:1019–1029, 1995*

Cat scratch disease – red plaque *JAAD 48:474–476, 2003;* red plaque with pseudovesicular border (Sweet's-like) *JAAD 41:833–836, 1999*

Cellulitis/erysipelas – streptococcal; Groups A, B (infants under 3 months) *Am J Dis Child 136:631–633, 1982;* pelvic post-operative erysipelas *AD 120:85–86, 1984*), C, and G *AD 130:1150–1158, 1994; Haemophilus influenzae* – facial cellulitis in children; *Streptococcus pneumoniae Clin Inf Dis 14:247–250, 1992; Pseudomonas aeruginosa JAMA 248:2156–2157, 1982; Campylobacter jejuni Eur J Clin Microbiol Infect Dis 11:842–847, 1988;* congenital neutropenia *Blood Rev 2:178–185, 1988; Am J Med 61:849–861, 1976;* in leukocyte adhesion deficiency (beta 2 integrin deficiency) – abscesses, cellulitis, skin ulcerations, ulcerative stomatitis *BJD 139:1064–1067, 1998; J Pediatr 119:343–354, 1991; Annu Rev Med 38:175–194, 1987; J Infect Dis 152:668–689, 1985; Paecilomyces marquandii*, *Paecilomyces lilacinus BJD 143:647–649, 2000*

Centipede bite – cellulitis-like

Chagas' disease – reactivation post-transplant *Cutis 48:37–40, 1991*

Chromomycosis

Citrobacter diversus – cellulitis *Cutis 61:158–159, 1998*

*Clostridium botulinum* – wound botulism in drug addicts; cellulitis *Clin Inf Dis 31:1018–1024, 2000*

*Clostridium* cellulitis (gas gangrene) (*C. perfringens*, *C. oedematicus*, *C. septicum*, *C. histolyticum*) – crepitant, painful, swollen plaque with serous discharge; bullae, necrosis develop *Br J Surg 64:104–112, 1977; NEJM 289:1129–1136, 1973*

Coccidioidomycosis (granulomatous plaque) *JAAD 26:79–85, 1992;* red plaque with pustules *JAAD 46:743–747, 2002;* primary cutaneous coccidioidomycosis – ulcerated plaque *JAAD 49:944–949, 2003*

*Corynebacterium jeikeium*

Coxsackie $A_{16}$ – Sweet's-like red plaques

Cryptococcosis – cellulitis *Cutis 72:320–322;2003; J Dermatol 30:405–410, 2003; Clin Inf Dis 33:700–705, 2001; Australas J Dermatol 38:29–32, 1997; JAAD 32:844–850, 1995; Scand J Infect Dis 26:623–626, 1994; Clin Inf Dis 16:826–827, 1993; Clin Inf Dis 14:666–672, 1992; Int J Dermatol 29:41–44, 1990; JAAD 17:329–332, 1987; Cutis 34:359–361, 1984*

Cytomegalovirus *Medicina B Aires 62:572–574, 2002*

Dematiacious fungal infections in organ transplant recipients – all lesions on extremities
*Alternaria*
*Bipolaris hawaiiensis*
*Exophiala jeanselmei*, *E. spinifera*, *E. pesciphera*, *E. castellani*
*Exserohilum rostratum*
*Fonsacaea pedrosoi*
*Phialophora parasitica*

Dermatophytosis *Ophthal Plast Reconstr Surg 19:244–246, 2003*

Dysgonic fermenters – gram-negative bacillus *Rev Infect Dis 9:884–890, 1987*

*Eikenella corrodens AD 125:849–850, 1989*

Erysipeloid – *Erysipelothrix insidiosa* (*rhusiopathiae*) – seal finger, blubber finger *Clin Microbiol Rev 2:354–359, 1989; JAAD 9:116–123, 1983*

Fish stings – venomous fish; lesser weever fish, spiny dogfish, stingray, scorpion fish, catfish, rabbit fish, stone fish, stargazers, toadfish – erythema, edema mimicking cellulitis *Rook p.1479, 1998, Sixth Edition*

*Flavimonas oryzihabitans Clin Inf Dis 18:808–809, 1994*

*Flavobacterium odoratum Clin Inf Dis 22:1112–1113, 1996*

*Fusarium solanae* – digital cellulitis *Rook p.1375, 1998, Sixth Edition;* localized fusariosis (*F. solanae*) – red plaque of arm with eschar *AD 141:794–795, 2005*

Gianotti–Crosti syndrome – lichenoid dermatitis *Am J Dermatopathol 22:162–165, 2000*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face,

then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia *Rook p.1146–1147, 1998, Sixth Edition*

Gnathostomiasis/paragonimus – migratory cellulitis-like plaques *JAAD 33:825–828, 1995; JAAD 13:835–836, 1985*

*Haemophilus influenzae* – facial cellulitis in children *Am J Med 63:449, 1977*

Haelicobacter cinaedi – cellulitis *Ann Intern Med 121:90–93, 1994; J Clin Inf Dis 20:564–570, 1995*

Hepatitis C infection – necrolytic acral erythema; red to hyperpigmented psoriasiform plaques with variable scale or erosions of feet or shins *JAAD 53:247–251, 2005; Int J Derm 35:252–256, 1996*

Herpes zoster

Histoplasmosis – panniculitis *JAAD 25:912–914, 1991; AD 132:341–346, 1996; JAAD 25:418–422, 1991; Medicine 60:361–373, 1990;* cellulitis *AD 118:3–4, 1982; S Med J 74:635–637, 1981; AD 95:345–350, 1967*

Impetigo

Infected mesh graft inserted during abdominal surgery

Insect bite reaction – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

*Klebsiella pneumoniae* – cellulitis *JAAD 51:836, 2004*

*Legionella micdadei* – cellulitis *Am J Med 92:104–106, 1992*

Leishmaniasis – acute cutaneous leishmaniasis *AD 122:329–334, 1986; Leishmania tropica* (dry, urban type) – brown nodule extends to plaque with central ulceration *Rook p.1413–1414, 1998, Sixth Edition;* leishmaniasis recidivans (lupoid leishmaniasis) – brown–red or brown–yellow papules close to scar of previously healed lesion; resemble lupus vulgaris; may ulcerate or form concentric rings; keloidal form, verrucous form of legs, extensive psoriasiform dermatitis; red crusted plaque *JAAD 47:614–616, 2002; Rook p.1414, 1998, Sixth Edition;* localized cutaneous leishmaniasis – *L. viannia* panamensis; *Lutzomyia trapidoi* (vector) *AD 139:1075–1080, 2003*

Leprosy – borderline; tuberculoid – well-defined edge, red, copper or purple colored plaque with hypopigmented center; hairless *Rook p.1223, 1998, Sixth Edition;* erythema nodosum leprosum *JAAD 51:416–426, 2004;* Lucio's phenomenon – firm subcutaneous plaque *AD 114:1023–1028, 1978;* borderline *Rook p.1225, 1998, Sixth Edition;* type 1 reaction in borderline *Rook p.1227, 1998, Sixth Edition;* immune reconstitution inflammatory syndrome (IRIS) in HIV disease – ulcerated plaque *AD 140:997–1000, 2004*

Listeriosis

Lobomycosis

Lupus vulgaris – crusted hyperkeratotic plaque with nodules and scarring; due to BCG inoculation *BJD 144:444–445, 2001*

Lyme disease

Mastitis – infectious *JAAD 43:733–751, 2000*

*Microsporum gypseum* – plaque with multiple nodules and pustules *BJD 146:311–313, 2002*

*Moraxella* species – preseptal cellulitis and facial erysipelas *Clin Exp Dermatol 19:321–323, 1994*

Mucormycosis *Ped Derm 20:411–415, 2003*

*Mycobacterium abscessus* – cellulitis *J Clin Inf Dis 24:1147–1153, 1997*

*Mycobacterium avium-intracellulare JAAD 21:574–576, 1989; JAAD 33:528–531, 1995*

*Mycobacterium bovis AD 126:123–124, 1990*

*Mycobacterium chelonae* – with pustules *JAAD 24:867–870, 1991;* cellulitis *J Infect Dis 166:405–412,1992*

*Mycobacterium fortuitum* panniculitis *JAAD 39:650–653, 1998;* cellulitis *Dermatol Surg 26:588–590, 2000;* mimicking lupus vulgaris *BJD 147:170–173, 2002*

*Mycobacterium hemophilum Am J Transplant 2:476–479, 2002; BJD 149:200–202, 2003; JAAD 40:804–806, 1994*; ulcerated red plaque *AD 141:897–902, 2005*

*Mycobacterium kansasii* – red plaque *JAAD 41:854–856, 1999; JAAD 40:359–363, 1999; Am Rev Resp Dis 112:125,1979; JAAD 36:497–499, 1997, Cutis 31:87–89, 1983*

*Mycobacterium marinum*

*Mycobacterium szulgai* – diffuse cellulitis, nodules, and sinuses *Am Rev Respir Dis 115:695–698, 1977*

*Mycobacterium* thermoresistible – violaceous indurated plaque *Clin Inf Dis 31:816–817, 2000*

*Mycobacterium tuberculosis* – lupus vulgaris; lupus vulgaris simulating a port wine stain *BJD 119:127–128, 1988*; ulcerated plaque of buttocks (lupus vulgaris) *BJD 146:525–527, 2002;* starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; plaque form – psoriasiform, irregular scarring, serpiginous margins; ulcerative and mutilating forms, vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; myxomatous form with large tumors of the earlobes; lymphedema prominent; papular and nodular forms; nasal, buccal, and conjunctival involvement with friable nodules which ulcerate; vegetative and ulcerative lesions of buccal mucosa, palate, gingiva, oropharynx; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* erythema induratum

*Morganella morganii*

Myiasis, subcutaneous (*Dermatobia hominis*) *Z Hautkr 61:958–962, 1986*

Necrotizing fasciitis – *Streptococcus pyogenes Ann DV 128:376–381, 2001; AD 130:1150–1158, 1994; Pseudomonas aeruginosa*, *Escherichia coli*, *Klebsiella* species, *Peptostreptococcus*, *Bacteroides fragilis Clin Inf Dis 33:6–15, 2001; Streptococcus pneumoniae* – due to intramuscular injection *Clin Inf Dis 33:740–744, 2001; Serratia marcescens Clin Inf Dis 23:648–649, 1996; JAAD 20:774–778, 1989; Bacteroides* spp.in penile necrotizing fasciitis *JAAD 37:1–24, 1997;* neonatal *Pediatrics 103:e53, 1999;* in infancy *Ped Derm 2:55–63, 1984;* clostridial cellulitis (gangrene); progressive synergistic gangrene; gangrenous cellulitis (*Pseudomonas*); Fournier's gangrene *Rook p.1164, 1998, Sixth Edition;* necrotizing fasciitis associated with injection drug abuse – gram-positive aerobes – *Staphylococcus aureus*, viridans group streptococci, *Streptococcus pyogenes*, coagulase-negative *Staphylococcus* species, *Enterococcus* species; gram-negatives – *Pseudomonas aeruginosa*, *Enterococcus* species; *Clostridium perfringens*, *Clostridium* species *Clin Inf Dis 33:6–15, 2001*

*Neisseria meningitidis* – cellulitis *Clin Inf Dis 21:1023–1025, 1995;* periarticular erythema of chronic meningococcemia

Nocardiosis *JAAD 23:399–400, 1990; JAAD 13:125–133, 1985; Nocardia asteroides* – cellulitis *BJD 144:639–641, 2001; AD 121:898–900, 1985; N. brasiliensis* cellulitis of legs, arms, trunk and face *J Inf Dis 134 (3):286–289, 1976; Nocardia nova* – red plaque of hand *BJD 145:154–156, 2001*

North American blastomycosis

Onchocerciasis – erysipelas-like acute lesions – erysipela de la Costa; eosinophilic cellulitis *J R Soc Med 78 Suppl 11:21–22, 1985*

*Paecilomyces marquandii*, *P. lilacinus*, *P. variotii* – cellulitis *BJD 143:647–649, 2000; JAAD 39:401–409, 1998; AD 122:1169, 1986*

Parvovirus B19 infection – red/violaceous plaques resembling Sweet's syndrome *Hum Pathol 31:488–497, 2000;* erysipelas-like red plaque *Rev Med Interne 24:317–319, 2003*

*Pasteurella multocida* (*P. haemolytica*, *P. pneumotropica* and *P. ureae*) – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *JAAD 33:1019–1029, 1995; Medicine 63:133–154, 1984*

Periductal mastitis – cellulitis-like *JAAD 43:733–751, 2000*

Phaeohyphomycosis *JAAD 18:1023–1030, 1988*

Pinta – primary lesion with satellite papules *AD 135:685–688, 1999*

Plague – *Yersinia pestis*; flea bite; cellulitic plaque becomes bullous and crusted like anthrax *West J Med 142:641–646, 1985*

Pott's puffy tumor – non-tender bogginess of forehead – underlying osteomyelitis

*Prevotella* species *J Clin Inf Dis (Suppl 2):S88–93, 1997*

Protothecosis *JAAD 31:920–924, 1994; AD 125:1249–1252, 1989;* cellulitis *Cutis 63:185–188, 1999; BJD 146:688–693, 2002*

*Pseudallescheria boydii JAAD 21:167–179, 1989*

*Pseudomonas aeruginosa JAMA 248;2156, 1982*

Pyomyositis

Pythiosis (*Pythium insidiosum*) (alga) – cellulitis, infarcts, ulcers *JAAD 52:1062–1068, 2005*

*Rhizopus A Surg 111:532, 1976*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm; group to form mamillated plaques *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

*Serratia marcescens JAMA 250:2348, 1983;* cellulitis *JAAD 49:S193–194, 2003*

*Shewanella putrefaciens* – cellulitis *J Clin Inf Dis 25:225–229, 1997*

Sparganosis – subcutaneous sparganosis (*Spirometra*/tapeworm) *BJD 148:369–370, 2003*

Spider bites – cellulitis-like; black widow spider (*Latrodectus mactans*) – punctum with erythema and edema *AD 123:41–43, 1987;* brown recluse spider (*Loxosceles reclusa*) – erythema, edema, central bulla; targetoid lesion with central blue/purple, ischemic halo, outer rim of erythema; at 3–4 days central necrosis, eschar, ulcer, scar *South Med J 69:887–891, 1976;* wolf spider (*Lycosa*) – erythema and edema *Cutis 39:113–114, 1987*

Sporotrichosis – cellulitis (erysipeloid-like) *JAAD 40:272–274, 1999*; fixed cutaneous sporotrichosis *Derm Clinics 17:151–185, 1999;* disseminated *Tyring p.342, 2002*

*Staphylococcus aureus Ped 18:249, 1956;* staphylococcal folliculitis in AIDS *JAAD 21:1024–1026, 1989*

*Staphylococcus epidermidis* – cellulitis *Arch Derm 120:1099, 1984*

*Streptococcus* – group B streptococcal disease – cellulitis *Clin Inf Dis 33:556–561, 2001;* neonatal group B streptococcal cellulitis *Ped Derm 10:58–60, 1993*; group G streptococcus *Arch Derm 118:934, 1982; Streptococcus zooepidemicus* (Lancefield group C) – cellulitis *Aust NZ Med 20:177–178, 1990*

*Streptococcus pneumoniae Am J Med 59:293, 1975; Clin Inf Dis 19:149–151, 1994*

Streptococcal toxic shock syndrome – painful localized edema and erythema; progression to vesicles and bullae *Textbook of Neonatal Dermatology, p.189, 2001*

Subcutaneous phycomycosis (*Basidiobolus haptosporus*) *Ped Derm 5:33–36, 1988*

Sycosis – deep staphylococcal folliculitis; red plaque studded with pustules *Dermatol Wochenschr 152:153–167, 1966*

Syphilis – secondary *Tyring p.328, 2002;* tertiary

Tinea corporis, including *Trichophyton rubrum*, invasive *Cutis 67:457–462, 2001;* neonatal tinea corporis

Tinea versicolor

Tinea capitis – kerion

*Trichosporon beigelii AD 129:1020–1023, 1993;* neonatal – cellulitis evolving into necrotic ulcer *Textbook of Neonatal Dermatology, p.147, 2001*

Trypanosomiasis – primary

Vaccinia – progressive vaccinia – cellulitis with bullae *J Clin Inf Dis 25:911–914*, *1997*

*Vibrio alginolyticus* – cellulitis *Acta DV 63:559–560, 1983*

*Vibrio vulnificus* sepsis – cellulitis *JAAD 24:397–403, 1991; J Infect Dis 149:558–564, 1984*

Viral exanthem

Whipple's disease – septal panniculitis associated with Whipple's disease *BJD 151:907–911, 2004*

*Xanthomonas maltophilia AD 128:702, 1992*

*Yersinia enterocolitica* – cellulitis *J Infect Dis 165:740–743, 1992*

Zygomycosis *Ped Inf Dis J 4:672–676, 1985;* red plaque with central eschar *AD 131:833–834, 836–837, 1995*

## INFILTRATIVE DISORDERS

Amyloidosis – nodular localized primary cutaneous amyloidosis *BJD 145:105–109, 2001;* lichen amyloidosis

Chronic neutrophilic plaques – hands *Acta DV (Stockh) 69:415–418, 1989*

Jessner's lymphocytic infiltrate

Langerhans cell histiocytosis – in adult – ulcerated red plaque of groin *Rook p.2320, 1998, Sixth Edition;* eosinophilic granuloma

Lichen myxedematosus (papular mucinosis)

Mastocytoma

Mucinosis – plaque-like erythema with milia: a non-infectious dermal mucinosis mimicking cryptococcal cellulitis in a renal transplant recipient *JAAD 39:334–337, 1998*

Nodular eosinophilic infiltration *JAAD 24:352–355, 1991*

Plasma cell (Zoon's) balanitis *J Urol 153:424–426, 1995;* plasma cell vulvitis – red plaque *JAAD 19:947–950, 1988*

Pretibial myxedema

Reticulohistiocytosis

## INFLAMMATORY DISEASE

Crohn's disease – metastatic Crohn's disease *J Eur Acad Dermatol Venereol 12:65–66, 1999; AD 132:928–932, 1996; JAAD 36:986–988, 1996; JAAD 10:33–38, 1984;* perianal red plaque *JAAD 41:476–479, 1999*

Cryoglobulinemia – with vasculitis *Dtsch Med Wochennschr 119:1239–1242, 1994*

Cytophagic histiocytic panniculitis *JAAD 45:325–361, 2001; JAAD 31:379–383, 1994*

Dissecting cellulitis of the scalp – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Eosinophilic cellulitis – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Int J Dermatol 42:62–67, 2003; Int J Dermatol 40:148–152, 2001*

Eosinophilic cellulitis-like lesions associated with eosinophilic myositis *AD 133:203–206, 1997;* annular plaque with pustules *JAAD 51:S71–73, 2004*

Eosinophilic panniculitis – cellulitis-like *JAAD 34:229–234, 1996*

Eosinophilic pustular folliculitis – red plaque with pustules *JAAD 46:S153–155, 2002*

Erythema multiforme

Erythema nodosum – cellulitis-like *Ann Intern Med 142:47–55, 2005*

Erythema overlying infection or inflammation of underlying structure (erythema of flank overlying area of bowel perforation)

Folliculitis decalvans

Gouty arthritis – cellulitis-like *Ann Intern Med 142:47–55, 2005*

Granulomatous dermohypodermatitis

Hidradenitis suppurativa – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Inflammatory bowel disease with cutaneous granulomas

Interstitial granulomatous dermatitis with plaques (also called linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare) – red, linear plaques with arthritis *JAAD 46:892–899, 2002;* annular erythematous plaques of medial thighs, lateral chest, abdomen *AD 140:353–358, 2004*
Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *Am J BJD 144:885–889, 2001*; *JAAD 36:342–346, 1997; Surg Pathol 14:872–876, 1990*

Lipophagic panniculitis of childhood

Lymphocytoma cutis

Lymphomatoid granulomatosis – pink plaques *AD 139:803–808, 2003*

Midline granuloma – presenting as orbital cellulitis *Graefes Arch Clin Exp Ophthalmol 234:137–139, 1996*

Neutrophilic eccrine hidradenitis – Ara-C, doxorubicin, erythro, cyclophosphamide *JAAD 28:775–776, 1993; AD 129:791–792, 1993; JAAD 35:819–822, 1996; JAAD 38:1–17, 1998; JAAD 11:584, 1984; AD 118:263–266, 1982;* childhood variant – plantar red plaque

Panniculitis – Weber–Christian disease, cytophagic histiocytic panniculitis, post-steroid panniculitis all mimicking cellulitis *Ann Intern Med 142:47–55, 2005;* various types; cellulitis-like red plaque; pancreatic panniculitis *Ann Intern Med 142:47–55, 2005*

Plasma cell granuloma (cutaneous inflammatory pseudotumor) *BJD 144:1271–1273, 2001*

Pseudolymphoma – $CD8^+$ pseudolymphoma in HIV disease *JAAD 49:139–141, 2003*

Pyoderma gangrenosum *NEJM 350:904–912, 2004*

Sarcoid – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Am Fam Physician 65:1581–1584, 2002; Rook p.2691, 1998, Sixth Edition*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) – violaceous, red plaques; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *JAAD 41:335–337, 1999; Am J Dermatopathol 17:384–388, 1995; Cancer 30:1174–1188, 1972*

Subacute migratory nodular panniculitis (Villanova) (erythema nodosum migrans) – red leg plaque *AD 128:1643–1648, 1992; Cutis 54:383–385, 1994; Acta DV (Stockh) 53:313–317, 1973; AD 89:170–179, 1964*

Subcutaneous fat necrosis of the newborn – cellulitis-like *AD 117:36–37, 1981; AD 134:425–426, 1998*

Zoon's balanitis

## METABOLIC

$\alpha_1$-antitrypsin deficiency panniculitis – trunk and proximal extremities *JAAD 51:645–655, 2004; JAAD 45:325–361, 2001*; cellulitis-like *JAAD 18:684–692, 1988*

Alpha heavy chain disease *AD 122:1243–1244, 1986*

Calciphylaxis – early erythema mimicking cellulitis *Ann Intern Med 142:47–55, 2005; Kidney Int 61:2210–2217, 2002; AD 131:638–638, 1995*

Carbamyl phosphate synthetase deficiency

Citrullinemia – moist red scaly plaques on genitalia, abdomen, buttocks, and perioral skin

Cryoglobulinemia

Diabetes mellitus – erysipelas-like erythema of legs or feet *Acta Med Scand 196:333–342, 1974*

Extramedullary hematopoiesis *QJMed 6:253–270, 1937*

Gamma heavy chain disease *AD 124:1538–1540, 1988*

Gout

Myxedema

Necrobiosis lipoidica diabeticorum – starts as red plaque *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Nephrogenic fibrosing dermopathy

Paroxysmal nocturnal hemoglobinuria – petechiae, ecchymoses, red plaques which become hemorrhagic bullae with necrosis; lesions occur on legs, abdomen, chest, nose, and ears; deficiency of enzymes – decay-accelerating factor (DAF) and membrane inhibitor of reactive lysis (MIRL) *AD 138:831–836, 2002*

Pruritic urticarial papules and plaques of pregnancy

Purpura fulminans, neonatal – purpura or cellulitis-like areas evolving into necrotic bullae or ulcers *Textbook of Neonatal Dermatology, p.151, 2001*

Sickle cell disease *Oral Dis 7:306–309, 2001*

Spherocytosis – pseudoerysipelas due to recurrent hemolysis *JAAD 51:1019–1023, 2004*

## NEOPLASTIC DISEASES

Actinic reticuloid

Aggressive intranasal carcinoma *Cutis 42:288–293, 1988*

Anal intraepithelial neoplasia – perianal hyperpigmented patches, white and/or red plaques *JAAD 52:603–608, 2005*

Apocrine hamartoma *Ped Derm 12:248–251, 1995*

Bednar tumor (pigmented dermatofibrosarcoma protuberans) – brown plaque *JAAD 40:315–317, 1999*

Bowen's disease *Rook p.1674–1675, 1998, Sixth Edition*

Carcinoma erysipelatoides – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; J R Soc Med 78:Suppl 11:43–45, 1985; AD 113:69–70, 1977*

Castleman's disease

Clear cell acanthoma (velvety plaque) *JAAD 21:313–315, 1989*

Connective tissue nevus; purplish verrucous plantar plaque *BJD 146:164–165, 2002*

Dermatofibroma – congenital multiple clustered dermatofibroma – red plaque and papules *BJD 142:1040–1043, 2000; Ann DV 111:163–164, 1984*

Dermatofibrosarcoma protuberans *JAAD 53:76–83, 2005; Textbook of Neonatal Dermatology, p.440, 2001*

Dermatomyofibroma – red or tan nodule or plaque *JAAD 46:477–490, 2002; Ped Derm 16:154–156, 1999*

Eccrine angiomatous hamartoma

Eccrine porocarcinoma *JAAD 35:860–864, 1996*

Eccrine syringofibroadenomas

Erythroplasia, oral – underside of tongue, floor of mouth, soft palate *J Oral Pathol 12:11–29, 1983*

Erythroplasia of Queyrat *JID 115:396–401, 2000; Urology 8:311–315, 1976; Bull Soc Fr Dermatol Syphiligr 22:378–382, 1911*

Extramammary Paget's disease – underpants-pattern erythema *Sem Cut Med Surg 21:159–165, 2002; JAAD 40:966–978, 1999; JAAD 13:84–90, 1985*; of inguinal crease and scrotum *BJD 153:676–677, 2005*

Fat-storing hamartoma of dermal dendrocytes – red–brown plaque of papules and nodules of lumbosacral area *AD 126:794–796, 1990*

Hyperkeratotic lichen planus-like reactions combined with infundibulocystic hyperplasia *AD 140:1262–1267, 2004*

Infantile myofibromatosis *Ped Derm 5:37–46, 1988; AD 134:625–630, 1998*

Kaposi's sarcoma

Keloid

Keratoacanthoma – Grzybowski type

Langerhans cell histiocytosis with leukemia

Large cell acanthoma

Leukemia cutis *JAAD 44:365–369, 2001; Acta DV 78:198–200, 1998;* B-cell leukemia cutis *JAAD 33:341–345, 1995;* carcinoma erysipelatoides *JAAD 40:966–978, 1999;* leukemic infiltrates of breast *JAAD 43:733–751, 2000;* acute myelogenous leukemia – red–brown plaques of lower legs *JAAD 49:128–129, 2003;* eosinophilic leukemia *AD 140:584–588, 2004;* T-cell prolymphocytic leukemia – mimicking cellulitis *Ann Intern Med 142:47–55, 2005;* HTLV-1 (acute T-cell leukemia) *JAAD 49:979–1000, 2003;* neonatal aleukemic leukemia cutis

Lymphangiosarcoma (Stewart–Treves tumor) – red–brown or ecchymotic patch, nodules, plaques in lymphedematous limb *Cancer 1:64–81, 1948*

Lymphoma – cutaneous T-cell lymphoma; subcutaneous panniculitic T-cell lymphoma *BJD 149:542–553, 2003; JAAD 45:325–361, 2001;* angiotrophic lymphoma (violaceous) *JAAD 26:101–104, 1992; JAAD 21:727–733, 1989;* B-cell lymphoma; granulomatous slack skin syndrome (CTCL); HTLV-1 lymphoma *BJD 128:483–492, 1993; Am J Med 84:919–928, 1988*; large cell lymphoma *JAAD 25:912–915, 1991;* lymphomatoid granulomatosis – red, brown, or violaceous plaques with epidermal atrophy and purpura *JAAD 20:571–578, 1989; AD 124:571–576, 1988;* Woringer–Kolopp disease *AD 120:1045–1051, 1984;* immunocytoma (low grade B-cell lymphoma) – reddish–brown papules, red nodules, plaques and/or tumors on the extremities *JAAD 44:324–329, 2001;* B-cell lymphoma overlying acrodermatitis chronica atrophicans associated with *Borrelia burgdorferi* infection *JAAD 24:584–590, 1991;* primary skeletal muscle lymphoma with cellulitis-like appearance *Ann Intern Med 142:47–55, 2005; Cutis 68:233–236, 2001;* NK/T-cell lymphoma *Ped Derm Meeting of AAD, March, 2000;* blastoid nasal T/natural killer-cell lymphoma *BJD 146:700–703, 2002;* primary cutaneous blastic NK-cell lymphoma of forhead – violaceous pearly edematous plaque with pseudovesicular appearance *JAAD 53:742–743, 2005;* intravascular B-cell lymphoma (malignant angioendotheliomatosis) – purple plaques; red plaques with telangiectasias *Cutis 72:137–140, 2003*

Malignant histiocytosis – multiple erythematous plaques with depigmentation *Am J Dermatopathol 19:299–302, 1997*

Malignant nodular hidradenoma – ulcerated red plaque of back *Cutis 68:273–278, 2001*

Melanocytic nevus – congenital melanocytic nevus *AAD 1997, Ped Derm Section*

Melanoma, amelanotic melanoma *JAAD 27:464–465, 1992;* melanoma erysipelatoides (inflammatory melanoma) *BJD 143:904–906, 2000; JAAD 10:52–55, 1984;* acral lentiginous melanoma *Caputo p.93, 2000*

Merkel cell carcinoma – mimicking angiosarcoma *AD 123:1368–1370, 1987*

Metastases *JAAD 29:228–236, 1993;* carcinoma erysipelatoides – includes metastases from breast, lung, melanoma *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004; Ann DV 120:831–833, 1993;* ovary, stomach, tonsils, pancreas, kidney, rectum, colon, parotid, uterus *JAAD 43:733–751, 2000; JAAD 39:876–878, 1998; JAAD 33:161–182, 1995; JAAD 30:304–307, 1994; JAAD 31:877–880, 1994;* larynx *Eur J Dermatol 11:124–126, 2001;* prostate carcinoma *Cutis 65:215–216, 2000;* squamous cell carcinoma *Br J Plast surg 44:622–623, 1991*; gastric adenocarcinoma *Cutis 76:194–196, 2005;* prostate *JAAD 53:744–745, 2005*

Milia en plaque – face, eyelid, ears and ear lobes *Ped Derm 15:282–284, 1998*

Multiple myeloma *AD 139:475–486, 2003;* cutaneous crystalline deposits in myeloma *AD 130:484–488, 1994*; face with cellulitis-like appearance

Neurilemmomatosis (multiple neurilemmomatosis) *JAAD 10:744–754, 1984*

Nevus sebaceus

Paget's disease – nipple *Ann Intern Med 142:47–55, 2005; Rook p.1677–1678, 1998, Sixth Edition; Surg Gynecol Obstet 123:1010–1014, 1966;* extramammary – perianal *BJD 85:476–480, 1971;* vulvar *Cancer 46:590–594, 1980; Am J Clin Pathol 27:559–566, 1957*

Plantar fibromatosis

Plasmacytosis, cutaneous *JAAD 36:876–880, 1997*

Porokeratosis

Post-transplant Epstein–Barr virus-associated lymphoproliferative disorder – ulcerated plaques *JAAD 51:778–780, 2004; AD 140:1140–1164, 2004*

Recurrent, self-healing monoclonal plasmablastic infiltrates in *HIV BJD 153:828–832, 2005*

Reticulohistiocytoma of the dorsum (Crosti's syndrome) – B-cell lymphoma

Seborrheic keratosis

Squamous cell carcinoma

Syringocystadenoma papilliferum

Trichilemmal carcinoma *JAAD 36:107–109, 1997*

Verrucous acanthoma

Verrucous carcinoma – genital red plaque

Waldenström's macroglobulinemia – red–brown to violaceous plaques, macules, or papulonodules; neoplastic B-cell infiltration *Ann DV 129:53–55, 2002; JAAD 45:S202–206, 2001; AD 124:1851–1856, 1988; Ann DV 112:509–516, 1985; BJD 106:217–222, 1982*

## PARANEOPLASTIC DISEASES

Insect bite-like reactions associated with hematologic malignancies *AD 135:1503–1507, 1999*

Necrobiotic xanthogranuloma with paraproteinemia *Medicine (Baltimore) 65:376–388, 1986*

Neutrophilic dermatosis associated with cutaneous T-cell lymphoma *AD 141:353–356, 2005*

Neutrophilic panniculitis associated with myelodysplastic syndrome *JAAD 50:280–285, 2004*

Paraneoplastic pemphigus

Sweet's syndrome, bullous

Wells' syndrome – associated with lung cancer *BJD 145:678–679, 2001;* anal squamous cell carcinoma *Acta DV (Stockh) 66:213–219, 1986;* nasopharyngeal carcinoma *Ann DV 111:777–778, 1984*

## PHOTODERMATOSES

Actinic granuloma

Actinic prurigo – red plaques on arms

Actinic reticuloid *JAAD 38:877–905, 1998*

Polymorphic light eruption

Solar elastotic bands – red plaques of forearms *JAAD 49:1193–1195, 2003*

## PRIMARY CUTANEOUS DISEASE

Acne rosacea

Alopecia mucinosa (follicular mucinosis) *Dermatology 197:178–180, 1998; AD 125:287–292, 1989; JAAD 10:760–768, 1984*

Axillary (intertrigenous) granular hyperkeratosis *JAAD 39:495–496, 1998*

Eosinophilic fasciitis

Eosinophilic pustular folliculitis (Ofuji's disease) – sterile papules, pustules, and plaques of face, trunk, arms, palms, soles *JAAD 23:1012–1014, 1990*; *JAAD 14:469–474, 1986*

Erythema elevatum diutinum *Hautarzt 48:113–117, 1997; JAAD 26:38–44, 1992; Medicine (Baltimore) 56:443–455, 1977;* in AIDS *Cutis 68:41–42, 55, 2001;* mimicking Kaposi's sarcoma in AIDS *AD 127:1819–1822, 1991*

Erythrokeratoderma variabilis (Mendes da Costa syndrome) – autosomal dominant – dark red fixed plaques with transient polycyclic red macules with fine scale *JID 113:1119–1122, 1999; Ped Derm 12:351–354, 1995*

Granuloma annulare, generalized *JAAD 20:39–47, 1989*

Granuloma faciale, extrafacial *BJD 145:360–362, 2001*

Granuloma multiforme – upper trunk and arms; papules evolving into annular plaques with geographical, polycyclic borders; heal centrally with depigmented macules; Central Africa *Rook p.2309, 1998, Sixth Edition*

Lichen planus

Lichen sclerosus et atrophicus

Lichen simplex chronicus

Malakoplakia *JAAD 30:834–836, 1994;* granulomatous plaque *JAAD 23:947–948, 1990*

Miescher's granuloma

Nummular dermatitis

Parapsoriasis en plaque *Rook p.2382, 1998, Sixth Edition; JAAD 5:373–395, 1981*

Pityriasis rosea *JAAD 15:159–167, 1986*

Pityriasis rubra pilaris

Poikiloderma vasculare atrophicans

Psoriasis

Pyoderma vegetans

Seborrheic dermatitis – scalp; genitalia

Scleredema of Buschke (pseudoscleroderma) – in diabetics, preceded by erythema; cellulites-like *Clin Exp Dermatol 14:385–386, 1989*

Superficial granulomatous pyoderma

Symmetrical lividity of the palms and soles *Int J Dermatol 17:739–744, 1978*

Syringolymphoid hyperplasia *JAAD 49:1177–1180, 2003*

## PSYCHOCUTANEOUS DISEASES

Factitial panniculitis *JAAD 45:325–361, 2001*

## SYNDROMES

Acute anterior tibial compartment syndrome – cellulitis-like *JAAD 34:521–522, 1996*

Albright's hereditary osteodystrophy (pseudohypoparathyroidism) – osteomas

Ataxia telangiectasia – cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration; telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis *AD 134:1145–1150, 1998; JAAD 10:431–438, 1984*

Autoerythrocyte sensitization syndrome (painful bruising syndrome) *Ann DV 129:1029–1032, 2002*

Buschke–Ollendorff syndrome

Epidermodysplasia verruciformis *AD 131:1312–1318, 1995*

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Familial eosinophilic cellulitis, short stature, dysmorphic habitus, and mental retardation – bullae, vesicles, and red plaques *JAAD 38:919–928, 1998*

Familial Hibernian fever – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Q J Med 51:469–480, 1982*

Familial Mediterranean fever – autosomal recessive; erysipelas-like erythema – mutation in pyrin/marenostrin *JAAD 42:791–795, 2000; AD 136:1487–1494, 2000;* mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005; Isr Med Assoc J 1:31–36, 1999; Q J Med 75:607–616, 1990*

Glucagonoma syndrome – cellulitis-like *Ann Intern Med 142:47–55, 2005*

Goltz's syndrome

Hypereosinophilic syndrome – urticarial plaque; red plaque *BJD 143:641–644, 2000; Sem Derm 14:122–128, 1995; Blood 83:2759–2779, 1994; Medicine 54:1–27, 1975*

Hyper-IgD syndrome *AD 130:59–65, 1994*

Infantile systemic hyalinosis – autosomal recessive; dusky red plaques of buttocks, synophrys, thickened skin, perianal nodules, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004*

Kawasaki's disease – mimicking periorbital cellulitis *NEJM 350:904–912, 2004*

KID syndrome – keratosis, ichthyosis, deafness syndrome – fixed orange, symmetrical hyperkeratotic plaques of scalp, ears, face, and extremities with perioral rugae; aged or leonine facies; erythrokeratoderma-like; later hyperkeratotic nodules develop *Ped Derm 17:115–117, 2000; Ped Derm 13:105–113, 1996*

Muckle–Wells syndrome

Multicentric reticulohistiocytosis

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome *AD 138:361–365, 2002*

Nakajo syndrome – nodular erythema with digital changes

POEMS syndrome (hyperpigmented plaque) *JAAD 21:1061–1068, 1989*

Reflex sympathetic dystrophy – red plaque *JAAD 35:843–845, 1996*; *JAAD 28:29–32, 1993*

Reiter's syndrome – circinate balanitis (red plaque of penis)

Relapsing polychondritis – initial inflammatory phase mimics cellulitis *Ann Intern Med 142:47–55, 2005; Medicine 55:193–216, 1976*

Reticular erythematous mucinosis (REM) syndrome

Schopf syndrome – syringofibroadenomas – flat and fissured red plaques *JAAD 40:259–262, 1999*

Sweet's syndrome – red plaque (cellulitis-like) with or without bullae or pustules *Ann Intern Med 142:47–55, 2005; NEJM 350:904–912, 2004; Cutis 71:469–472, 2003; JAAD 40:838–841, 1999; AD 134:625–630, 1998; JAAD 31:535–536, 1994; Int J Dermatol 31:598–599, 1992; BJD 76:349–356, 1964;* associated with myeloproliferative disorders *Cancer 51:1518–1526, 1983;* induced by or associated with granulocyte colony stimulating factor, trimethoprim-sulfamethoxazole, minocycyline, nitrofurantoin, anti-seizure medications, hydralazine, oral contraceptives, retinoids *Cutis 71:469–472, 2003;* red breast *JAAD 49:907–909, 2003*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55 kDa TNF receptor *AD 136:1487–1494, 2000*

Vogt–Koyanagi–Harada syndrome – inflammatory vitiligo presenting as a red plaque around pre-existent vitiliginous patches *JAAD 44:129–131, 2001*

Wells' syndrome (eosinophilic cellulitis) – red plaques resembling urticaria or cellulitis *Ann Intern Med 142:47–55, 2005; JAAD 52:187–189, 2005; NEJM 350:904–912, 2004; AD 139:933–938, 2003; Ped Derm 20:276–278, 2003; BJD 140:127–130, 1999; JAAD 18:105–114, 1988; Trans St Johns Hosp Dermatol Soc 51:46–56, 1971*

## TOXINS

Arsenical keratoses; multiple Bowenoid keratoses in arsenical poisoning *AD 123:251–256, 1987*

L-tryptophan-induced eosinophilic myalgia syndrome – cellulitis-like

## TRAUMA

Cold panniculitis *JAAD 45:325–361, 2001;* of neonate and children (Haxthausen's disease) *JAAD 33:383–385, 1995; Burns Incl Therm Inj 14:51–52, 1988; AD 94:720–721, 1966; BJD 53:83–89, 1941;* popsicle panniculitis – cellulitis-like *Pediatr Emerg Care 8:91–93, 1992*

Coma-induced sweat gland necrosis – pressure bulla; cellulitis-like *Ann Dermato Syphiligr 98:421–428, 1971*

Compartment syndrome – often of anterior tibial compartment; erythema mimicking cellulitis *Ann Intern Med 142:47–55, 2005*

Decubitus

Equestrian cold panniculitis – red plaques on hips *AD 116:1025–1027, 1980*

Perniosis *AD 117:26–28, 1981*

Postirradiation pseudosclerodermatous panniculitis *Ann Intern Med 142:47–55, 2005; Am J Dermatopathol 23:283–287, 2001; Mayo Clin Proc 68:122–127, 1993*

Radiation therapy – post-irrradiation pseudosclerodermatous panniculitis *JAAD 45:325–361, 2001*

## VASCULAR

Acquired agminated acral angioma *AD 141:646–647, 2005*

Acquired elastotic hemangioma – red plaque with vascular appearance *JAAD 47:371–376, 2002*

Acquired progressive lymphangioma (benign lymphangioendothelioma) – abdomen, thigh calf; bruise or bruise-like plaque *JAAD 49:S250–251, 2003; JAAD 37:656–657, 1997; JAAD 23:229–235, 1990; JAAD 31:362–368, 1994; J Cutan Pathol 19:502–505, 1992; JAAD 24:813–815, 1991; AD 124:699–701, 1988*

Acral pseudolymphomatous angiokeratoma of children (APACHE) – unilateral multiple persistent vascular papules on hands and feet; may have keratotic surface or collar *Ped Derm 20:457–458, 2003*

Acroangiodermatitis of Mali – pseudo-Kaposi's sarcoma; chronic venous insufficiency, arteriovenous malformations, hemodialysis arteriovenous shunts, paralysis, amputation stumps – dorsum of foot, tops of first and second toes; red brown plaque *JAAD 49:887–896, 2003; Acta DV (Stockh) 75:475–478, 1995; Int J Dermatol 33:179–183, 1994*

Angiosarcoma *J Eur Acad Dermatol Venereol 17:594–595, 2003; AD 138:831–836, 2002; JAAD 38:837–840, 1998; AD 133:1303–1308, 1997; JAAD 34:308–310, 1996*; *AD 128:1115, 1992*;; of face and scalp – bruise-like *Sem Cut Med Surg 21:159–165, 2002; JAAD 38:143–175, 1998; JAAD 34:308–310, 1996; AD 128:115–120, 1990*; of face and scalp *JAAD 38:143–175, 1998*; angiosarcoma secondary to radiation of hemangioma – violaceous *JAAD 33:865–870, 1995;* erysipelas-like *Rook p.2361–2362, 1998, Sixth Edition; Cancer 77:2400–2406, 1996;* congenital fatal angiosarcoma – violaceous *Soc Ped Derm Annual Meeting, July 2005*

Benign (reactive) angioendotheliomatosis (benign lymphangioendothelioma, acquired progressive lymphangioma, multifocal lymphangioendotheliomatosis) – present at birth; red brown or violaceous nodules or plaques on face, arms, legs with petechiae, ecchymoses, and small areas of necrosis *AD 140:599–606, 2004; JAAD 38:143–175, 1998; AD 114:1512, 1978*

Churg–Strauss granuloma *AD 137:136, 2001*

Diffuse dermal angiomatosis (reactive angioendotheliomatosis) *JAAD 40:257–259, 1999;* ulcerated violaceous plaques *JAAD 45:462–465, 2001;* associated with peripheral vascular disease *JAAD 49:887–896, 2003*

Eosinophilic vasculitis *AD 130:1159–1166, 1994*

Epithelioid angiosarcoma *JAAD 38:143–175, 1998*

Epithelioid hemangioendothelioma *JAAD 42:897–899, 2000*

Erythromelalgia – cellulitis-like *Ann Intern Med 142:47–55, 2005*

Generalized acquired telangiectasia – cellulitis-like

Glomeruloid angioendotheliomatosis – red purpuric patches and acral necrosis – associated with cold agglutinins *JAAD 49:887–896, 2003*

Glomus tumors (vascular plaque) *AD 126:1203–1207, 1990*

Hemangioma, including hemangioma of lower lateral cheek associated with airway obstruction; large facial hemangiomas of PHACES syndrome; sacral hemangiomas associated with spinal dysraphism *JAAD 48:477–493, 2003*

Kaposiform hemangioendothelioma – red to purple plaque *JAAD 52:616–622, 2005; JAAD 38:799–802, 1998*

Klippel–Trenaunay–Weber syndrome

Lichen aureus *JAAD 8:722–724, 1983*

Lipodermatosclerosis – chronic venous insufficiency with hyperpigmentation, induration, inflammation *Lancet ii:243–245, 1982;* cellulitis-like *Ann Intern Med 142:47–55, 2005; JAAD 45:325–361, 2001*

Lymphangioma circumscriptum

Lymphedema – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005;* with lymphangiectasias – cellulitis-like

Malignant angioendotheliomatosis – scalp; livedoid red plaque of thigh with woody induration *Rook p.2396, 1998, Sixth Edition; JAAD 18:407–412, 1988*

Microvenular hemangioma – red–blue plaque *Ped Derm 20:266–267, 2003; AD 131:483–488, 1995*

Multifocal lymphangioendotheliomatosis – congenital appearance of hundreds of flat vascular papules and plaques associated with gastrointestinal bleeding, thrombocytopenia with bone and joint involvement; spontaneous resolution *J Pediatr Orthop 24:87–91, 2004*

Non-involuting congenital hemangioma – round to ovoid pink to purple papule or plaque with central or peripheral pallor, coarse telangiectasias *JAAD 50:875–882, 2004*

Thrombophlebitis, superficial – cellulitis-like *Ann Intern Med 142:47–55, 2005*

Phlegmon – cellulitis-like

Polyarteritis nodosa – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Pseudo-Kaposi's sarcoma due to arteriovenous fistula (Stewart–Bluefarb syndrome) – ulcerated purple plaque *Ped Derm 18:325–327, 2001; AD 121:1038–1040, 1985*

Reactive angioendotheliomatosis – red purple-purpuric patches and plaques; includes acroangiomatosis, diffuse dermal angiomatosis, intravascular hitiocytosis, glomeruloid angioendotheliomatosis, angioperictomatosis (angiomatosis with cryoproteins) *JAAD 49:887–896, 2003*

Retiform hemangioendothelioma – *JAAD 42:290–292, 2000;* red plaque of scalp, arms, legs, and penis *JAAD 38:143–175, 1998*

Takayasu's arteritis – erythema induratum-like lesions

Tufted angioma (angioblastoma) – dull red, purple, or red–brown *JAAD 49:887–896, 2003; Ped Derm 19:388–393, 2002; Ped Derm 12:184–186, 1995*; *JAAD 20:214–225, 1989; JAAD 31:307–311, 1994; JAAD 33:124–126, 1995*

Urticarial vasculitis *JAAD 26:441–448, 1992*

Vasculitis – granulomatous, leukocytoclastic

Venous thrombosis, deep – cellulitis-like *Ann Intern Med 142:47–55, 2005*; protein C deficiency, protein S deficiency, anti-thrombin III deficiency, hyperhomocystinemia, activated protein C resistance *AD 133:1027–1032, 1997*

Venous stasis – cellulitis-like

Wegener's granulomatosis *JAAD 28:710–718, 1993;* palisaded neutrophilic and granulomatous dermatitis *Cutis 70:37–38, 2002*

# REDUNDANT SKIN

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Severe combined immune deficiency

## CONGENITAL LESIONS

Infantile perineal protrusion *Dermatology 201:316–320, 2000*

Megaprepuce, congenital *BJU Int 86:519–522, 2000*

## DRUGS

Dilantin – hypertrophy of retro-auricular folds *Cutis 30:207–209, 1982*

Penicillamine – pseudoxanthoma elasticum-like skin changes *Dermatology 184:12–18, 1992;* cutis laxa *Cutis 76:49–53, 2005*

Rofecoxib – aquagenic wrinkling of the palms *Ped Derm 19:353–355, 2002*

## EXOGENOUS AGENTS

Aquagenic wrinkling of palms *Ped Derm 21:180, 2004*

Paraffinoma *Rook p.2422, 1998, Sixth Edition; Plast Reconstr Surg 65:517–524, 1980*

## INFECTIONS

Leprosy, lepromatous – redundant facial skin *Int J Lepr Other Mycobact Dis 42:297–302, 1974*

## INFILTRATIVE DISEASES

Amyloidosis – elastolytic skin lesions of fingertips *AD 126:657–660, 1990;* primary systemic amyloidosis – cutis verticis gyrata lesions *Rook p.2633, 1998, Sixth Edition*

Lichen myxedematosus

Mastocytosis – diffuse cutaneous mastocytosis (xanthelasmoidea) (pseudoxanthomatous mastocytosis) – pachydermatous change to skin *Rook p.2342, 1998, Sixth Edition; BJD 65:296–297, 1963*

Scleromyxedema

## INFLAMMATORY DISEASES

Hidradenitis suppurativa

## METABOLIC DISEASES

Acromegaly

ACTH overproduction in infants

Cushing's syndrome, infancy *NEJM 352:1047–1048, 2005*

Cystic fibrosis – aquagenic wrinkling of the palms *AD 141:621–624, 2005*

Massive weight loss

Obesity

Pretibial myxedema *NEJM 352:918, 2005*

## NEOPLASTIC DISEASES

Lymphoma – granulomatous slack skin syndrome *AD 141:1178–1179, 2005; AD 107:271–274, 1973;* cutaneous T-cell lymphoma

Melanocytic nevi, including cerebriform nevi

## PARANEOPLASTIC DISEASES

Cutis verticis gyrata *AD 125:434–435, 1989*

Tripe palms – rippled skin

## PRIMARY CUTANEOUS DISEASES

Benign enlargment of the labia minora *Eur J Obstet Gynecol Reprod Biol 8:61–64, 1978*

Blepharochalasis *Br J Ophthalmol 72:863–867, 1988; AD 115:479–481, 1979*

Cutis laxa – inherited; acquired – with amyloidosis, myeloma, lupus erythematosus, hypersensitivity reaction, complement deficiency, penicillamine, inflammatory skin disease *Rook p.2019, 1998, Sixth Edition;* acrolocalized acquired cutis laxa *BJD 134:973–976, 1996*

Cutis laxa – bloodhound appearance of premature aging *Ped Derm 19:412–414, 2002; JAAD 29:846–848, 1993; Ped Derm 2:282–288, 1985*
- Inherited (dermatochalasis connata)
  - Autosomal dominant *Clin Genet 39:321–329, 1991*
  - Autosomal recessive
  - X-linked dominant (occipital horn syndrome (formerly Ehlers–Danlos syndrome type IX)

Cutis verticis gyrata – autosomal dominant *Ped Derm 15:18–22, 1998; AD 125:434–435, 1989*
- Associated with: *Cutis 73:254–256, 2004*
  - Acanthosis nigricans
  - acromegaly *AD Syphilol 42:1092–1099, 1940*
  - Amyloidosis
  - Chronic traction (trauma)
  - Cylindroma
  - Darier's disease
  - Dermatofibroma
  - Ehlers–Danlos syndrome
  - Fallopian tube carcinoma
  - Hamartoma
  - Histiocytofibroma
  - Lennox–Gastart syndrome (retardation with EEG abnormalities) *Dev Med Child Neurol 16:196–200, 1974*
  - Leukemia
  - Lymphangioma
  - melanocytic nevi (cerebriform) *Cutis 73:254–256, 2004; Rook p.2943, 1998, Sixth Edition; Dermatology 186:294–297, 1993*
  - mental retardation *Am J Med Genet 38:249–250, 1991; Scott Med J 12:450–456, 1967*
  - Mucinosis
  - Myxedema
  - neurofibromas, fibromas *Ann Surg 118:154–158, 1943*
  - Nevus lipomatosis
  - Nevus sebaceus
  - Noonan's syndrome *Ped Derm 22:142–146, 2005*
  - pachydermoperiostosis *Rook p.2943, 1998, Sixth Edition;*
  - paraneoplastic *AD 125:434–435, 1989*
  - Syphilis
  - tuberous sclerosis
  - Turner's syndrome *Ped Derm 22:142–146, 2005*

Dermatochalasis

Double lip – usually upper lip *Ann Plast Surg 28:180–182, 1992;* Ascher's syndrome – associated with blepharochalasis and goiter *Rook p.3127, 1998, Sixth Edition*

Elastoderma – cutis laxa-like changes *JAAD 33:389–392, 1995*

Gynecomastia, massive

Webbed neck

## SYNDROMES

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

Apert's syndrome – excess skin wrinkling of forehead *Cutis 52:205–208, 1993*

Beare–Stevenson cutis gyrata syndrome – localized redundant skin of scalp, forehead, face, neck, palms, and soles, acanthosis nigricans, craniofacial anomalies, anogenital anomalies, skin tags, and large umbilical stump *Am J Med Genet 44:82–89, 1992*

C syndrome (Opitz trigonocephaly syndrome) – nevus flammeus; trigonocephaly, unusual facies with wide alveolar ridges, multiple frenula, limb defects, visceral anomalies, redundant skin, mental retardation, hypotonia *Am J Med Genet 9:147–163, 1981*

Cardio-facio-cutaneous syndrome (NS) – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse scalp hair and eyebrows and lashes, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990*

Congenital fascial dystrophy – rippled skin *JAAD 21:943–950, 1989*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick, redundant palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Eur J Dermatol 11:453–457, 2001; Am J Med Genet 82:187–193, 1999; JAAD 32:904–907, 1995*; *Am J Med Genet 47:176–183, 1993; Aust Paediat J 13:114–118, 1977*

Cutis laxa – autosomal dominant; mild disease of late onset *Ped Derm 21:167–170, 2004*

Cutis laxa type I – autosomal recessive; diaphragmatic hernia, gastrointestinal and genitourinary diverticulae, pulmonary emphysema, cardiac abnormalities *Ped Derm 21:167–170, 2004*

Cutis laxa type II – autosomal recessive; pre and postnatal growth retardation, delayed motor development, delayed closure of large fontanelle, congenital hip dislocation, bone dysplasias, parallel strips of redundant skin of back *Ped Derm 21:167–170, 2004*

Cutis laxa type III – autosomal recessive; severe mental retardation, corneal clouding *Ped Derm 21:167–170, 2004*

Cutis laxa – X-linked recessive (occipital horn syndrome; formerly Ehlers–Danlos type IX) – lysyl oxidase deficiency, skeletal dysplasias, joint hypermobility, chronic diarrhea, obstructive uropathy *Ped Derm 21:167–170, 2004*

Cutis verticis gyrate-mental deficiency syndrome *Am J Med Genet 38:249–250, 1991*

Ehlers–Danlos syndrome – atrophic scars over knees; redundant skin on palms and soles; redundant folds around eyes *Rook p.2034, 1998, Sixth Edition*

Gingival fibromatosis–hypertrichosis syndrome (Byars–Jurkiewicz syndrome) – autosomal dominant; fibroadenomas of breast; hypertrichosis of face, upper extremities, midback; redundant skin *Ped Derm 18:534–536, 2001; J Pediatr 67:499–502, 1965*

Hypomelanosis of Ito – excess skin folds *J Med Genet 25:809–818, 1988*

Laron dwarfism

Leprechaunism (Donohue's syndrome) – decreased subcutaneous tissue and muscle mass, characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Endocrinologie 26:205–209, 1988*

Lipoid proteinosis – rugose forehead *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002*

Localized familial redundant scalp *Clin Exp Dermatol 17:349–350, 1992*

Localized lipomatous hypertrophy with microcephaly, mental retardation, and deletion of short arm of chromosome 11 *AD 116:622, 1980; AD 115:978–979, 1979*

Michelin tire baby syndrome – either nevus lipomatosis or diffuse smooth muscle hamartoma; excessive folds of firm skin on extremities, especially ankles and wrists; generalized hypertrichosis, palmar cerebriform plaques *Ped Derm 22:245–249, 2005; Ped Derm 6:329–331, 1989;* diffuse lipomatous hypertrophy *AD 100:320–323, 1969*

Mucopolysaccharidoses (Hurler's, Hurler–Schei, Sanfilippo, Morquio, Maroteaux–Lamy, Sly syndromes) *Rook p.2624–2625, 1998, Sixth Edition*

Neurofibromatosis – rugose and plexiform neurofibromas *JAAD 52:191–195, 2005*

Noonan's syndrome – cutis verticis gyrata *Ped Derm 22:142–146, 2005*

Pachydermoperiostosis (Touraine–Solente–Gole syndrome) *Syndromes of the Head and Neck, p.281–285, 1990*

Patterson–David syndrome – redundant skin, hypertrichosis *Birth Defects 5:117–121, 1969*

Patau's syndrome (trisomy 13) – loose skin of posterior neck, parieto-occipital scalp defects, abnormal helices, low-set ears, simian crease of hand, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

Proteus syndrome

Pseudoxanthoma elasticum – linear and reticulated cobblestoned yellow papules and plaques *AD 124:1559, 1988; JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*; PXE and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977;* penicillamine-induced pseudoxanthoma elasticum *JAAD 30:103–107, 1994; Dermatology 184:12–18, 1992;* saltpetre-induced pseudoxanthoma elasticum *Acta DV 58:323–327, 1978*

Shulman's syndrome – rippled skin

Soto's syndrome

Turner's syndrome – neonatal cutis verticis gyrata *Ped Derm 15:18–22, 1998*

Williams syndrome – premature laxity of skin, congenital heart disease (supravalvular aortic stenosis), baggy eyes, full cheeks, prominent lips, dental malocclusion, delayed motor skills, cocktail party personality *J Pediatr 113:318–326, 1988*

### TRAUMA

Immersion foot – rippled skin

### VASCULAR DISEASES

Glomerulovenous malformation – atrophic patch with redundant skin *Soc Ped Derm Annual Meeting, July 2005*

Hemangiomas, resolved – atrophy, telangiectasia, redundant skin *JAAD 48:477–493, 2003; Rook p.554, 1998, Sixth Edition*

## RETICULATED ERUPTIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Common variable immunodeficiency – reticulated eruption consisting of cutaneous granulomas *BJD 153:194–199, 2005*

Dermatomyositis – reticulate telangiectatic erythema in older lesions with hyper- and hypopigmentation *Rook p.2559–2560, 1998, Sixth Edition*

Graft vs. host disease, chronic; acute oral changes of GVH *AD 120:1461–1465, 1984*

Morphea

Lupus erythematosus – neonatal LE (cutis marmorata telangiectatica congenita-like dermatosis) *JAAD 40:675–681, 1999*; plate-like calcinosis cutis, in SLE *AD 126:1057–1059, 1990;* nodules and atrophy *AD 126:544–546, 1990;* reticulated telangiectatic erythema of thenar and hypothenar eminences, finger pulps, toes, lateral feet, and heels; bluish red with small white scars *Rook p.2473, 1998, Sixth Edition;* tumid lupus – reticulated telangiectasias *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition*

Pemphigus foliaceus – resolved lesions

Serum sickness – vasculitis

### CONGENITAL DISORDERS

Aplasia cutis congenita

Congenital diffuse mottling of the skin

Congenital erosive and vesicular dermatosis with reticulate scarring *JAAD 32:873–877, 1995, Ped Derm 15:214–218, 1998*

Cutis marmorata – neonatal vasomotor instability *Eichenfeld p.97, 2001*

Cutis marmorata telangiectatica congenita *BJD 142:366–369, 2000*

Pigmentary lines of the newborn *JAAD 28:942–950, 1993; JAAD 28:893–894, 1993*

Reticulolinear aplasia cutis congenita of the face and neck – syndromes linked to Xp22 *BJD 138:1046–1052, 1998*

### DEGENERATIVE DISEASES

Reflex sympathetic dystrophy – reticulate hyperpigmentation *AD 127:1541–1544, 1991*

### DRUG-INDUCED

Benzoyl peroxide – reticulate hyperpigmentation *Acta DV 78:301–302, 1998*

Bleomycin *Dermatologica 180:255–257, 1990*

Lichenoid drug reaction

### EXOGENOUS AGENTS

Danthron (laxative) – irritant contact dermatitis; livedoid pattern *Clin Exp Dermatol 9:95–96, 1984*

Diode laser-assisted hair removal – reticulate erythema (probably a form of erythema ab igne) *JAAD 51:774–777, 2004*

Reticular telangiectatic erythema associated with implantable cardioverter defibrillator *AD 137:1239–1241, 2001;* overlying intrathecal pump *Soc Ped Derm Annual Meeting, July 2005; AD 141:106–107, 2005*

## INFECTIONS

Coxsackie B4 hemorrhagic dermatitis

Parvovirus B19 infection – erythema infectiosum *Tyring p.297–299, 2002; Hum Pathol 31:488–497, 2000; J Clin Inf Dis 21:1424–1430, 1995*

Rheumatic fever – erythema marginatum; reticulated pattern *JAAD 8:724–728, 1983; Ann Intern Med 11:2223–2272, 1937–1938*

Rocky Mountain spotted fever

Rubella – congenital rubella – reticulated erythema *JAAD 12:697–706, 1985*

Tinea corporis

Tinea versicolor

## INFILTRATIVE DISEASES

Amyloidosis – familial or X-linked cutaneous amyloidosis (X-linked reticulate pigmentary disorder with systemic manifestations) *Am J Med Genet 52:75–78, 1994; Ped Derm 10:344–351, 1993*; *Am J Med Genet 10:67–75, 1981*; macular amyloid in incontinentia pigmenti-like pattern *BJD 142:371–373, 2000*

Benign cephalic histiocytosis *Ped Derm 11:164–177, 1994*

Mastocytosis (urticaria pigmentosa) – flexural hyperpigmented reticulated plaques *AD 139:381–386, 2003*

Xanthoma disseminatum *Bolognia p.1443, 2003*

## INFLAMMATORY DISORDERS

Erythema multiforme

Post-inflammatory hyperpigmentation with band-like mucin deposition *Int J Dermatol 37:829–832, 1998*

Sarcoid – reticulate yellow stippling with resolution of erythrodermic sarcoid *Rook p.2693, 1998, Sixth Edition*

## METABOLIC DISEASES

Calcinosis cutis – yellow reticulated plaques *JAAD 49:1131–1136, 2003*

Calciphylaxis *Tyring p.368, 2002*

Cryoglobulinemia – reticulate (retiform) purpura and livedo reticularis *AD 139:803–808, 2003; BJD 129:319–323, 1993*

Fanconi's anemia

Homocystinuria *JAAD 40:279–281, 1999*

Hunter's syndrome – reticulated 2–10 mm skin-colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004*

Kwashiorkor – reticulated scaly eruption *AD 137:630–636, 2001*

Methylmalonic acidemia with cobalamin F type – reticulate hyperpigmentation *Am J Human Genet 15A:353, 1992*

Mitochondrial disorders – erythematous photodistributed eruptions followed by mottled or reticulated hyperpigmentation; alopecia with or without hair shaft abnormalities including trichothiodystrophy, trichoschisis, tiger tail pattern, pili torti, longitudinal grooving, and trichorhexis nodosa *Pediatrics 103:428–433, 1999*

Nephrogenic fibrosing dermopathy – reticulate hyperpigmentation *JAAD 48:42–47, 2003*

Primary biliary cirrhosis – disseminated reticulate hypomelanosis *Dermatology 195:382–383, 1997*

Prolidase deficiency – reticulated erythema *AD 127:124–125, 1991*

Vitamin $B_{12}$ and/or folate deficiency – reticulated pigmentation of the palms *AD 107:231–236, 1973*

Zinc deficiency, chronic liver disease (cirrhosis) – zinc deficiency; generalized dermatitis of erythema craquele (crackled and reticulated dermatitis) with perianal and perigenital erosions and crusts; cheilitis, hair loss *Rook p.2726, 1998, Sixth Edition; Ann DV 114:39–53, 1987;* reticulated non-pruritic scaly dermatitis of trunk in alcoholics *AD 114:937–939, 1978*

## NEOPLASTIC DISEASES

Bowen's disease

Inflammatory linear verrucous epidermal nevus (ILVEN)

Infundibulomas, eruptive infundibulomas – papules

Ink spot lentigo (reticulated black solar lentigo) *AD 128:934–940, 1992*

Juvenile xanthogranulomas – reticulated maculopapular eruption *AD 105:99–102, 1972*

Lymphoma – cutaneous T-cell lymphoma; reticulate pigmentation in CTCL *Int J Derm 30:658–659, 1991*

Nevus comedonicus – cribriform plaques *Ped Derm 21:84–86, 2004*

Porokeratosis of Mibelli – cribriform changes *AD 122:585–590, 1986*

Porokeratosis *Clin Exp Dermatol 17:178–181, 1992; AD 121:1542–3, 1985;* reticular erythema with ostial porokeratosis *JAAD 22:913–916, 1990*

Post-transplantation lymphoproliferative disorder – red reticulated indurated plaque *AD 140:1140–1164, 2004*

Syringomas – resembling confluent and reticulated papillomatosis *Cutis 61:227–228, 1998*

Waldenström's macroglobulinemia – reticulate purpura and bullae *Clin Exp Dermatol 26:513–517, 2001*

## PARANEOPLASTIC DISORDERS

Lymphoma – reticulated plaques due to cutaneous granulomas associated with systemic lymphoma *JAAD 51:600–605, 2004*

## PHOTOSENSITIVITY DISORDERS

Actinic lichen planus *JAAD 20:226–231, 1989*

Disseminated superficial actinic porokeratosis

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis – reticulate and poikiloderma-like lesions of the neck *Rook p.695, 1998, Sixth Edition; J Dermatol 17:85–91, 1990*

Atrophoderma vermiculatum – reticulated scarring *JAAD 18:538–542, 1988*

Atrophoderma, reticulated

Confluent and reticulated papillomatosis of Gougerot and Carteaud *JAAD 49:1182–1184, 2003; BJD 142:1252–1253, 2000; AD 132:1400–1401, 1996; BJD 129:351–353, 1993; Bull Soc Fr Dermatol Syphilol 34:719–721, 1927*

Congenital erosions and vesicles healing with reticulate scarring *Dermatology 194:278–280, 1997; JAAD 17:369–376, 1987*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flexures) *JAAD 40:462–467, 1999; AD 114:1150–1157, 1978*

Epidermolysis bullosa, Dowling–Meara epidermolysis bullosa with mottled, reticulate dyspigmentation *AD 122:900–908, 1986*

Epidermolysis bullosa pruriginosa – reticulate scarring, dermatitis with lichenified plaques, violaceous linear scars, albopapuloid lesions of the trunk, prurigo nodularis-like lesions, milia *BJD 152:1332–1334, 2005*

Epidermolysis bullosa simplex, Mendes de Costa variant – reticulate hyperpigmentation and atrophy *JAAD 21:425–432, 1989; Ped Derm 6:91–101, 1989*

Erythema craquele

Erythrokeratoderma variabilis

Folliculitis ulerythematosa reticulata – scarring and honeycomb atrophy; associated with Noonan's syndrome *AD 124:1101–1106, 1988*

Granular parakeratosis *JAAD 52:863–867, 2005; Ped Derm 20:215–220, 2003*

Granuloma annulare, generalized *Curr Prob Derm 8:137–188, 1996*

Infantile febrile psoriasiform dermatitis *Ped Derm 12:28–34, 1995*

Lichen planus of tongue/buccal mucosa *Rook p.1904–1912, Sixth Edition; J Oral Pathol 14:431–458, 1985*

Lichen sclerosus et atrophicus, oral – bluish–white plaques; may mimic lichen planus *Rook p.2549–2551, 1998, Sixth Edition; BJD 131:118–123, 1994; Br J Oral Maxillofac Surg 89:64–65, 1991*

Mid-dermal elastophagocytosis – reticulate erythema *Australas J Dermatol 42:50–54, 2001*

Parakeratosis variegata – reticulated and atrophic *Dermatology 201:54–57, 2000; BJD 137:983–987, 1997; Dermatology 190:124–127, 1995*

Periumbilical perforating pseudoxanthoma elasticum – plaque *AD 126:1639–1644, 1990; Arch Pathol Lab Med 100:544–546, 1976*

Pigmentatio reticularis faciei and colli with epithelial cystomatosis *JAAD 37:884–886, 1997; Dermatoligae Tokyo: University of Tokyo Press 89–90, 1982*

Poikiloderma vasculare atrophicans *AD 125:1265–70, 1989*

Prurigo pigmentosa – red papules or reticulate plaques *Cutis 63:99–102, 1999; JAAD 34:509–11, 1996; AD 130:507–12, 1994; BJD 120:705–708, 1989; AD 125:1551–1554, 1989; JAAD 12:165–169, 1985*

Psoriasis

Ulceronecrotic Mucha–Habermann disease – generalized reticulate necrotic lesions

Unilateral laterothoracic exanthem *JAAD 34:979–984, 1996*

Vermiculate atrophoderma – honeycomb atrophy *Rook p.2011, 1998, Sixth Edition*

Zosteriform reticulate hyperpigmentation *BJD 121:280, 1989; BJD 117:503–510, 1987*

## SYNDROMES

Acropigmentation symmetrica of Dohi – autosomal dominant, sporadic; Asians with onset under 20 years of age; acral hyperpigmentation (reticulate pattern becoming patches with hypopigmented macules of face, trunk, distal extremities *JAAD 43:113, 2000*

Adams–Oliver syndrome – 10% cutis marmorata telangiectatica congenita *Dermatology 187:205–208, 1993*

Ataxia telangiectasia

Bockenheimer's syndrome – diffuse genuine phlebectasia

Cantu's syndrome – autosomal dominant, onset in early adolescence with 1 mm brown macules which become confluent over face, feet, forearms; hyperkeratotic papules of palms and soles *Clin Genet 14:165, 1978*

Cobb's syndrome

Coffin–Lowry syndrome – X-linked inheritance; straight coarse hair, prominent forehead, prominent supraorbital ridges, hypertelorism, large nose with broad base, thick lips with mouth held open, large hands, tapering fingers, severe mental retardation; loose skin easily stretched, cutis marmorata, dependent acrocyanosis, varicose veins *Clin Genet 34:230–245, 1988; Am J Dis Child 112:205–213, 1966*

Congenital reticular ichthyosiform erythroderma (ichthyosis variegata) *BJD 139:893–896, 1998;* ichthyosis 'en confettis *Dermatology 188:40–45, 1994*

Cornelia de Lange syndrome – cutis marmorata, short stature, specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, skin around eyes and nose with bluish tinge *Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*

CRIE syndrome – congenital reticulated ichthyosiform erythroderma (ichthyosis variegata) *BJD 139:893–896, 1998; Dermatology 188:40–45, 1994*

Dermatopathia pigmentosa reticularis (dermatopathia pigmentosa reticularis hyperkeratosis et mutilans) – autosomal dominant; reticulate pigmentation, alopecia, nail changes, palmoplantar hyperkeratosis (punctate palmoplantar keratoderma), loss of dermatoglyphics; infantile bullae, reticular hyperpigmentation of flexures, ainhum-like contraction, periodontopathy *JAAD 26:298–301, 1992;AD 126:935–939, 1990*

Divry–Van Bogaert syndrome – autosomal recessive; congenital livedo reticularis; diffuse leptomeningeal angiomatosis *Rook p.584, 1998, Sixth Edition; J Neurol Sci 14:301–314, 1971*

Dyschromatosis universalis hereditaria *Ped Derm 17:70–72, 2000*

Dyskeratosis congenita (Zinsser–Engman–Cole syndrome) – Xq28 *J Med Genet 33:993–995, 1996; Dermatol Clin 13:33–39, 1995; BJD 105:321–325, 1981*

Extensive reticular hyperpigmentation and milia *Ped Derm 16:108–110, 1999*

Familial multiple follicular hamartoma *JAAD 37:884–886, 1997; Dermatologica 159:316–324, 1979*

Familial pigmentary anomaly

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Haber's syndrome – reticulate keratotic plaques on trunk and limbs; rosacea-like eruption of face *BJD 77:1–8, 1965*

Hereditary angioneurotic edema – reticulate erythema in prodromal stage *Rook p.2135–2136, 1998, Sixth Edition; BJD 101:549–552, 1979*

Hereditary sclerosing poikiloderma *AD 100:413–422, 1969*

Hunter's syndrome – decreased sulfoiduronate sulfatase *Ped Derm 15:370–373, 1998*

Incontinentia pigmenti – hyper or hypopigmentation *Ped Derm 7:174–178, 1990*

Jackli syndrome – generalized reticulated hyperpigmentation with alopecia, microdontia, and childhood cataracts

Keratosis lichenoides chronica (Nekam's disease) – reticulated hyperpigmented plaques *JAAD 49:511–513, 2003; JAAD 38:306–309, 1998; AD 131:609–614, 1995*

Keratosis–ichthyosis–deafness (KID) syndrome – reticulated palmoplantar keratoderma; reticulated hyperkeratotic facial lesion *AD 123:777–782, 1987*

Kindler's syndrome – reticulate erythema *AD 133:1111–1117, 1997; Ped Derm 13:397–402, 1996*

Koraxitrachitic syndrome – self-healing collodion baby; heals with mottled reticulated atrophy; alopecia, absent eyelashes and eyebrows, conjunctival pannus, hypertelorism, prominent nasal root, large mouth, micrognathia, brachydactyly, syndactyly of interdigital spaces *Am J Med Genet 86:454–458, 1999*

Macrocephaly with cutis marmorata, hemangioma, and syndactyly syndrome – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydroocephalus *Ped Derm 16:235–237, 1999*

MELAS syndrome – mitochondrial encephalomyopathy with lactic acidosis – reticulated hyperpigmentation *JAAD 41:469–473, 1999*

Mendes da Costa syndrome – hereditary bullous dystrophy, macular type; similar skin changes as Kindler's syndrome (Da Costa's) syndrome *Ped Derm 6:91–101, 1989*

Mitochondrial disease – reticulated hyperpigmentation *Pediatrics 103:428–433, 1999*

Naegeli–Franceschetti–Jadassohn syndrome – autosomal dominant, reticulate gray to brown pigmentation of neck, upper trunk and flexures, punctate or diffuse palmoplantar keratoderma, hypohidrosis with heat intolerance, onycholysis, subungual hyperkeratosis, yellow tooth enamel *JAAD 28:942–950, 1993*

Naegeli–Franceschetti–Jadassohn syndrome variant – reticulate pigmentary dermatosis with hypohidrosis and short stature *Int J Dermatol 34:30–31, 1995*

Nicolau syndrome – embolia cutis medicamentosa; sulfonamides, benzathine penicillin, gentamicin, phenobarbital, camphor-quinine, triflupromazine, chlorpromazine, interferon-$\alpha$ *Ped Derm 12:187–190, 1995*

Pachyonychia congenita

Reticulate acropigmentation of Dohi – dyschromatosis symmetrica hereditaria *Clin Exp Derm 20:477, 1995;* autosomal recessive *JAAD 43:113–117, 2000*

Reticulate acropigmentation of Kitamura *Dermatology 200:57–58, 2000; Dermatology 195:337–343, 1997; JAAD 37:884–886, 1997; Int J Dermatol 32:726–727, 1993; BJD 109:105–110, 1983; BJD 95:437–443, 1976*

Reticular erythematous mucinosis (REM syndrome) *BJD 150:173–174, 2004; AD 140:660–662, 2004; JAAD 19:859–868, 1988; BJD 91:191–199, 1974; AD 82:980–985, 1960*

Reticulate hyperpigmentation of Iijima, Naito, and Uyeno *Acta DV 71:248–250, 1991*

Rombo syndrome – vermiculate atrophoderma

Rothmund–Thomson syndrome

Trisomy 21 – congenital livedo reticularis *Rook p.584, 1998, Sixth Edition*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever and familial periodic fever) – tender red plaques, fever, polycyclic, reticulated, and migratory patches and plaques, conjunctivitis, periorbital edema, myalgia, abdominal pain, headache; Irish and Scottish predominance *Pre-AAD Pediatric Dermatology Meeting, March 2000*

Weary's syndrome – hereditary and bullous acrokeratotic poikiloderma of Weary and Kindler

Woolly hair, alopecia, premature loss of teeth, nail dystrophy, reticulate acral hyperkeratosis, facial abnormalities *BJD 145:157–161, 2001*

Ziprkowski–Margolis syndrome

## TOXINS

Acrodynia

Heavy metal poisoning

## TRAUMA

Erythema ab igne *Rook p.1688, 1998, Sixth Edition; JAAD 18:1003–1019, 1988*

Hysterosalpingogram – reticulated purpura with contrast medium after hysterosalpingogram *BJD 138:919–920, 1998*

Radiodermatitis, chronic *BJD 141:150–153, 1999*

## VASCULAR DISEASES

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975*

Atrophie blanche

Angioma serpiginosum

Bockenheimer's syndrome – diffuse generalized phlebactasia *Textbook of Neonatal Dermatology, p.327, 2001; Ped Derm 17:100–104, 2000; JAAD 40:257–259, 1999*

Capillary malformation, generalized *Textbook of Neonatal Dermatology, p.331, 2001*

Churg–Strauss disease – reticulated purpura *AD 141:873–878, 2005*

Cutis marmorata – physiologic vascular marbling *Rook p.452, 1998, Sixth Edition*
- Athyrotic (congenital) hypothyroidism
- Cornelia de Lange syndrome
- Adams–Oliver syndrome
- Trisomy 18
- Trisomy 21
- Homocystinuria
- Divry–Van Bogaert syndrome

Cutis marmorata telangiectatica congenita *JAAD 48:950–954, 2003; BJD 137:119–122, 1997; JAAD 20:1098–1104, 1989; AD 118:895–899, 1982;* reticulate erosions

Diffuse dermal angiomatosis (reactive angioendotheliomatosis)

Generalized essential telangiectasia – familial or acquired *Rook p.2096, 1998, Sixth Edition; JAAD 37:321–325, 1997; JAMA 185:909–913, 1963*

Henoch–Schönlein purpura in adults – reticulate purpura *AD 125:53–56, 1989*

Hereditary hemorrhagic telangiectasia

Hypergammaglobulinemic purpura of Waldenström – reticulate purpura *Clin Exp Dermatol 24:469–472, 1999*

Klippel–Trenaunay–Weber syndrome *Br J Surg 72:232–236, 1985; Arch Gen Med 3:641–672, 1900*

Lymphedema – with reticulate vascular anomaly *BJD 135:92–97, 1996*

Polyarteritis nodosa – reticulated lilac erythema *Rook p.2509, 1998, Sixth Edition*

Port wine stain

Sturge–Weber syndrome

Unilateral dermatomal telangiectasia

Universal angiomatosis

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

## PUNCTATE AND RETICULATE HYPERPIGMENTATION

***JAAD 10:1–16, 1984***

Acropigmentation symmetrica of Dohi – autosomal dominant, sporadic; Asians with onset under 20 years of age; acral hyperpigmentation (reticulate pattern becoming patches with hypopigmented macules of face, trunk, distal extremities *JAAD 43:113, 2000*

Atopic dermatitis – 'dirty neck'; reticulate pigmentation of the neck *Clin Exp Derm 12:1–4, 1987*

Benzoyl peroxide *Acta DV 78:301–302, 1998*

Bleomycin *Dermatologica 180:255–257, 1990*

Cantu's syndrome

Contact dermatitis – prurigo pigmentosa *Contact Dermatitis 44:289–292, 2001*

Da Costa's syndrome *Ped Derm 6:91–101, 1989*

Dermatopathia pigmentosa reticularis – autosomal dominant; reticulate pigmentation, alopecia, nail changes, palmoplantar hyperkeratosis, loss of dermatoglyphics *JAAD 26:298–301, 1992; AD 126:935–939, 1990*

Diffuse pigmentation with macular depigmentation of trunk with reticulate pigmentation of neck *Hautarzt 6:458–460, 1955*

Dowling–Degos syndrome (reticulated pigmented anomaly of the flexures) – reticulated pigmentation of axillae, groin, and other intertrigenous areas, freckles of vulva, comedo-like lesions, pitted scars around mouth *JAAD 40:462–467, 1999; Clin Exp Dermatol 9:439–350, 1984*

Down's syndrome – short stature, cutis marmorata, acrocyanosis, low-set, small ears *JAAD 46:161–183, 2002; Rook p.3015–3016, 1998, Sixth Edition*

Dyskeratosis congenita – Dyskeratosis congenita – X-linked recessive; reticulate hyperpigmentation (poikiloderma) of neck, chest, thighs; nail dystrophy, oral, ocular, and anal leukoplakia *J Med Genet 25:843–846, 1988*

Ectodermal dysplasia

Epidermolysis bullosa simplex with mottled pigmentation *Dermatology 189:173–178, 1994*

Familial pigmentary anomaly

Familial pigmentation – Becker

Familial progressive hyperpigmentation (Moon–Adams)

Fanconi's anemia *Br J Hematol 85:9–14, 1993*

5-fluorouracil – reticulate pigmentation *Int J Derm 34:219–220, 1995*

Franceschett–Jadassohn–Naegeli syndrome *JAAD 28:942–950, 1993*

Galli–Galli syndrome – Dowling–Degos disease with acantholysis – hyperkeratotic follicular papules *JAAD 45:760–763, 2001*

Goltz's syndrome

Gougerot–Carteau syndrome

Haber's syndrome *JAAD 40:462–467, 1999*

Heavy metal poisoning

Hereditary acrokeratotic poikiloderma of Weary – vesiculopustules of hands and feet at age 1–3 months which resolve; widespread atopic dermatitis-like dermatitis; diffuse poikiloderma with striate and reticulate atrophy; keratotic papules of hands and feet, elbows and knees; autosomal dominant *AD 103:409–422, 1971*

Hereditary hemorrhagic telangiectasia – arteriovenous malformation – red patch, reticulated, mottled, spider-like, speckled, plaque-like with faded margin or white halo *BJD 145:641–645, 2001*

Hoyeraal–Hreidarsson syndrome – reticulate hyperpigmentation (resembles dyskeratosis congenita), growth retardation, microcephaly, mental retardation, cerebellar malformation, progressive bone marrow failure, and muctocutaneous lesions *J Pediatr 136:390–393, 2000*

Hidrotic ectodermal dysplasia – reticulate acropigmentation *JAAD 6:476–480, 1982*

Hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, ventricular arrhythmias, periodontitis *BJD 147:575–581, 2002*

Incontinentia pigmenti (hypopigmentation) *AD 139:1163–1170, 2003; Ped Derm 7:174–178, 1990*

Keratosis–ichthyosis–deafness (KID) syndrome – reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *BJD 148:649–653, 2003; AD 117:285–289, 1981*

Kindler's syndrome – reticulated erythema precedes poikiloderma *JAAD 46:447–450, 2001*

Lymphoma (CTCL) *Int J Derm 30:658–659, 1991*

Macrocephaly – cutis marmorata telangiectatica congenita syndrome (macrocephaly, cutis marmorata, hemangioma, and syndactyly syndrome) – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydroocephalus *Ped Derm 16:235–237, 1999; Genet Couns 9:245–253, 1998; Am J Med Genet 70:67–73, 1997*

Macular amyloid

Microphthalmia with linear skin defects syndrome (MLS syndrome) *Am J Med Genet 49:229–234, 1994*

Phakomatosis pigmentovascularis type 5 – cutis marmorata telangiectatica congenital and Mongolian spot *BJD 148:148:342–345, 2003*

Pigmented reticularis faciei and colli with epithelial cystomatosis *Dermatoligae Tokyo:University of Tokyo Press 89–90, 1982*

Progressive cribriform and zosteriform hyperpigmentation

Prurigo pigmentosa *Dermatology 188:219–221, 1994*

Pseudoxanthoma elasticum – linear and reticulated yellow papules and plaques *AD 124:1559, 1988; JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*; pseudoxanthoma elasticum resembling reticulated pigmented disorders *BJD 134:1157–1159, 1996;* penicillamine-induced pseudoxanthoma elasticum *JAAD 30:103–107, 1994; Dermatology 184:12–18, 1992;* saltpetre-induced pseudoxanthoma elasticum *Acta DV 58:323–327, 1978*

Reflex sympathetic dystrophy – reticulated hyperpigmentation *Cutis 68:179–182, 2001*

Reticular pigmented genodermatosis with milia (Naegeli–Franceschetti–Jadassohn syndrome?) *Clin Exp Dermatol 20:331–335, 1995*

Reticulate acropigmentation of Dohi (dyschromatosis symmetrica hereditaria) – autosomal dominant; mottled pigmentation with depigmentation of dorsa of hands, feet, arms, and legs *JAAD 43:113–117, 2000; BJD 140:491–496, 1999; JAAD 37:884–886, 1997*

Reticulate acropigmentation of Kitamura – autosomal dominant; freckle-like pigmentation of dorsae of hands, palmar pits *AD 139:657–662, 2003; J Dermatol 27:745–747, 2000; JAAD 40:462–467, 1999; BJD 109:105–110, 1983*

Reticulate hyperpigmentation of Iijima, Naito, and Uyeno *Acta DV 71:248–250, 1991*

Reticulate hyperpigmentation in zosteriform fashion *BJD 117:503–510, 1987*

Reticulate, patchy, and mottled pigmentation of the neck *Dermatology 197:291–296, 1998*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Rothmund–Thompson syndrome

Speckled pigmentation, palmoplantar punctate keratoses, childhood blistering *BJD 105:579–585, 1981*

Terra firme

Trisomy 14 mosaicism syndrome – patchy reticulated hyperpigmentation resembling that of incontinentia pigmenti *Syndromes of the Head and Neck, p.89, 1990*

Trisomy 18 – reticulate vascular nevus or port wine stain *J Pediatr 72:862–863, 1968*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55 kDa TNF receptor *AD 136:1487–1494, 2000*

X-linked reticulate pigmentary disorder (formerly familial or X-linked cutaneous amyloidosis) *Am J Med Genet 52:75–78, 1994; Am J Med Genet 10:67–75, 1981*

Xp microdeletion syndrome – linear skin defects of head and neck (congenital smooth muscle hamartomas) (MIDAS syndrome – microphthalmia, dermal aplasia, sclerocornea) *Ped Derm 14:26–30, 1997*

Zosteriform reticulate hyperpigmentation *BJD 121:280, 1989;* in children *BJD 117:503–17, 1987; AD 114:98–99, 1978*

# RETICULATED HYPERPIGMENTATION

***Clin Exp Dermatol 9:439–450, 1984***

Acquired dermal melanocytosis *BJD 124:96, 1991*

Amyloidosis, macular

Arsenic intoxication

Atopic 'dirty neck' *Bolognia p.997, 2003*

Bleomycin *Dermatologica 180:255–257, 1990*

Calcinosis cutis – hyperpigmented reticulated plaques *BJD 142:820–822, 2000*

Cantu's syndrome – reticulated hyperpigmentation of face, forearms, feet with palmoplantar keratoderma *Bolognia p.997, 2003; Clin Genet 14:165, 1978*

Confluent and reticulated papillomatosis of Gougerot and Carteaud *Bolognia p.997, 2003*

Cutaneous arteritis – round, linear, reticulated hyperpigmentation *JAAD 49:519–522, 2003*

Dermatitis *Clin Exp Derm 15:380–381, 1990*

Dermatopathia pigmentosa retularis – autosomal dominant, reticulate hyperpigmentation of trunk, onychodystrophy, alopecia, oral hyperpigmentation, punctate hyperkeratosis of palms and soles, hypohidrosis; atrophic macules over joints with hypertrophic scarring *Semin Cut Med Surg 16:72–80, 1997; AD 126:935–939, 1990; Hautarzt 6:262, 1960*

Dowling–Degos disease *Semin Cut Med Surg 16:72–80, 1997; AD 114:1150, 1978*

Dyschromatosis symmetrica hereditaria (reticulate acropigmentation of Dohi) (acropigmentation symmetrica of Dohi) *BJD 153:342–345, 2005; BJD 150:633–639, 2004; BJD 144:162–168, 2001; JAAD 45:760–763, 2001; JAAD 43:113–117, 2000;* sun-exposed areas only *JAAD 10:1–16, 1984*

Dyschromatosis universalis hereditaria *Semin Cut Med Surg 16:72–80, 1997; Clin Exp Derm 2:45, 1977*

Dyskeratosis congenita *Semin Cut Med Surg 16:72–80, 1997*

Ectodermal dysplasia *JAAD 6:476–480, 1982*

Epidermolysis bullosa herpetiformis *Bolognia p.997, 2003*

Epidermolysis bullosa with mottled pigmentation – wart-like hyperkeratotic papules of axillae, wrists, dorsae of hands, palms and soles; P25L mutation of keratin 5 *JAAD 52:172–173, 2005*

Erythema ab igne *Rook p.1688, 1998, Sixth Edition*

Exudative retinopathy with bone marrow failure (Revesz syndrome) – intrauterine growth retardation, reticulate hyperpigmentation of trunk, palms, and soles; fine sparse hair, ataxia with cerebellar hypoplasia, hypertonia, progressive psychomotor retardation *J Med Genet 29:673–675, 1992*

Fanconi's syndrome *AD 103:581, 1971*

Familial pigmentation with dystrophy of the nails *AD 71:591–598, 1955*

Familial progressive hyperpigmentation *AD 103:581, 1971*

Franceschetti–Jadassohn–Naegeli syndrome – autosomal dominant; brown–gray reticulated hyperpigmentation, hypohidrosis; palmoplantar hyperkeratosis *Textbook of Neonatal Dermatology, p.379, 2001; JAAD 10:1–16, 1984; Dematologica 108:1–28, 1954; Schweiz Med Wschr 8:48, 1927*

Galli–Galli disease – acantholytic variation of Dowling–Degos disease *Bolognia p.997, 2003*

Graft vs. host disease, chronic *Rook p.2517, 1998, Sixth Edition*

Haber's syndrome – autosomal dominant; photo-aggravated rosacea-like rash of face; papules, pustules, scarring and telangiectasia; reticulate keratotic plaques on trunk and extremities *Australas J Dermatol 38:82–84, 1997; AD 117:321, 1981*

Hereditary focal transgressive palmoplantar keratoderma – autosomal recessive; hyperkeratotic lichenoid papules of elbows and knees, psoriasiform lesions of scalp and groin, spotty and reticulate hyperpigmentation of face, trunk, and extremities, alopecia of eyebrows and eyelashes *BJD 146:490–494, 2002*

Lymphoma – cutaneous T-cell lymphoma *Int J Derm 30:658, 1991*

Macular amyloidosis

Melanosis universalis hereditaria *AD 125:1442, 1989*

Mendes da Costa syndrome (dystrophia bullosa, typus maculatus) – X-linked recessive; tense bullae, alopecia, coarse reticulated hyperpigmentation of face and extremities with atrophy, mental retardation *Acta DV (Stockh) 18:265, 1937*

Naegeli–Franceschetti–Jadassohn syndrome *Bolognia p.997, 2003*

Pigmentatio reticularis faciei et colli with multiple epithelial cysts *AD 121:109, 1985*

Poikiloderma of Civatte *Ann Dermatol Syphilol 9:381–420, 1938*

Post-inflammatory hyperpigmentation – secondary to allergic contact dermatitis to benzoyl peroxides *Bolognia p.997, 2003*

Prurigo pigmentosa *AD 125:1551–1554, 1989*

Reticulate acropigmentation of Kitamura – differs from acropigmentation symmetrica of Dohi by the absence of hypopigmented macules *BJD 144:162–168, 2001; Semin Cut Med Surg 16:72–80, 1997; AD 115:760, 1979*

Reticulate hyperpigmentation of Iijima, Naito, Vyeno *Arch Derm Vener 71:248–250, 1991*

Reticulate hyperpigmentation with alopecia, nail changes, and growth retardation with or without blisters *Schweiz Med Wochenschr 100:228–233, 1970; Monatsschr Kinderheilkd 78:773–781, 1939*

Reticulate non-melanocytic hyperpigmented anomaly *Int J Derm 30:39–42, 1991*

Revesz syndrome *Bolognia p.997, 2003*

Tar melanosis *Contact Derm 3:249, 1977*

Unilateral dermatomal pigmentary dermatosis *Semin Cut Med Surg 16:72–80, 1997*

X-linked reticulate pigmentary disorder (familial cutaneous amyloidosis) (Partington syndrome II) – X-linked; rare; Xp21–22; boys with generalized reticulated muddy brown pigmentation with hypopigmented corneal dystrophy, unruly hair, recurrent pneumonia; female carriers with macular nevoid Blascko-esque hyperpigmentation *Semin Cut Med Surg 16:72–80, 1997; Am J Med Gen 10:65:1981*

Zosteriform reticulate hyperpigmentation *BJD 121:280, 1989; BJD 117:503–510, 1987*

# ROSETTE LESIONS

Acute hemorrhagic edema of infancy

Epidermolysis bullosa – Dowling–Meara type

Fire ant stings *Cutis 75:85–89, 2005*

Henoch–Schönlein purpura – children or adults *AD 125:53–56, 1989*

Intraepidermal neutrophilic IgA dermatosis *JAAD 22:917–919, 1990*

Linear IgA disease

Pemphigoid en cocarde *JAAD 20:1125, 1989*

Pemphigus vulgaris – anti-desmoglein 1 antibody dominant *JAAD 52:839–845, 2005*

Smallpox vaccination – inadvertent inoculation *Clin Inf Dis 37:251–271, 2003*

Staphylococcal sepsis with widespread pustular exanthema

Verrucae vulgaris – rosettes after cryotherapy or cantharadin *Tyring p.286, 2002*

# SCALP CYSTS

***AD 125:1253–1256, 1989***

## CONGENITAL ANOMALIES

Aplasia cutis congenita

Cephalocoele – includes meningocoele (rudimentary meningocoele), meningoencephalocele, meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001;* sequestrated meningocoele *Ped Derm 11:315–318, 1994*

Congenital inclusion cysts of the subgaleal space *Surg Neurol 21:61–66, 1984; J Neurosurg 56:540–544, 1982*

Dermoid cyst and sinus *JAAD 46:934–941, 2002; Curr Prob Dermatol 13:249–300, 2002; Neurosurg Clin N Am 6:359–366, 1995; Acta Neurochir* (*Wien*) *128:115–121, 1994; AD 107:237–239, 1973*

Encephalocele

Heterotopic brain tissue (heterotopic meningeal nodules) – blue–red cystic mass with overlying alopecia *JAAD 46:934–941, 2002;* bald cyst of scalp with surrounding hypertrichosis *AD 131:731, 1995; JAAD 28:1015, 1993; BJD 129:183–185, 1993; AD 125:1253–1256, 1989*

## INFECTIONS AND INFESTATIONS

Molluscum contagiosum – occurring in an epidermoid cyst *Cutis 26:180, 184, 1980*

Myiasis – *Dermatobia hominis* – scalp cyst in a child *Ped Derm 15:116–118, 1998*

## INFILTRATIVE DISEASES

Eosinophilic granuloma, transcranial – subcutaneous scalp mass *J Derm Surg Oncol 19:631–634, 1993*

## NEOPLASTIC DISEASES

Cutaneous ciliated cyst of the scalp *Am J Dermatopathol 16:76–79, 1994*

Cutaneous ectopic meningioma (psammoma)

Epidermoid cyst

Hybrid cyst – combined epidermoid and pilar cyst *JAAD 9:872–875, 1983*

Lymphoma – cutaneous T-cell lymphoma with underlying epidermoid cysts *AD 115:622, 1979*

Malignant proliferating trichelemmal tumor *Am J Clin Oncol 24:351–353, 2001; JAAD 32:870–873, 1995*

Metaplastic synovial cyst *Am J Dermatopathol 10:531–535, 1988*

Metastasis – mimicking epidermoid cyst *AD 104;301–303, 1971;* salivary gland adenocarcinoma mimicking kerion *Ghatan p.254, 2002, Second Edition*

Microcystic adnexal carcinoma *J Derm Surg Oncol 15:768–771, 1989*

Pilar cyst (trichilemmal cyst) *JAAD 46:934–941, 2002; Rook p.1668, 1998, Sixth Edition*

Pilomatrixoma

Proliferating trichilemmal cyst *AD 131:721, 724, 1995*

Squamous cell carcinoma arising in an epidermoid cyst *AD 117:683, 1981*

### PRIMARY CUTANEOUS DISEASES

Lichen planopilaris with cysts and comedones *Clin Exp Dermatol 17:346–348, 1992*

### SYNDROMES

Atrichia with keratin cysts – face, neck, scalp; then trunk and extremities *Ann DV 121:802–804, 1994*

Gardner's syndrome

Oral–facial–digital syndrome – milia of the scalp *Ped Derm 9:52–56, 1992*

Steatocystoma multiplex *Int J Dermatol 34:429–430, 1995; J Dermatol 22:438–440, 1995;* eruptive steatocystomas *J Dermatol 18:537–539, 1991*

### TRAUMA

Cephalohematoma

Cerebrospinal fluid cyst – post-operative *Br J Plast Surg 32:241–244, 1979*

Leptomeningeal cyst (traumatic) (growing fracture) – skull fracture with laceration of underlying dura *Ped Clin North Am 6:1151–1160, 1993;* with brain herniation *JAAD 46:934–941, 2002*

### VASCULAR DISORDERS

Angiolymphoid hyperplasia – mimicking a pilar cyst *J Derm Surg Oncol 6:935–937, 1980*

Cystic hygroma (lymphatic malformation)

Lymphangioma

Subepicranial hygromas *JAAD 46:934–941, 2002*

## SCALP DERMATITIS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Contact Dermatitis 44:178, 2001; Contact Dermatitis 40:335, 1999; Contact Dermatitis 23:124–125, 1990*

Amicrobial pustulosis associated with autoimmune disease treated with zinc *BJD 143:1306–1310, 2000*

Contact dermatitis, allergic *Rook p.2940, 1998, Sixth Edition*

Chronic granulomatous disease – scalp folliculitis *Dermatol Therapy 18:176–183, 2005; Ped Derm 21:646–651, 2004*

Dermatitis herpetiformis – elbows, knees, buttocks, shoulders, trunk, face, and scalp, oral lesions *Rook p.1890,2940, Sixth Edition*

Dermatomyositis *JAMA 272:1939–1941, 1994;* juvenile form *JAAD 45:28–34, 2001;* erythema of scalp with diffuse alopecia *Rook p.2560, 1998, Sixth Edition;* poikilodermatomyositis of scalp

Graft vs. host disease *Ann DV 126:51–53, 1999*

Immunodeficiency disorders – hypercupremia and decreased intracellular killing – blepharitis and pyoderma of the scalp *Ped Derm 1:134–142, 1983*

Linear IgA disease (chronic bullous disease of childhood) – scalp, annular polycyclic bullae *Ped Derm 15:108–111, 1998*

Lupus erythematosus *The Clinical Management of Itching; Parthenon; p.120, 2000;* neonatal lupus erythematosus *JAAD 40:675–681, 1999*

Pemphigoid vegetans *AD 115:446–448, 1979*

Pemphigus foliaceus – starts in seborrheic distribution (scalp, face, chest, upper back) *Rook p.1860–1861, 1998, Sixth Edition; Ped Derm 3:459–463, 1986; AD 83:52–70, 1961;* endemic pemphigus of El Bagre region of Colombia *JAAD 49:599–608, 2003*

Pemphigus vulgaris *Rook p.1856–1857, 1998, Sixth Edition; Ped Derm 3:459–463, 1986; AD 110:862–865, 1974*

Rheumatoid arthritis – erosive pustular dermatitis of the scalp *Int J Dermatol 34:148, 1995*

### CONGENITAL DISEASES

Congenital erosive dermatosis with reticulated supple scarring *AD 126:544–546, 1990*

### DRUGS

Cimetidine – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

Drug rash *Cutis 35:148–149, 1985*

Chemotherapy – inflammation of actinic keratoses from systemic chemotherapy *JAAD 17:192–197, 1987*

Methyldopa – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

Penicillamine – seborrheic dermatitis-like eruption *Clin Dermatol 11:243–251, 1993*

### EXOGENOUS AGENTS

Contact dermatitis, irritant *Rook p.2940, 1998, Sixth Edition; AD 108:102–103, 1973*

Fiberglass dermatitis *The Clinical Management of Itching; Parthenon; p.120, 2000*

Iatrogenic – topical immunotherapy

### INFECTIONS AND INFESTATIONS

AIDS – seborrheic dermatitis; photodermatitis of AIDS, including photo-lichenoid dermatitis

Book lice (*Liposcelis mendax*) *BJD 125:400–401, 1991*

Candidiasis – mucocutaneous candidiasis with candidal granuloma *BJD 86 (Suppl.8):88–102, 1972*

Demodicidosis – papular eruption in HIV patients of head and neck, trunk, and arms *JAAD 20:306–307, 1989; JAAD 20:197–201, 1989*

Herpes simplex, neonatal *Tyring p.90, 2002*

Herpes zoster

Impetigo *Rook p.1305, 1998, Sixth Edition*

Infectious eczematoid dermatitis

Insect bites *Rook p.2940, 1998, Sixth Edition*

Kerion

Larva migrans *Rev Soc Bras Med Trop 32:187–189, 1999*

Mite infestation *Arch Int Med 147:2185–2187, 1987*

*Mycobacterium tuberculosis*

Pediculosis *Rook p.2940, 1998, Sixth Edition; Dermatol Clin 8:219–228, 1990*

Scabies *Acta DV 61:360–362, 1981;* crusted (Norwegian) *Cutis 61:87–88, 1998;* immunocompromised patients *Ped Derm 10:136–138, 1993*

Staphylococcal pyoderma

Sycosis – deep staphylococcal folliculitis *Dermatol Wochenschr 152:153–167, 1966*

Syphilis, secondary

Tinea capitis – *Trichophyton tonsurans*; favus *Dermatol Clin 4:137–149, 1986;* in adults *Int J Dermatol 30:206–208, 1991; Cutis 41:284, 1988;* tinea incognito; tinea capitis of adult females – pustular eruptions *JAAD 49:S177–179, 2003*

Tufted folliculitis

## INFILTRATIVE LESIONS

Langerhans cell histiocytosis *JAAD 10:968–969, 1984*

## INFLAMMATORY DISEASES

Dissecting cellulitis of the scalp *The Clinical Management of Itching; Parthenon; p.120, 2000*

Eosinophilic pustular folliculitis of infancy – dermatitis with or without pustules *Ped Derm 21:615–616, 2004; Ped Derm 16:118–120, 1999; Ped Derm 1:202–206, 1984*

Folliculitis *The Clinical Management of Itching; Parthenon; p.119, 2000*

Folliculitis decalvans

Malignant pyoderma – pustular scalp dermatitis *AD 122:295–302, 1986*

Perforating folliculitis *Dermatologica 168:131–137, 1984*

Pyoderma gangrenosum *AD 125:1239–1242, 1989*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Ped Derm 16:95–102, 1999;* zinc deficiency *Hautarzt 28:578–582, 1977*

Biotin deficiency *J Pediatr 106:762–769, 1985*

Essential fatty acid deficiency *AD 113:939–941, 1977*

Porphyria – congenital erythropoietic porphyria *BJD 148:160–164, 2003*

## NEOPLASTIC DISEASES

Bowen's disease

Epidermal nevus – verrucous scalp *AD 120:227–230, 1984*

Leukemia cutis *Clin Pediatr* (*Phila*) *35:531–534, 1996;* HTLV-1 leukemia/lymphoma (acute T-cell leukemia) – HTLV-1 infective dermatitis – dermatitis of scalp, around ears and nose *JAAD 49:979–1000, 2003; Braz J Infect Dis 4:100–102, 2000; AD 134:439–444, 1998*

Lymphoma – cutaneous T-cell lymphoma; anaplastic large cell T-cell lymphoma

## PHOTODERMATOSES

Chronic actinic dermatitis – acute, subacute, or chronic dermatitis with lichenification, papules, plaques, erythroderma, stubby scalp and eyebrow hair *AD 136:1215–1220, 2000; AD 130:1284–1289, 1994; JAAD 28:240–249, 1993; AD 126:317–323, 1990;* sensitization by sesquiterpene lactone mix *BJD 132:543–547, 1995;* associated with musk ambrette *Cutis 54:167–170, 1994; JAAD 3:384–393, 1980*

Giant actinic porokeratosis *BJD 149:654, 2003*

## PRIMARY CUTANEOUS DISEASES

Acne necrotica miliaris *Rook p.2940, 1998, Sixth Edition*

Alopecia mucinosa *Clin Exp Derm 14:382–384, 1989*

Atopic dermatitis *Textbook of Neonatal Dermatology, p.242–243, 2001; Ped Derm 13:10–13, 1996*

Darier's disease (keratosis follicularis) – seborrheic distribution; photoexacerbated *Ann DV 121:393–395, 1994; Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992*; *AD 120:1484–1487, 1984*

Epidermolysis bullosa – Herlitz junctional EB and junctional EB mitis – scalp erosions

Erosive pustular dermatitis of the scalp *BJD 148:593–595, 2003; AD 139:712–714, 2003; Ann DV 118:899–901, 1991*

Erythrodermas – multiple causes

Exfoliative erythroderma

Hailey–Hailey disease *BJD 126:294–296, 1992*

Ichthyosis – multiple types *Rook p.1483–1527, 1998, Sixth Edition*

Leiner's disease *Pediatrics 49:225–232, 1972*

Lichen planopilaris *The Clinical Management of Itching; Parthenon; p.120, 2000*

Lichen simplex chronicus – psoriasiform neurodermatitis *BJD 138:921–922, 1998*

Lipedematous alopecia – boggy scalp with diffuse alopecia *JAAD 52:152–156, 2005; AD Syphilol 32:688, 1935*

Pityriasis rubra pilaris *J Dermatol 27:174–177, 2000; JAAD 31:997–999, 1994*

Pityriasis capitis (dandruff) *Rook p.2941, 1998, Sixth Edition*

Pityriasis rubra pilaris, childhood form *Ped Derm 4:21–23, 1987*

Psoriasis *Rook p.2940, 1998, Sixth Edition; AD 98:248–259, 1968;* tinea amientacea *Clin Exp Dermatol 2:137–143, 1977*

Seborrheic dermatitis *Dermatology 201:146–147, 2001; Textbook of Neonatal Dermatology, p.247, 2001;* tinea amientacea *Cutis 63:169–170, 1999; Hautarzt 25:134–139, 1974*

Terra firme

Tinea amientacea *Clin Exp Dermatol 2:137–144, 1977*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis – with underlying osteomyelitis of the scalp *Acta Neurochir (Wien) 143:737–738, 2001;* with resultant cerebral abscess *Postgrad Med J 64:976–977, 1988*

Neurotic excoriations *The Clinical Management of Itching; Parthenon; p.119, 2000*

## SYNDROMES

Andogsky syndrome – atopic dermatitis and unilateral cataracts *Ped Derm 20:419–420, 2003; Klin Monatsbl Augenheilkd 52:824–831, 1914*

Ankyloblepharon, ectodermal dysplasia, and cleft lip and palate syndrome (AEC syndrome) (Hay–Wells syndrome) – hair sparse or absent, dystrophic nails, dystrophic widely spaced pointed teeth are shed early, chronic scalp erosions (erosive scalp dermatitis) in early childhood *BJD 94:287–289, 1976; Ped Derm 14:149–150, 1997*

Ectodermal dysplasias with clefting – scalp dermatitis *JAAD 27:249–256, 1992*

Ectrodactyly–ectodermal dysplasia–cleft lip/palate (EEC) syndrome *Dermatology 194:191–194, 1997; BJD 132:621–625, 1995; JAAD 29:505–506, 1993*

Happle syndrome (X-linked chondrodysplasia punctata) – scalp dermatitis at birth; Blaschko hyperkeratoses, follicular atrophoderma, cicatricial alopecia *Ped Derm 18:442–444, 2001*

Hay–Wells syndrome (AEC syndrome)- erosions *Ped Derm 10:334–340, 1993; AD 128:1378–1386, 1992; JAAD 12:810–815, 1985*

Hyper-IgE syndrome (Job's syndrome) (Buckley's syndrome) – papular, pustular, excoriated dermatitis of face, behind ears, scalp, axillae, and groin; recurrent bacterial infections of skin with cold abscesses, contact urticaria, infections of nasal sinuses and respiratory tract; growth failure *AD 140:1119–1125, 2004; J Pediatr 141:572–575, 2002; NEJM 340:692–702, 1999; Curr Prob Derm 10:41–92, 1998; Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983; Pediatrics 49:59–70, 1972; Lancet 1:1013–1015, 1966*

Hypoplastic enamel–onycholysis–hypohidrosis (Witkop–Brearley–Gentry syndrome) – marked facial hypohidrosis, dry skin with keratosis pilaris, scaling and crusting of the scalp, onycholysis and subungual hyperkeratosis, hypoplastic enamel of teeth *Oral Surg 39:71–86, 1975*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – atopic dermatitis; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, beefy red tongue and gingiva, angular stomatitis, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; AD 125:103–106, 1989; Ped Derm 12:195, 1995; Dermatologica 177:341–347, 1988; Am J Med Genet 85:365–368, 1999*

Keratosis–ichthyosis–deafness syndrome – hyperkeratotic papules and plaques of face, scalp, trunk, extremities; exaggerated diaper dermatitis *Ped Derm 13:105–113, 1996; BJD 122:689–697, 1990;* psoriasiform scalp dermatitis *BJD 148:649–653, 2003*

Netherton's syndrome – flexural lichenification; trichorrhexis invaginata *Ped Derm 19:285–292, 2002*; *AD 135:823–832, 1999; BJD 141:1097–1100, 1999; Curr Prob Derm 10:41–92, 1998; Ped Derm 14:473–476, 1997; Ped Derm 13:183–199, 1996; BJD 131:615–619, 1994*

Omenn's syndrome *Acta Derm 782:71, 1988;* presents in neonatal period with atopic-like dermatitis *Textbook of Neonatal Dermatology, p.255, 2001*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 14:149–150, 1997; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968;*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – dermatitis, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Wiskott–Aldrich syndrome – dermatitis, thrombocytopenia, malignant lymphoma, leukemia *Curr Prob Derm 14:41–70, 2002; Textbook of Neonatal Dermatology, p.255, 2001; Rook p.700,2746, 1998, Sixth Edition; Int J Dermatol 24:77–81, 1985*

### TRAUMA

Intrapartum internal fetal monitoring – infectious dermatitis *Pediatrics 74:81–85, 1984*

Radiation dermatitis *Neurosurgery 34:1105, 1994; BJD 138:799–805, 1998*

## SCALP NODULES

***JAAD 46:934–941, 2002; JAAD 25:819–830, 1991***

### INFANTS

Abscesses *JAAD 46:934–941, 2002*

Aplasia cutis congenita

Arteriovenous malformation *JAAD 46:934–941, 2002*

Cephalocoele – includes encephalocele, meningocoele (rudimentary meningocoele), meningoencephalocele, meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Cephalohematoma (Cephalohematoma deformans) – blood between outer table of skull and periosteum; fixed *Ped Clin North Am 6:1151–1160, 1993;* cephalohematoma with secondary infection with Gardnerella vaginalis *Pediatr Inf Dis J 23:276–277, 2004*

Infantile choriocarcinoma *JAAD 14:918, 1986*

Connective tissue nevus – associated with cardiomyopathy and hypogonadism *Ann Intern Med 93:813–817, 1980*

Dermatofibrosarcoma protuberans – congenital *AD 139:207–211, 2003*

Dermoid cyst (cranial dermoids) – midline overlying anterior or posterior fontanelle or over occipito-parietal suture *Dermatol Therapy 18:104–116, 2005; Ped Clin North Am 6:1151–1160, 1993*

Encephalocoele (hair collar sign) *Dermatol Therapy 18:104–116, 2005*

Eosinophilic granuloma – yellow to brown papule with hemorrhagic center *JAAD 46:934–941, 2002*

Fibrodysplasia ossificans progressiva – fibrous scalp nodules *Clev Clin Q 51:549–552, 1984*

Fibrosarcoma *Textbook of Neonatal Dermatology, p.439, 2001*

Giant cell fibroblastoma *JAAD 46:934–941, 2002*

Gonorrhea – newborn with gonococcal scalp abscess *South Med J 73:396–397, 1980; Am J Obstet Gynecol 127:437–438, 1977*

Hamartoma with ectopic meningothelial elements – simulates angiosarcoma *Am J Surg Pathol 14:1–11, 1990*

Hemangiomas *JAAD 46:934–941, 2002*

Heterotopic brain tissue (heterotopic meningeal nodules) – blue–red cystic mass with overlying alopecia *Dermatol Therapy 18:104–116, 2005; JAAD 46:934–941, 2002;* bald cyst of scalp with surrounding hypertrichosis *AD 131:731, 1995; JAAD 28:1015, 1993; BJD 129:183–185, 1993; AD 125:1253–1256,*

*1989;* cyst with collar of hair (heterotopic meningeal nodules) *JAAD 28:1015–1017, 1993; AD 123:1253–1256, 1989*

Infantile choriocarcinoma *JAAD 14:918–927, 1986*

Infantile systemic hyalinosis (juvenile hyaline fibromatosis) *Ped Derm 11:52–60, 1994*

Infantile myofibromatosis – red to violaceous nodules *Bolognia p.1873, 2003; JAAD 49:S148–150, 2003; AD 123:1391–1396, 1987*

Intracranial neoplasms with extension through the skull *JAAD 46:934–941, 2002*

Juvenile hyaline fibromatosis – large subcutaneous nodules (fibromas) *Ped Derm 21:154–159, 2004; Ped Derm 18:400–402, 2001*

Juvenile xanthogranuloma *Rook p.2324, 1998, Sixth Edition*

Kaposiform hemangioendothelioma *Am J Surg Pathol 17:321–328, 1993*

Langerhans cell histiocytosis – scalp papules and nodules *AD 137:1241–1246, 2001;* congenital self-healing variant *Textbook of Neonatal Dermatology, p.438, 2001*

Leptomeningeal cyst (traumatic) (growing fracture) – skull fracture with laceration of underlying dura *Ped Clin North Am 6:1151–1160, 1993;* with brain herniation *JAAD 46:934–941, 2002*

Lipoma *JAAD 46:934–941, 2002*

Lumpy scalp syndrome *Clin Exp Derm 15:240, 1989*

Lymphoma *JAAD 46:934–941, 2002*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Meningothelial hamartoma of the scalp *Zentralbl Pathol 138:355–361, 1992*

Rudimentary meningocoele (primary cutaneous meningioma) – scalp or paraspinal region of children and teenagers; yellow plaque of scalp *AD 137:45–50, 2001; Ped Derm 15:388–389, 1998;* nodule with overlying alopecia or hypertrichosis *JAAD 46:934–941, 2002; Cancer 34:728–744, 1974*

Meningoencephalocoele

Metastases *JAAD 46:934–941, 2002*

Mycoplasma hominis – neonatal scalp abscess *Ped Inf Dis 12:1171–1172, 2002*

Myiasis – cuterebrid myiasis *Ped Derm 21:515–516, 2004*

Sarcoma *JAAD 46:934–941, 2002*

Scabies *Semin Dermatol 12:3–8, 1993*

Sinus pericranii – alopecic red nodule of scalp *JAAD 46:934–941, 2002*

Subepicranial hygromas *JAAD 46:934–941, 2002*

Subepidermal varix *JAAD 46:934–941, 2002*

Subgaleal scalp hematoma *Ped Clin North Am 6:1151–1160, 1993*

Venous cavernoma (venous malformation) *JAAD 46:934–941, 2002; Zentralbl Neurochir 59:274–277, 1998*

Xanthogranuloma

## CHILDREN

Abscesses *JAAD 46:934–941, 2002*

Aplasia cutis congenita with or without hair collar or port wine stain

Arteriovenous malformation *JAAD 46:934–941, 2002*

Atretic encephalocele or meningocoele

Benign rheumatoid nodules – healthy children; pretibial areas, feet, scalp *Aust NZ J Med 9:697–701, 1979*

Branchial cleft sinuses – linear lesion; retroauricular tumor *Ped Derm 2:318–321, 1985*

Cephalocoele – includes meningocoele (rudimentary meningocoele), meningoencephalocele, meningomyelocele; blue nodule with overlying hypertrichosis *JAAD 46:934–941, 2002; AD 137:45–50, 2001*

Cephalohematoma deformans

Chronic granulomatous disease – crusted scalp nodule in infant *AD 130:105–110, 1994*

Cranial fasciitis of childhood *Ped Derm 16:232–234, 1999*

Cylindroma; malignant cylindroma *Dermatology 201:255–257, 2000*

Dermal sinus tumors

Dermoid and epidermoid cysts *Australas J Dermatol 33:135–140, 1992*

Dissecting cellulitis *Cutis 67:37–40, 2000*

Encephalocoele

Encephalocutaneous cranial lipomatosis *J Paediatr Child Health 36:603–605, 2000; Am J Med Genet 91:261–266, 2000; Ann DV 124:549–551, 1997*

Eosinophilic granuloma – yellow to brown papule with hemorrhagic center *JAAD 46:934–941, 2002; J Derm Surg Oncol 19:631–634, 1993*

Eosinophilic panniculitis *Ped Derm 12:35–38, 1995*

Epidermoid cysts *JAAD 46:934–941, 2002*

Giant cell fibroblastoma *JAAD 46:934–941, 2002*

Granuloma annulare, subcutaneous *Ped Derm 19:276–277, 2002; Curr Prob Derm 14:41–70, 2002; Pediatrics 107:E42, 2001; Pediatr Dev Pathol 1:300–308, 1998; Pediatrics 100:965–967, 1997; Curr Prob Derm 8:137–188, 1996*

Granulocytic sarcoma *BJD 147:609–611, 2002*

Hashimoto–Pritzker self-healing histiocytosis *Arch Pediatr 7:629–632, 2000*

Hemangiomas *JAAD 46:934–941, 2002*

Heterotopic brain tissue (heterotopic meningeal nodules) – blue–red cystic mass with overlying alopecia *JAAD 46:934–941, 2002; AD 131:731, 1995; JAAD 28:1015, 1993*

Intracranial neoplasms with extension through the skull *JAAD 46:934–941, 2002*

Juvenile hyaline fibromatosis *Dermatology 198:18–25, 1999*

Juvenile xanthogranuloma *JAAD 36:355–367, 1997*; *Am J Surg Pathol 15:150–159, 1991*

Keratoacanthomas – multiple self-healing keratoacanthomas of Ferguson–Smith – cluster around ears, nose, scalp; red nodule becomes ulcerated, resolve with crenellated scar; develop singly or in crops *Cancer 5:539–550, 1952;* one reported unilateral case *AD 97:615–623, 1968*

Kerion

Leptomeningeal cyst (traumatic) (growing fracture) – skull fracture with laceration of underlying dura *Ped Clin North Am 6:1151–1160, 1993;* with brain herniation *JAAD 46:934–941, 2002*

Lipoma *JAAD 46:934–941, 2002; J Derm Surg Oncol 11:981–984, 1985*

Lipomatous mixed tumor *BJD 146:899–903, 2002*

Lymphoma – *JAAD 46:934–941, 2002;* cutaneous T-cell lymphoma (CTCL) *Rook p.2376, 1998, Sixth Edition*

Lymphomatoid papulosis *Arch Pediatr 2:984–987, 1995*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Meningioma – nodule with overlying alopecia or hypertrichosis *JAAD 46:934–941, 2002*; *Eur J Pediatr Surg 10:387–389, 2000;* primary cutaneous meningioma *J Cutan Pathol 21:549–556, 1994*

Meningocoele – classic meningocoele; sequestrated meningocoele – juicy nodule in parieto-occipital scalp *Ped Derm 14:315–318, 1994;* rudimentary meningocoele *Ped Derm 18:368–381, 1998*

Metastases *JAAD 46:934–941, 2002;* lung cancer with emboli in pulmonary venous circulation; nodules of trunk and scalp *Rook p.2371, 1998, Sixth Edition; Cancer 19:162–168, 1966;* osteosarcoma – red scalp nodule *JAAD 49:124–127, 2003*

Multiple myeloma *AD 139:475–486, 2003*

Myiasis, furuncular – *Dermatobia hominis* – human botflies *Clin Inf Dis 37:542, 591–592, 2003;* scalp cyst in a child *Ped Derm 15:116–118, 1998;* mimicking ruptured epidermoid cyst *Can J Surg 33:145–146, 1990;* house fly *BJD 76:218–222, 1964;* New World screw worm (*Cochliomyia*), Old World screw worm (*Chrysomya*), Tumbu fly (*Cordylobia*) *BJD 85:226–231, 1971*; black blowflies (*Phormia*) *J Med Entomol 23:578–579, 1986;* greenbottle (*Lucilia*), bluebottle (*Calliphora*), flesh flies (*Sarcophaga*, *Wohlfartia*) *Neurosurgery 18:361–362, 1986;* rodent botflies (*Cuterebra*) *JAAD 21:763–772, 1989;* human botflies (*Dermatobia hominis*) *AD 126:199–202, 1990; AD 121:1195–1196, 1985*

Myofibromatosis *AD 123:1392–1395, 1987*

Neurocristic cutaneous hamartoma *Mod Pathol 11:573–578, 1998*

Neurofibroma

Neurothekeoma *Bolognia p.1852, 2003*

Nevus sebaceus – nodule with surrounding hypertrichosis *Ped Derm 89:84–86, 1991*

Osteogenic sarcoma

Osteoma

Pilomatrixoma *Arch Otolaryngol Head Neck Surg 124:1239–1242, 1998; JAAD 3:180–185, 1980*

Porocarcinoma *AD 136:1409–1414, 2000*

Porokeratosis of Mibelli

Progressive osseous heteroplasia

Rheumatic fever – nodules of occiput *Rook p.2575, 1998, Sixth Edition*

Sarcoid

Sarcoma *JAAD 46:934–941, 2002*

Scabies *Semin Dermatol 12:3–8, 1993*

Self-healing juvenile cutaneous mucinosis *Ped Derm 20:35–39, 2003; Clin Exp Dermatol 19:90–93, 1994*

Sinus pericranii *JAAD 46:934–941, 2002*

Subcutaneous necrobiotic granulomas of the scalp

Subepicranial hygromas *JAAD 46:934–941, 2002*

Subepidermal varix *JAAD 46:934–941, 2002*

Tinea capitis (*Trichophyton verrucosum*, *T. mentagrophtes*) – kerion *AD 114:371–372, 1978*

Venous cavernoma (venous malformation) *JAAD 46:934–941, 2002*

Wart

Wells' syndrome *Ped Derm 14:312–315, 1997*

## ADULTS

### *AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION*

Rheumatoid nodulosis *Arthritis Rheum 40:175–178, 1997*

### *DRUGS*

Anti-retroviral agents *NEJM 352:63, 2005*

### *EXOGENOUS AGENTS*

Iododerma *Australas J Dermatol 29:179–180, 1988*

Paraffinomas – lumpy scalp *AD 121:382–385, 1985*

### *INFECTIONS*

Abscesses *JAAD 46:934–941, 2002*

Candidiasis, systemic in drug addicts – purulent nodules of scalp and follicular pustules *BJD 150:1–10, 2004; Clin Infect Dis 15:910–923, 1992; J Infect Dis 152:577–591, 1985; Br Med J 287:861–862, 1983*

Carbuncle *Rook p.1119,1305, 1998, Sixth Edition*

Herpes simplex folliculitis – violaceous nodules *Am J Dermatopathol 13:234–240, 1991*

Deep mycoses

Leprosy

*Mycobacterium haemophilum AD 138:229–230, 2002*

*Mycobacterium tuberculosis* – scrofuloderma *J Dermatol 21:42–45, 1994*

Myiasis – *Dermatobia hominis BJS 151:1270, 2004;* cuterebrid myiasis *Ped Derm 21:515–516, 2004;* furunculoid myiasis

Onchocercoma

Pott's puffy tumor – fluctuant nodule over frontal region in patients with chronic sinusitis *JAAD 46:934–941, 2002*

Pseudomycetoma of scalp – multiple scalp nodules; *Trichophyton schoenleinii BJD 145:151–153, 2001*

Scabies *Acta DV (Stockh) 61:360–362, 1981*

Syphilis, tertiary *Ann DV 121:146–151, 1994*

Tinea capitis, kerion

*Trichosporon beigelii*, disseminated *JAAD 129:1020–1023, 1993*

Tufted folliculitis

Wart

Yaws

### *INFILTRATIVE DISORDERS*

Amyloidosis – nodular primary cutaneous amyloidosis *JAAD 14:1058–1062, 1986*

Eosinophilic granuloma

Lymphocytoma cutis *Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982; Cancer 24:487–502, 1969*

Mastocytoma

Xanthogranuloma *AD 112:43–44, 1976*

### *INFLAMMATORY DISORDERS*

Cranial fasciitis (nodular fasciitis) *AD 125:674–678, 1989*

Dissecting cellulitis of the scalp (perifolliculitis capitis abscedens et suffodiens) *BJD 152:777–779, 2005; Cutis 67:37–40, 2001;*

*AD 128:1115–1120, 1992; Minn Med 34:319–325, 1951; AD 23:503–518, 1931*

Kikuchi's histiocytic necrotizing lymphadenitis *BJD 144:885–889, 2001*

Lymphocytoma cutis

Pseudolymphomatous folliculitis

Sarcoid *JAAD 44:725–743, 2001*

***NEOPLASTIC DISORDERS***

Actinic keratosis

Adenoid cystic carcinoma – scalp papules *JAAD 40:640–642, 1999*

Apocrine carcinoma *Cancer 71:375–381, 1993*

Apocrine epithelioma – retroauricular tumor *JAAD 13:355–363, 1985*

Apocrine nevus *Ann Dermatol Syphiligr 101:251–261, 1974*

Atypical fibroxanthoma *Sem Cut Med Surg 21:159–165, 2002; Head Neck 23:399–403, 2001*

Basal cell carcinoma *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Microbiol Scand 88A:5–9, 1980; J Surg Oncol 5:431–463, 1975;* post-irradiation *Lancet i:509, 1974;* with cerebral invasion *Eur J Surg Oncol 27:510–511, 2001*

Benign chondroblastoma cutis – retroauricular tumor *AD 123:24–26, 1987*

Bowen's disease

Carcinoid – primary cutaneous carcinoid *Cancer 36:1016–1020, 1975*

Carcinosarcoma *JAAD 52:S124–126, 2005*

Cellular blue nevus *J Surg Oncol 74:278–281, 2000; Br J Plast Surg 51:410–411, 1998;* giant alopecic nodule *BJD 126:375–377, 1992*

Ceruminoma – retroauricular tumor *AD 98:344–348, 1968*

Chondroblastoma *JAAD 40:325–327, 1999*

Chondroid syringoma *Cutis 71:49–55, 2003*

Chondromyxoid fibroma

Clear cell acanthoma *Cutis 67:149–151, 2001*

Clear cell hidradenoma (eccrine acrospiroma) *AD 128:547–552, 1992; AD 125:985–990, 1989*

Congenital smooth muscle hamartoma *Ped Derm 11:431–433, 1996*

Cylindroma *NEJM 351:2530, 2004; JAAD 46:934–941, 2002; Am J Dermatopathol 17:260–265, 1995*

Dermatofibrosarcoma protuberans *JAAD 21:278–283, 1989*

Eccrine sweat gland carcinoma *AD 120:768–769, 1984*

Eccrine epithelioma – ulcerated nodule *JAAD 6:514–518, 1982*

Eccrine gland carcinoma – clear reticulated cytoplasm; face, scalp, palm *J Cutan Pathol 14:65–86, 1987; JAAD 13:497–500, 1985*

Eccrine hidroadenoma – dermal nodule with or without ulceration; face, scalp, anterior trunk *AD 97:651–661, 1968*

Eccrine poroma – pigmented scalp nodule *BJD 146:523, 2002*

Eccrine spiradenoma *J Cutan Pathol 15:226–229, 1988*

Eosinophilic dermatosis of myeloproliferative disease – face, scalp; scaly red nodules; trunk – red nodules; extremities – red nodules and hemorrhagic papules *AD 137:1378–1380, 2001*

Epidermoid cysts *JAAD 46:934–941, 2002*

Epithelial nevi and tumors

Extraskeletal Ewing's sarcoma *Ped Derm 5:123–126, 1988*

Fibrodysplasia ossificans progressiva – fibrous scalp nodules *Cleve Clin Q 51:549–552, 1984*

Fibrosarcoma

Fibrous dysplasia

Giant cell fibroblastoma *JAAD 46:934–941, 2002*

Giant folliculosebaceous cystic hamartoma *AD 141:1035–1040, 2005*

Granular cell tumor

Heterotopic meningeal nodules, familial cutaneous *JAAD 28:1015, 1017, 1993*

Hidradenoma papilliferum *JAAD 41:115–118, 1999; JAAD 19:133–135, 1988*

Intracranial neoplasms with extension through the skull *JAAD 46:934–941, 2002*

Juvenile aponeurotic fibroma

Juvenile hyaline fibromatosis (systemic hyalinosis) – translucent papules or nodules of scalp, face, neck, trunk, gingival hypertrophy, flexion contractures of large and small joints *JAAD 16:881–883, 1987*

Juvenile fibromatosis

Keloids

Keratoacanthoma *Ghatan p.98, 2002, Second Edition*

Leukemia cutis *JAAD 34:375–378, 1996*

Lipoma *JAAD 46:934–941, 2002*

Lymphoepithelioma-like carcinoma of the skin *AD 134:1627–1632, 1998*

Lymphoma *JAAD 46:934–941, 2002;* follicular-center B-cell lymphoma – nodules of face, scalp, trunk, extremities *BJD 144:1239–1243, 2001; AD 132:1376–1377, 1996;* primary cutaneous B-cell lymphoma *BJD 153:167–173, 2005;* cutaneous T-cell lymphoma – fungating ulcerative mass *AD 124:409–413, 1988,* Hodgkin's disease – ulcerated papules, plaques, and nodules of the scalp and face *AD 127:405, 408, 1991;* spindle cell B-cell lymphoma *BJD 145:313–317, 2001;* blastic natural killer-cell lymphoma *BJD 150:174–176, 2004;* others

Malignant blue nevus *Int J Dermatol 37:126–127, 1998; Cutis 58:40–42, 1996*

Malignant eccrine spiradenoma *Derm Surg 25:45–48, 1999; Am J Dermatopathol 14:381–390, 1992*

Malignant peripheral nerve sheath tumors (neurofibrosarcoma) *AD 137:908–913, 2001*

Melanocytic nevi, including giant congenital melanocytic nevus, of scalp and cranium *Br J Plast Surg 50:20–25, 1997*

Melanoma

Meningioma – intracranial malignant meningioma *JAAD 34:306–307, 1996;* osteolytic meningioma *JAAD 35:641, 1996*

Merkel cell tumor *JAAD 31:271–2, 1994*

Metastases *JAAD 46:934–941, 2002; JAAD 36:531–537, 1997;* cystic lesion – metastatic lung adenocarcinoma *JAAD 36:644–646, 1997;* prostate *AD 104:301–303, 1971;* lung and kidney in men; breast in women; also ovaries, uterus, gallbladder, testis, gastrointestinal tract, melanoma, leukemia, lymphoma *JAAD 31:319–321, 1994;* renal cell carcinoma *AD 140:1393–1398, 2004; Derm Surg 27:192–194, 2001;* paraganglioma – painful *JAAD 44:321–323, 2001;* glioblastoma multiforme *JAAD 46:297–300, 2002;* salivary gland adenocarcinoma mimicking kerion *Ghatan p.254, 2002, Second Edition;* osteosarcoma *JAAD 49:757–760, 2003;* cholangiocarcinoma *JAAD 51:S108–111, 2004;* malignant mixed Müllerian tumor *BJD 151:943–945, 2004;* esophageal carcinoma *Cutis 70:230–232, 2002*

Microcystic adnexal carcinoma – skin-colored plaque *JAAD 41:225–231, 1999;* skin-colored or yellow nodule or plaque *JAAD 52:295–300, 2005; Derm Surg 27:979–984, 2001; Derm Surg 27:678–680, 2001; JAAD 45:283–285, 2001*

Mucinous carcinoma of skin *JAAD 52:S76–80, 2005; JAAD 49:941–943, 2003; JAAD 36:323–326, 1997; Clin Exp Dermatol 18:375–377, 1993*

Mucoepidermoid carcinoma – scalp nodule *Derm Surg 27:1046–1048, 2001*

Myeloma

Neurocristic cutaneous hamartoma – a dermal melanocytosis *Mod Pathol 11:573–578, 1998*

Neurofibroma

Neurothekeoma – skin-colored scalp nodule *BJD 144:1273–1274, 2001*

Nevus lipomatosis superficialis *Cutis 43:143–144, 1989*

Osteogenic sarcoma

Osteoma

Parotid gland tumors – retroauricular tumor

Pilar cyst *JAAD 46:934–941, 2002; Rook p.1668, 1998, Sixth Edition*

Pilomatrixomas, also seen with myotonic dystrophy *Arch Otolaryngol Head Neck Surg 124:1239–1242, 1998; JAAD 37:268–269, 1997*

Pilomatrix carcinoma *JAAD 44:358–361, 2001;* multiple of head and neck *Otolaryngol Head Neck Surg 109:543–547, 1993; JAAD 23:985–988, 1990*

Plasmacytosis, nodular cutaneous *Clin Exp Dermatol 21:360–364, 1996*

Pleomorphic fibroma *Dermatology 191:245–248, 1995*

Porokeratosis of Mibelli

Poroma – red, pink, purple *JAAD 44:48–52, 2001*

Proliferating trichilemmal tumor *J Dermatol 27:687–688, 2000; Ann Plast Surg 43:574–575, 1999; Mund Kiefer Gesechtschir 2:216–219, 1998; AD 124:935–940, 1988; Cancer 48:1207–1214, 1981*

Schwannoma – benign glandular schwannoma *BJD 145:834–837, 2001*

Sebaceous adenoma *J Cutan Pathol 11:396–414, 1984*

Sebaceous carcinoma *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985*

Sebaceoma, giant *J Dermatol 21:367–369, 1994*

Seborrheic keratosis

Solitary fibrous tumor of the skin – facial, scalp, posterior neck nodule *JAAD 46:S37–40, 2002*

Spiradenocarcinoma – vascular scalp nodule *Cutis 69:455–458, 2002*

Spitz nevus

Squamous cell carcinoma *Tyring p.270, 2002;* squamous cell carcinoma arising in cyst with pilar differentiation – red nodule

Syringocystadenoma papilliferum *Rook p.1704, 1998, Sixth Edition*

Trichoblastoma – pink or skin-colored scalp nodule; umbilicated scalp nodule with central follicular plug *BJD 144:1090–1092, 2001; AD 135:707–712, 1999; J Cutan Pathol 26:490–496, 1999;* giant trichoblastoma *Am J Dermatopathol 15:497–502, 1993*

Trichoepithelioma *AD 120:227–230, 1984*

Tubular apocrine adenoma *JAAD 11:639–642, 1984*

Warty dyskeratoma *Ghatan p.98,341, 2002, Second Edition*

### *PRIMARY CUTANEOUS DISEASES*

Acne keloidalis *Cutis 75:317–321, 2005*

Angiolymphoid hyperplasia with eosinophilia (Kimuura's disease) *BJD 151:1103–1104, 2004; BJD 143:214–215, 2000*; retroauricular tumor *Ped Derm 1:210–214, 1984*

Comedone

Cutis verticis gyrata – paraneoplastica *AD 125:434–435, 1989;* pachydermoperiostosis *AD 124:1831–1824, 1988*; neuropathic disease, tumors, cerebriform nevi, neurofibromas, fibromas, associated with acromegaly, myxedema, leukemia, syphilis, acanthosis nigricans, tuberous sclerosis, Apert's syndrome, amyloidosis; secondary cutis verticis gyrata- inflammatory disorders of the scalp – eczema, psoriasis, folliculitis, erysipelas, pemphigus

Granuloma annulare *BJD 70:179–181, 1958*

Granuloma faciale *JAAD 51:269–273, 2004*

Prurigo nodularis

Subcutaneous necrobiotic granulomas of the scalp *JAAD 3:180–185, 1980*

### *SYNDROMES*

Brooke–Spiegler syndrome – trichoepitheliomas and cylindromas (face, scalp, and upper trunk) *Dermatol Surg 26:877–882, 2000*

Cowden's disease (multiple hamartoma syndrome) *JAAD 17:342–346, 1987*

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Fibrodysplasia ossificans progressiva – fibrous scalp nodules *Clev Clin Q 51:549–552, 1984*

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001*

Lipoid proteinosis – yellow–brown nodules with alopecia *Int J Derm 39:203–204, 2000; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Lumpy scalp syndrome – autosomal dominant; irregular scalp nodules, deformed pinnae, rudimentary nipples *Clin Exp Dermatol 15:240, 1989*

Multicentric reticulohistiocytosis – digital papule; knuckle pads yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; AD 126:251–252, 1990; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Muir–Torre syndrome

Neurofibromatosis *JAAD 23:866–869, 1990*

Oculo-ectodermal syndrome – macrocephaly, cutis aplasia, abnormal pigmentation, scalp nodules, corneal epibulbar dermoid cysts *BJD 151:953–960, 2004; Bolognia p.924, 2003*

Proteus syndrome

Steatocystoma multiplex

Xeroderma pigmentosum – squamous cell carcinoma *BJD 152:545–551, 2005*

### *TRAUMA*

Cephalohematoma

*VASCULAR DISORDERS*

Angiolymphoid hyperplasia with eosinophilia *AD 137:863–865, 2001; AD 137:821–822, 2001;* mimicking a pilar cyst *J Derm Surg Oncol 6:935–937, 1980*

Angiosarcoma (Wilson–Jones angiosarcoma) – nodule or plaque *JAAD 40:872–876, 1999; Int J Dermatol 38:697–699, 1999; JAAD 38:143–175, 1998; BJD 136:752–756, 1997; Cancer 59:1046–1057, 1987;* multiple nodules *BJD 144:380–383, 2001*

Arteriovenous fistulae

Churg–Strauss disease – scalp nodules *JAAD 48:311–340, 2003; Medicine 78:26–37, 1999;* umbilicated nodules with central necrosis of scalp *BJD 127:199–204, 1992*

Extramedullary hematopoiesis – with myelofibrosis *J Dermatol 26:379–384, 1999*

Giant cell arteritis *Ann DV 127:304, 2000*

Hemangioma, congenital; intracranial hemangiomas; giant hemangiomas of scalp *S Afr Med J 55:47–49, 1979*

Polyarteritis nodosa, systemic; cutaneous (livedo with nodules) – painful or asymptomatic red or skin-colored multiple nodules with livedo reticularis of feet, legs, forearms face, scalp, shoulders, trunk *Ped Derm 15:103–107, 1998*; *AD 130:884–889, 1994; JAAD 31:561–566, 1994; JAAD 31:493–495, 1994*

Pyogenic granuloma

Rapidly involuting congenital hemangioma – large violaceous gray-blue nodule of scalp with overlying telangiectasia *Soc Ped Derm Annual Meeting, 2005*

Retiform hemangioendothelioma *JAAD 38:143–175, 1998*

Subepicranial hygromas *JAAD 46:934–941, 2002*

Temporal arteritis – nodules over occipital artery *BJD 76:299–308, 1964*

Thrombus in temporal artery aneurysm

Vascular nevi

Venous malformation *JAAD 46:934–941, 2002*

## SCALP, RED PLAQUES

Alopecia mucinosa (follicular mucinosis) *Derm 197:178–180, 1998; JAAD 10:760–768, 1984*; *AD 76:419–426, 1957*

Amyloid

Angiosarcoma *Rook p.2361–2362, 1998, Sixth Edition; Cancer 77:2400–2406, 1996*

Basal cell carcinoma

Calcinosis cutis *Tyring p.368, 2002*

Chronic myelogenous leukemia

Contact dermatitis – allergic or irritant

Dermatomyositis

Dissecting cellulitis of the scalp – mimicking infectious cellulitis *Ann Intern Med 142:47–55, 2005*

Erythema multiforme

Farber's disease (disseminated lipogranulomatosis) – red papules and nodules of joints and tendons of hands and feet; deforming arthritis; papules, plaques, and nodules of ears, back of scalp and trunk *Rook p.2642, 1998, Sixth Edition; Am J Dis Child 84:449–500, 1952*

Folliculitis decalvans

Granuloma faciale *Cutis 72:213–219, 2003*

Hair follicle hamartoma – papules and plaques of scalp *BJD 143:1103–1105, 2000*

Herpes simplex

Herpes zoster

Kikuchi's histiocytic necrotizing lymphadenitis *BJD 144:885–889, 2001*

Klippel–Trenaunay–Weber syndrome

Leukemia cutis including chronic myelogenous leukemia; hairy cell leukemia cutis – violaceous plaques *JAAD 11:788–797, 1984*

Lichen planopilaris

Lichen simplex chronicus – psoriasiform neurodermatitis

Lupus erythematosus – discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*

Lymphocytoma cutis *Cancer 69:717–724, 1992; Acta DV (Stockh) 62:119–124, 1982; Cancer 24:487–502, 1969*

Lymphoma – B-cell, *JAAD 53:479–484, 2005;* cutaneous T-cell lymphoma mimicking dissecting cellulitis of the scalp *JAAD 47:914–918, 2002; J Cutan Pathol 24:169–175, 1997*

Lymphomatoid granulomatosis *AD 132:1464–1470, 1996*

Malignant angioendotheliomatosis *Rook p.2361–2362, 1998, Sixth Edition; J Derm Surg Oncol 7:130–136, 1981*

Metastases – gastric adenocarcinoma *Cutis 76:194–196, 2005*

Microcystic adnexal carcinoma *JAAD 41:225–231, 1999*

Necrobiosis lipoidica diabeticorum *Dermatologica 135:11–26, 1967*

Neurotic excoriation

Nevus sebaceus

Porokeratosis of Mibelli of the scalp *Dermatologica 134:269–272, 1967*

Pretibial myxedema *JAAD 46:723–726, 2002*

Prurigo nodularis

Psoriasis *AD 98:248–259, 1968*

Retiform hemangioendothelioma – red plaque of scalp, arms, legs, and penis *JAAD 38:143–175, 1998*

Sarcoid – psoriasiform plaques and dermatitis *AD 140:1003–1008, 2004*

Seborrheic dermatitis

Squamous cell carcinoma

Subcutaneous fat necrosis of infancy *AD 136:1559–1564, 2000*

Sweet's syndrome

Tinea amientacea

Tinea capitis (T. verrucosum, T. mentagrophtes) – including kerion *AD 114:371–372, 1978*

Tufted folliculitis

## SCARRING OF NECK

Acne keloidalis nuchae *J Derm Surg Oncol 15:642–647, 1989*

Actinomycosis

Anthrax

Atypical mycobacterial infections in childhood *Br J Oral Maxillofac Surg 36:119–122, 1998*

Branchial cleft sinus

Bullous pemphigoid – localized Brunsting–Perry type *Hautarzt 44:110–113, 1993; Clin Dermatol 5:43–51, 1987; BJD 95:531–534, 1976*

Burns

Carcinoma

Dental sinus

Eczema herpeticum

Epidermolysis bullosa dystrophica inversa *Ped Derm 7:116–121, 1990*

Factititial dermatitis

Fiddler's neck *BJD 98:669–674, 1978*

Folliculitis decalvans *J Dermatol 28:329–331, 2001*

Hemangioma, resolved

Herpes zoster

Leishmaniasis

Lupus erythematosus

Mycetoma

Osteomyelitis

Poikiloderma of Civatte with pseudoscars

Reticulolinear aplasia cutis congenita of the face and neck – syndromes linked to Xp22 *BJD 138:1046–1052, 1998*

Scrofuloderma

Smallpox

Spider bite

Squamous cell carcinoma arising in scarifying mucocutaneous disorders *Adv Dermatol 2:19–46, 1987*

Surgical scars

Syphilitic gumma

Tracheotomy

Trauma

Varicella – including congenital varicella *Textbook of Neonatal Dermatology, p.206, 2001*

## SCARS AND LESIONS IN SCARS

Amputation stump neuroma *Rook p.2364, 1998, Sixth Edition*

Amyloidosis *Ghatan p.250, 2002, Second Edition*

Angiosarcoma *BJD 149:1273–1275, 2003*

Aplasia cutis congenita; autosomal dominant *Ped Derm 22:213–217, 2005;* Adams–Oliver syndrome – aplasia cutis congenita, cutis marmorata telangiectatica congenital, transverse limb defects *Ped Derm 22:206–209, 2005*

Argyria – secondary to silver sulfadiazine *JAAD 49:730–732, 2003*

Basal cell carcinoma *Derm Surg 27:195–197, 2001; Derm Surg 25:965–968, 1999; JAAD 38:488–490, 1998*

Benign lymphangiomatous papules of the skin *JAAD 52:912–913, 2005*

Bullous pemphigoid – in surgical wounds *Cutis 75:169–170, 2005; BJD 145:670–672, 2001*

Crohn's disease *Ghatan p.250, 2002, Second Edition*

Dermatofibroma *JAAD 48:S54–55, 2003*

Dermatofibrosarcoma protuberans – within smallpox scar *JAAD 48:S54–55, 2003*

Desmoid tumors – in Gardner's syndrome; arise in incisional scars of abdomen *Cancer 36:2327–2333, 1975; AD 90:20–30, 1964*

Drug-induced leukocytoclastic vasculitis – vancomycin

Eccrine poroma and eccrine porocarcinoma *BJD 150:1232–1233, 2004*

Ehlers–Danlos syndrome – fish-mouthed scars

Endometriosis *Ghatan p.250, 2002, Second Edition*

Epidermal inclusion cyst

Erythema multiforme *JAAD 48:S54–55, 2003*

Extramedullary hematopoiesis *JAAD 32:805–807, 1995*

Granuloma annulare – linear in scar *JAAD 50:S34–37, 2004*

Graves' disease – thyroid dermopathy (pretibial myxedema) in smallpox scar *Clin Exp Dermatol 25:132–134, 2000*

Interleukin-2 reaction – erosions in surgical scar *JAMA 258:1624–1629, 1987*

Keloids, spontaneous

Leiomyosarcoma – in burn scar *Burns 24:68–71, 1998*

Leishmaniasis recidivans – circinate papules at periphery of old scars *Clin Inf Dis 33:1076–1079, 2001; JAAD 34:257–72, 1996*

Lichen planus *Ghatan p.250, 2002, Second Edition*

Lichen sclerosus et atrophicus *JAAD 32:393–416, 1995; JAAD 31:671–3, 1994*

Liposarcoma *Burns 22:497–499, 1996*

Lupus erythematosus, discoid *JAAD 48:S54–55, 2003*

Malignant fibrous histiocytoma *Burns 26:305–310, 2000; Postgrad Med J 63:1097–1098, 1987*

Melanoma *JAAD 48:S54–55, 2003; Ann Plast Surg 46:59–61, 2001; BJD 137:793–798, 1997*

Merkel cell tumor *Hum Pathol 32:680–689, 2001; Am J Dermatopathol 4:537–548, 1982*

Metastatic renal cell cancer in nephrectomy scar *Arch Pathol 76:339–46, 1963;* metastatic pancreatic carcinoma with seeding at time of surgery

Milia

Minocycline hyperpigmentation

Osteoma cutis in prostatectomy scars or other postoperative scars *AD 117:797–801, 1981*

Pityriasis rubra pilaris *Ghatan p.250, 2002, Second Edition*

Psoriasis *Ghatan p.250, 2002, Second Edition*

Pyoderma gangrenosum *NEJM 347:1419, 2002*

Sarcoidosis – scars become inflamed and infiltrated; in pre-existent scars, biopsy scars, BCG, tuberculin test sites, tribal scarification *Rook p.2691, 1998, Sixth Edition;* at venipuncture sites *Cutis 24:52–53, 1979*

Silicone, injected – scarring, contractures, deformity *AD 141:13–15, 2005; Derm Surg 27:198–200, 2001*

Squamous cell carcinoma *Derm Surg 25:965–968, 1999; JAAD 38:488–490, 1998;* in lesions of epidermolysis bullosa acquisita *BJD 152:588–590, 2005*

Synovial cyst – cutaneous metaplastic synovial cyst *JAAD 41:330–332, 1999*

Verrucae

Wegener's granulomatosis *Acta DV 45:288–95, 1965*

Xanthoma *Ghatan p.250, 2002, Second Edition*

## SCLERODERMOID CHANGES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – sclerosis of skin *Rook p.2501, 1998, Sixth Edition;* acrosclerosis *Rook p.2541, 1998, Sixth Edition*

Graft vs. host disease, chronic *BJD 142:529–532, 2000; JAAD 38:369–392, 1998; Clin Exp Dermatol 8:531–538, 1983;* bullous sclerodermoid changes *AD 121:1189–1192, 1985;* morphea-like

lesions *Clin Exp Dermatol 8:531–538, 1983;* sclerodermoid changes with ripply appearance *AD 138:924–934, 2002*; eosinophilic fasciitis *JAAD 53:591–601, 2005*

Lupus erythematosus – systemic lupus – bound-down skin of face and limbs *Rook p.2474, 1998, Sixth Edition;* discoid lupus with annular atrophic plaques of face, neck, behind ears *AD 112:1143–1145, 1976;* lupus mastitis – sclerosis of the breast *JAAD 29:343–346, 1993;* lupus panniculitis – morphea-like lesions *Clin Exp Dermatol 19:79–82, 1994;* neonatal lupus with morphea-like lesions *BJD 115:85–90, 1986;* acrosclerosis *Rook p.2541, 1998, Sixth Edition;* papulonodular mucinosis in LE *JAAD 32:199–205, 1995*

Lupus erythematosus/dermatomyositis overlap

Mixed connective tissue disease *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Morphea *Rook p.2504–2508, 1998, Sixth Edition;* linear morphea *Semin Cutan Med Surg 18:210–225, 1999; Semin Cutan Med Surg 17:27–33, 1998; Int J Derm 35:330–336, 1996;* en coup de sabre *Rook p.2505–2506, 1998, Sixth Edition;* morphea profunda with overlying hyper- or hypopigmentation *Ped Derm 8:292–295, 1991;* panscleroticmorphea – mutilating form of morphea *JAAD 53:S115–119, 2005; AD 116:169–173, 1980;* generalized morphea *Rook p.2511, 1998, Sixth Edition*

Rheumatoid arthritis – pseudoscleroderma *Rook p.2513, 2566, 1998, Sixth Edition*

Scleroderma (progressive systemic sclerosis) – diffuse cutaneous form; CREST syndrome *Rook p.2527, 1998, Sixth Edition*

Sjögren's syndrome *Ghatan p.255, 2002, Second Edition*

## CONGENITAL LESIONS

Sclerema neonatorum *JAAD 45:325–361, 2001; Ped Derm 10:271–276, 1993*

Smooth muscle hamartoma *Ped Derm 13:222–225, 1996*

## DEGENERATIVE DISORDERS

Limb immobilization

## DRUG-INDUCED LESIONS

Appetite suppressants – amphetamine, diethylpropion *J Rheumatol 11:254–255, 1984*

Bleomycin – sclerodermatous changes of hands *Clin Rheumatol 18:422–424, 1999; JAAD 33:851–852, 1995; J Rheumatol 19:294–296, 1992; AD 107:553–555, 1973*

Bromocriptine – morphea *Int J Dermatol 28:177–179, 1989*

Carbidopa *NEJM 303:782–787, 1980*

Corticosteroids – distal phalangeal atrophy due to topical steroid therapy *AD 123:571–572, 1987*

Diltiazem – thickened skin of the feet *Int J Cardiol 35:115, 1992*

Docataxel *BJD 147:619–621, 2002; Cancer 88:1078–1081, 2000; Cancer 76:110–115, 1995*

Ergot

Ethosuximide

Gemcitabine – edema of legs with subsequent sclerodermoid changes *JAAD 51:S73–76, 2004*

Heparin, injected *Ann DV 112:245–247, 1985* 5-hydroxytryptophan with carbidopa – eosinophilia-myalgia-like lesions *NEJM 303:782–787, 1980*

Interferon-α-induced eosinophilic fasciitis *JAAD 37:118–120, 1997*

Interferon-β 1b *JAAD 37:553–558, 1997*

Isoniazid

Meperidine

Methysergide *BJD 153:224–225, 2005*

Paclitaxel *JAAD 48:279–281, 2003; BJD 147:619–621, 2002*

Peplomycin (derivative of bleomycin)-induced scleroderma *BJD 1213–1214, 2004*

D-penicillamine *BJD 116:95–100, 1987;* morphea-like reaction *Ann Rheum Dis 40:42–44, 1981*

Pentazocine (Talwin), injected – woody induration with overlying ulceration *AD 127:1591–1592, 1991; JAAD 22:694–695, 1990*

Sodium valproate *AD 116:621, 1980*

Uracil-tegafur (UFT) *JAAD 42:519–520, 2000*

Vitamin K (fat soluble) (phytonadione) injection (Texier's syndrome) – sclerodermiform atrophic plaques *AD 137:957–962, 2001; JAAD 38:322–324, 1998; Cutis 61:81–83, 1998; Cutis 43:364–368, 1989; AD 121:1421–1423, 1985*

## EXOGENOUS AGENTS

Betel chewing – oral submucous fibrosis *JAAD 37:81–88, 1998*

Chlorethylene *Ghatan p.255, 2002, Second Edition*

Cocaine abuse *JAAD 10:525, 1984*

Epoxy resin-associated fibrosis with arthralgia *Dermatologica 161:33–44, 1980*

Paraffin – paraffinoma

Pesticides *Rook p.2514, 1998, Sixth Edition;* weed sprayer with sclerodactyly of fingers and toes with hyperkeratosis of palms and chloracne *Clin Exp Dermatol 19:264–267, 1994*

Plastics
- Epoxy resin-associated fibrosis *Dermatologica 161:33–44, 1980* Urea formaldehyde foam
- Vinyl chloride – thick skin of hands, face, and trunk *AD 106:219–223, 1972*

Polyvinyl chloride – acro-osteolysis, cutaneous sclerosis, Raynaud's phenomenon *Br Med J i:936–938, 1976*

Silica dust – occupational *JAAD 22:444–448, 1990; Ann Intern Med 66:323–334, 1967;* silica dust in gold mining – acro-osteolysis, cutaneous sclerosis, Raynaud's phenomenon *Br J Ind Med 42:838–843, 1985;* silica-associated systemic sclerosis in coal miners *BJD 123:725–734, 1990*

Silicone breast implant associated scarring dystrophy of arm *AD 131:54–56, 1995;* indurated inflammatory subcutaneous masses due to silicone bag-gel rupture *Rook p.921, 1998, Sixth Edition*

Subcutaneous silicone injections

Solvents *Acta DV* (*Stockh*) *69:533–536, 1989; Clin Exp Dermatol 2:17–22, 1977*
- Aromatic hydrocarbons
- Aliphatic hydrocarbons
- Chlorinated hydrocarbons
- Ethylacetate *Arthritis Rheum 34:631–633, 1991*
- Hexachloroethane
- Isopropylalcohol *Arthritis Rheum 34:631–633, 1991*
- Meta-phenyldiamine *Am J Med 85:114–116, 1988*
- *Naphthalene Arthritis Rheum 34:631–633, 1991*
- Perchlorethylene – like vinyl chloride disease *Schweiz Med Wochenschr 125:2433–2437, 1995; Clin Exp Dermatol 2:17–22, 1977*
- Toluene
- Trichloroethane *Acta DV* (*Stockh*) *67:263–264, 1987*
- Trichloroethylene *Acta DV* (*Stockh*) *67:263–264, 1987*
- Trimethylbenzene *Arthritis Rheum 34:631–633, 1991*
- Turpene derivatives Arthritis Rheum 34:631–633, 1991

## INFECTIONS OR INFESTATIONS

Brucellosis *Int J Derm 33:57–59, 1994*

Filariasis *Ghatan p.33, 2002, Second Edition*

HIV-related porphyria cutanea tarda *J Acquir Immune Defic Syndr 4:1112–1117, 1991*

Leprosy – lepromatous; Lucio's phenomenon – gradual loss of eyebrow, eyelash, and body hair with generalized sclerodermoid thickening of skin *Rook p.1225, 1998, Sixth Edition*

Lyme borreliosis – morphea-like changes *JAAD 48:376–384, 2003*; acrodermatitis chronica atrophicans – sclerodermiform with sclerosis of lower legs with ulceration *BJD 121:263–269, 1989: Int J Derm 18:595–601, 1979*

Lymphogranuloma venereum *Ghatan p.33, 2002, Second Edition*

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis; deep papillomatous and sclerotic forms causing deformity of the extremities *Clin Exp Dermatol 13:211–220, 1988*

Syphilis – secondary in AIDS *Tyring p.329, 2002; AD 128:530–534, 1992*

Yaws – tertiary – cicatricial changes

## INFILTRATIVE DISORDERS

Amyloidosis (pseudoscleroderma) – primary systemic *Postgrad Med J 64:696–698, 1988; Clin Exp Dermatol 4:517–536, 1979; Can Med Assoc J 83:263–265, 1960*; amyloid elastosis *JAAD 22:27–34, 1990*

Mastocytosis – diffuse infiltrative mastocytosis

Scleromyxedema (lichen myxedematosus) (pseudoscleroderma) – linear papules, leonine facies, arthritis and rash, sclerodermoid changes *Int J Derm 42:31–35, 2003; JAAD 44:273–281, 2001; JAAD 38:289–294, 1998; Rook p.2616–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995; JAAD 14:1–18, 1986*

Xanthosiderohistiocytosis – variant of xanthoma disseminatum; diffuse infiltration of skin, subcutis, and muscle *AD 82:171–174, 1960*

## INFLAMMATORY DISORDERS

Connective tissue panniculitis – nodules, atrophic linear plaques of face, upper trunk, or extremities *AD 116:291–294, 1980*

Eosinophilic fasciitis (Shulman's syndrome) *Curr Rheum Reports 4:113, 2002; Rheum Dis Clin North Am 21:231, 1995; Assoc Am Physicians 88:70, 1985; JAAD 1:221–226, 1979; Ann Rheum Dis 36:354–359, 1977; J Rheumatol 1 (Suppl 1):46, 1974*

Sarcoid – morphea-like lesions *JAAD 44:725–743, 2001; JAAD 39:345–348, 1998; Clin Exp Rheumatol 8:171–175, 1990*; mimicking lipodermatosclerosis *Cutis 75:322–324, 2005*

Subacute nodular migratory panniculitis *AD 128:1643–1648, 1992*

Subcutaneous fat necrosis of the newborn – red to bluish-red firm nodules and/or plaques; buttocks, thighs, shoulders, back, cheeks, and arms; associated with hypercalcemia *JAAD 16:435–439, 1987; Clin Pediatr 20:748–750, 1981*

## METABOLIC DISORDERS

Acromegaly *Ghatan p.33, 2002, Second Edition*

Bisalbuminemia – cold, blue hands; inability to extend fingers *BJD 95 (Suppl.14):54–55, 1977*

Calcification – subcutaneous calcification (post-phlebitic subcutaneous calcification) – chronic venous insufficiency; non-healing ulcers; fibrosis *Radiology 74:279–281, 1960*

Carcinoid syndrome – of legs *BJD 152:71–75, 2005; Arch Int Med 131:550–553, 1973*

Diabetes mellitus – diabetic hands (diabetic cheiroarthropathy) (prayer sign) (waxy hands) – limited joint mobility *JAAD 49:109–111, 2003; Ped Derm 11:310–314, 1994; J Rheumatol 10:797–800, 1983; Arthritis Rheum 25:1357–1361, 1982;* diabetic thick skin *JAAD 16:546–553, 1987;* with finger pebbling *JAAD 14:612–619, 1986*; scleredema *Dermatologica 146:193–198, 1973*

Hashimoto's thyroiditis

Hunter's syndrome – decreased sulfoiduronate sulfatase – sclerodermoid changes of the hands *Ped Derm 15:370–373, 1998*

Hyaluronan metabolic abnormality – peau d'orange bound skin, generalized lax and cerebriform redundant skin *J Pediatr 136:62–68, 2000*

Hyperoxalosis – primary type I hyperoxalosis; glyoxylate aminotransferase deficiency; sclerodermoid changes of legs *BJD 151:1104–1107, 2004*

Hypopituitarism – post-partum; scleroderma-like *Rook p.2513, 1998, Sixth Edition*

Hypothyroidism (myxedema) – edematous and indurated skin *Rook p.2513, 1998, Sixth Edition*

Mucolipidosis type II

Mucopolysaccharidoses (Hunter's and Hurler's syndromes) – acrosclerosis; Hurler – focal pebbly thickening of skin

Muscle glycogenosis – proximal extremities with contractures *Acta DV (Stockh) 52:379–385, 1972*

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Nephrogenic fibrosing dermopathy (scleromyxedema-like cutaneous fibrosing disorder) – associated with chronic renal failure with or without hemodialysis *BJD 152:531–536, 2005; JAAD 48:55–60, 2003; JAAD 48:42–47, 2003; Am J Med 114:563–572, 2003; AD 139:903–906, 2003; Am J Dermatopathol 23:383–393, 2001; Lancet 356:1000–1001, 2000*

Niemann–Pick disease

Paraproteinemia

Phenylketonuria – sclerodermoid changes of thighs and buttocks in first year of life; contractures of legs; morphea-like lesions in older children *JAAD 26:329–333, 1992;* morphea resulting in atrophoderma of Pasini and Pierini with subcutaneous atrophy *JAAD 49:S190–192, 2003*

Porphyria – porphyria cutanea tarda *BJD 129:455–457, 1993; Dermatol Clinics 4:297–309, 1986;* variegate porphyria – pseudosclerodermatous changes of hands and fingers *Rook p.2586–2587, 1998, Sixth Edition;* hepatoerythropoietic porphyria *JAAD 11:1103–1111, 1984; AD 116:307–313, 1980; BJD 96:663–668, 1977;* erythropoietic protoporphyria – 'pseudoscleroderma' *Sybert's Genetic Skin Disorders, p.536, Oxford University Press, 1997;* Gunther's disease – congenital erythropoietic porphyria – sclerosis of hands *Ped Derm 20:498–501, 2003; Clin Exp Dermatol 12:61–65, 1987*

Scurvy – chronic *Nature 202:708–709, 1964*

Spherocytosis – pseudoerysipelas due to recurrent hemolysis with underlying sclerodermoid changes *JAAD 51:1019–1023, 2004*

## NEOPLASTIC DISEASES

Basal cell carcinoma, morpheaform *Rook p.1681–1683, 1998, Sixth Edition; Acta Pathol Mibrobiol Scand 88A:5–9, 1980; Am J Surg 116:499–505, 1968*

Collagenoma – eruptive, familial, isolated

Desmoid tumors

Desmoplastic hairless hypopigmented nevus (variant of giant congenital melanocytic nevus) *BJD 148:1253–1257, 2003*

Hair follicle hamartoma – sclerotic facial changes *BJD 143:1103–1105, 2000*

Hypertrophic scars

Keloids

Keratoacanthomas – Grzybowski eruptive keratoacanthomas; mask-like face *BJD 147:793–796, 2002*

Lymphoma – Hodgkin's disease presenting as generalized sclerodermoid changes *In J Derm 33:217–218, 1994;* $CD30^+$ anaplastic large cell lymphoma – morphea-like plaques *Am J Dermatopathol 18:221–235, 1996;* lymphoma en cuirasse *JAAD 14:1096–1098, 1986;* Sézary syndrome *Ghatan p.255, 2002, Second Edition*

Lymphomatoid granulomatosis – morphea-like plaque *JAAD 20:571–578, 1989*

Malignant mesothelioma – hourglass abdominal induration *JAAD 21:1068–1073, 1989*

Melanocytic nevus, congenital – congenital giant melanocytic nevus with progressive sclerodermoid reaction *Ped Derm 18:320–324, 2001*

Melanoma – desmoplastic melanoma; metastatic *J Derm Surg Oncol 6:112–114, 1980*

Metastases – morphea-like changes in metastatic lesions – breast, lung, gut, kidney, lacrimal gland *JAAD 33:161–182, 1995;* carcinoma en cuirasse (metastatic breast carcinoma) *Rook p.2709, 1998, Sixth Edition;* metastatic male breast carcinoma – sclerodermoid ichthyosiform plaque of chest wall *AD 139:1497–1502, 2003*

Microcystic adnexal tumor – sclerodermoid plaque above eyebrow *Derm Surg 27:979–984, 2001*

Multiple myeloma *Dermatologica 144:257–269, 1972*

Neurofibroma – diffuse neurofibroma *BJD 121 (suppl 34):24, 1989*

Paraproteinemia *AD 123:226–229, 1987*

Sebaceous carcinoma – morpheic plaque of eyelid *Am J Surg Pathol 8:597–606, 1984*

Trichilemmal carcinoma – indurated plaque *Dermatol Surg 28:284–286, 2002*

## PARANEOPLASTIC DISEASES

Malignancy associated scleroderma or CREST syndrome (lung, thyroid, ovary, cervix, brain esophagus, stomach, breast, lymphoma, leukemia) *Medicine 58:182–207, 1979; AD 115:950–955, 1979; Nebraska Med J 58:186–188, 1973;* with fasciitis/panniculitis *Cancer 73:231–235, 1994*

Scleredema associated with paraproteinemia or myeloma *Arch Dermatol Forsch 248:379, 1974;* malignant insulinoma *BJD 126:527–528, 1992*

Xanthomatosis resembling scleroderma in multiple myeloma *Arch Pathol Lab Med 102:567–571, 1978*

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis chronica atrophicans – morphea-like lesions *Rook p.2513, 1998, Sixth Edition*

Cold flexed fingers (bowed fingers) *Rook p.2547, 1998, Sixth Edition; J Rheumatol 8:266–272, 1981*

Eosinophilic fasciitis (Shulman's syndrome) *Rheum Dis Clin North Am 21:231–246, 1995; Clin Dermatol 12:449–455, 1994; JAAD 1:221–226, 1979; JAMA 240:451–453, 1978*

Idiopathic acro-osteolysis

Lamellar ichthyosis – limitation of joint movement, flexion contractures, digital sclerodactyly *Rook p.1500, 1998, Sixth Edition*

Lichen myxedematosus

Palmar fibromatosis – Dupuytren's contracture

Pityriasis rubra pilaris – sclerodermoid changes of hands in type V PRP *Clin Exp Dermatol 5:105–112, 1980*

Scleredema of Buschke (pseudoscleroderma) *JAAD 11:128–134, 1984;* associated with rheumatoid arthritis and Sjögren's syndrome *BJD 121:517–520, 1989;* with primary hyperparathyroidism *Int J Derm 27:647–649, 1988;* with anaphylactoid purpura *Acta DV* (*Stockh*) *77:159–161, 1997*

Sclerema neonatorum – severely ill child; starts on legs then generalizes, diffuse yellow-white woody induration with immobility of limbs; mortality 50% *AD 97:372–380, 1968*

Sclerema edematosum

Scleromyositis

Sclerotic panatrophy – may follow morphea or occur spontaneously; linear or annular or circumferential bands around limbs *Rook p.2016, 1998, Sixth Edition*

## SYNDROMES

Acrogeria *Rook p.2513, 1998, Sixth Edition*

Ataxia telangiectasia *Rook p.2749, 1998, Sixth Edition*

Carcinoid syndrome – sclerodermoid changes *Rook p.2717, 1998, Sixth Edition;* sclerosis of the legs *BJD 129:222–223, 1993;* scleroderma-like lesions *Arch Int Med 131:550–553, 1973*

Cataracts, alopecia, and sclerodactyly – ectodermal dysplasia syndrome on the island of Rodrigues *Am J Med Genet 32:500–532, 1989*

Cervical rib syndrome – indurated edema *Rook p.2512–2513, 1998, Sixth Edition*

Cockayne's syndrome

Congenital ichthyosiform dermatosis with linear keratotic flexural papules and sclerosing palmoplantar keratoderma *AD 125:103–106, 1989*

Congenital fascial dystrophy (stiff skin syndrome) (Parana hard skin syndrome) – autosomal recessive; hirsutism, limited joint mobility, localized areas of stony hard skin of buttocks and legs *Ped Derm 20:339–341, 2003; Ped Derm 19:67–72, 2002; JAAD 43:797–802, 2000; JAAD 21:943–50, 1989; Ped Derm 3:48–53, 1985; Ped Derm 2:87–97, 1984*

Congenital generalized fibromatosis *Ghatan p.33, 2002, Second Edition*

Dento-oculo-cutaneous syndrome – pigmented and indurated interphalangeal joints, thick and wide philtrum, ectropion, dental abnormalities, dystrophic fingernails *Int J Dermatol 12:285–289, 1973*

Dermochondrocorneal dystrophy – Francois' syndrome – hands *AD 124:424–428, 1988*

Diffuse lipomatosis – autosomal dominant *Proc Greenwood Genet Center 3:56–64, 1984*

Familial histiocytic dermoarthritis of Zayd

Familial scleroderma-like fingers (familial sclerodactyly) *JAAD 33:302–304, 1995*

Fibroblastic rheumatism – sudden onset, symmetrical polyarthritis, sclerodactyly with retraction of palmar aponeurosis, Raynaud's phenomenon, pulmonary fibrosis; skin lesions resolve spontaneously *AD 131:710–712, 1995*

Flynn–Aird syndrome – progressive sensorineural deafness, neurologic signs and symptoms, sclerodermoid changes

GEMSS syndrome – autosomal dominant; glaucoma, lens ectopia, microspherophakia, stiff joints, shortness, gingival hypertrophy, flexion contractures of joints, osteolytic defects, stunted growth, stocky pseudoathletic build, sclerosis of upper back and extremities *AD 131:1170–1174, 1995*

Hallermann–Streiff syndrome – taut, thin, atrophic skin, telangiectasias, hypotrichosis of scalp, xerosis/ichthyosis, pinched nose

Hereditary bullous acrokeratotic poikiloderma (Weary) – Kindler's syndrome? – pseudoainhum and sclerotic bands *Int J Dermatol 36:529–533, 1997*

Hereditary sclerosing poikiloderma – generalized poikiloderma; sclerosis of palms and soles; linear hyperkeratotic and sclerotic bands in flexures of arms and legs *AD 100:413–422, 1969*

Hunter's syndrome – (mucopolysaccharidosis type II) – X-linked recessive, generalized skin thickening, ivory papules of scapulae, hypertrichosis, coarse facial features, dysostosis, dwarfism, hepatosplenomegaly, cardiovascular disease, deafness *Ghatan p.33, 2002, Second Edition*

Hurler's syndrome – thickening of digits resembling acrosclerosis *AD 85:455–471, 1962*

Infantile restrictive dermopathy – autosomal recessive; taut shiny skin with flexion of joints *Eur J Ped 155:987–989, 1996; Am J Med Genet 24:631–648, 1986*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – autosomal recessive; synophrys, thickened skin, dusky red plaques of buttocks, perianal nodules, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, juxta-articular nodules (knuckle pads), osteopenia, osteolytic defects, stunted growth; diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004; Ped Derm 19:67–72, 2002; Ped Derm 18:534–536, 2001; Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994*

Differential diagnosis of infantile systemic hyalinosis

Winchester syndrome – autosomal recessive, patches of thick leathery skin, coarse facies, gingival hypertrophy, joint contractures

Lipoid proteinosis (Urbach–Wiethe disease) – autosomal recessive, vesiculopustules, ice-pick scars

Mucopolysaccharidosis type II (Hunter's syndrome) – X-linked recessive, generalized skin thickening, ivory papules of scapulae, hypertrichosis, coarse facial features, dysostosis, dwarfism, hepatosplenomegaly, cardiovascular disease, deafness

Lipoid proteinosis – 'pseudoscleroderma' *Ped Derm 18:21–26, 2001*

Macrocephaly with cutis marmorata, hemangioma, and syndactyly syndrome – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydroocephalus *Ped Derm 16:235–237, 1999*

Mandibuloacral dysplasia *JAAD 33:900–902, 1995*

Melorheostosis – cutaneous lesions resemble linear morphea overlying bony lesions (endosteal bony densities resembling candle wax) *BJD 86:297–301, 1972*

Moore–Federman syndrome – short stature, stiffness of joints, characteristic facies *J Med Gen 26:320–325, 1989*

Multicentric reticulohistiocytosis – sclerosing lesion of leg *JAAD 20:329–335, 1989*

Neonatal sclerodermiform progeria

Neu–Laxova syndrome – microcephaly; harlequin fetus-like changes; resembles restrictive dermopathy *Am J Med Genet 15:153–156, 1983*

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency; waxy induration with transient xanthomas overlying enlarged cervical lymph nodes *Medicine 37:1–95, 1958*

Olmsted syndrome

POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism; sclerodermoid changes (thickening of skin), either generalized or localized (legs), cutaneous angiomas, blue dermal papules associated with Castleman's disease (benign reactive angioendotheliomatosis), diffuse hyperpigmentation, maculopapular brown–violaceous lesions, purple nodules *JAAD 44:324–329, 2001, JAAD 40:808–812, 1999; AD 124:695–698, 1988, Cutis 61:329–334, 1998; JAAD 21:1061–1068, 1989; JAAD 12:961–964, 1985*

Progeria (Hutchinson–Gilford syndrome) *Ped Derm 17:282–285, 2000; AD 125:540–544, 1989*

Pseudoxanthoma elasticum – with scleroderma *Dermatologica 140:54–59, 1970*

Reflex sympathetic dystrophy – area becomes indurated after initial edema *JAAD 35:843–845, 1996; Arch Neurol 44:555–561, 1987*

Restrictive dermopathy – autosomal recessive, erythroderma at birth with taut transulucent skin, extensive erosions and contractures; taut shiny skin; fetal akinesia, multiple joint contractures, dysmorphic facies with fixed open mouth, microstomia, micrognathia, hypertelorism, pulmonary hypoplasia, bone deformities; uniformly fatal *AD 141:611–613, 2005; Ped Derm 19:67–72, 2002; Ped Derm 16:151–153, 1999; AD 134:577–579, 1998; AD 128:228–231, 1992; Am J Med Genet 24:631–648, 1986; Am J Med Genet 15:153–156, 1983; Eur J Obstet Gynecol Reprod Biol 10:381–388, 1980*

Rothmund–Thomson syndrome

Scalenus anticus syndrome – indurated edema *Rook p.2512–2513, 1998, Sixth Edition*

Scleroatrophic syndrome of Huriez (familial scleroatrophic syndrome) – autosomal dominant; triad of diffuse scleroatrophy of the hands, ridging or hypoplasia of the nails, and lamellar palmoplantar keratoderma; development of aggressive squamous cell carcinoma of involved skin *BJD 143:1091–1096, 2000; BJD 137:114–118, 1997; Fr Dermatol Syphilol 70:743–744, 1963*

Sclerodactyly, non-epidermolytic palmoplantar keratoderma, multiple cutaneous squamous cell carcinomas, periodontal disease with loss of teeth, hypogenitalism with hypospadius, altered sex hormone levels, hypertriglyceridemia, 46XX *JAAD 53:S234–239, 2005*

Shoulder–hand syndrome – sclerodactyly, mild Raynaud's phenomenon, abnormal sweating *Rook p.2512–2513, 1998, Sixth Edition*

Stiff skin syndrome – autosomal dominant *Ped Derm 20:339–341, 2003; Ped Derm 19:67–72, 2002*

Storm syndrome – calcific cardiac valvular degeneration with premature aging – Werner-like syndrome *Am J Hum Genet 45 (suppl) A67, 1989*

Trichorhinodigital syndrome

Tuberous sclerosis – collagenoma – dermal fibrosis

Vohwinkel's syndrome – spindle-shaped fingers

Wells' syndrome – resolving lesions *JAAD 18:105–114, 1988;* morphea-like lesions *JAAD 52:187–189, 2005; Trans St. Johns Hosp Dermatol Soc 57:46–56, 1971*

Werner's syndrome (pangeria) – sclerodactyly with acral gangrene *Medicine 45:177–221, 1966*

Whistling face syndrome (craniocarpotarsal dysplasia syndrome) *Birth Defects 11:161–168, 1975*

Winchester syndrome (hereditary contractures with sclerodermoid changes of skin) – scleredema-like skin changes, joint contractures, gingival hyperplasia, dwarfism, arthritis of small joints, corneal opacities *JAAD 50:S53–56, 2004; Am J Med Genet 26:123–131, 1987; J Pediatr 84:701–709, 1974; Pediatrics 47:360–369, 1971*

### TOXINS

Eosinophilia myalgia syndrome (L-tryptophan-related) – erythematous and edematous rashes, peripheral edema, morphea, urticaria, papular lesions; arthralgia *BJD 127:138–146, 1992; Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990; JAMA 264:213–217, 1990*

Spanish toxic oil syndrome – rapeseed oil denatured with aniline; early see pruritic morbilliform exanthem then white, yellow or brown papules; finally scleroderma-like syndrome *JAAD 18:313–324, 1988; JAAD 9:159–160, 1983*

### TRAUMA

Burns

Mechanical trauma – jackhammer, chain saw

Post-vein stripping sclerodermiform dermatitis *AD 135:1387–1391, 1999*

Radiation exposure (radiation port scleroderma) – chronic radiation dermatitis; supervoltage external beam radiation *JAAD 35:923–927, 1996;* post-radiation morphea – chronic *BJD 120:831–835, 1989;* postirradiation pseudosclerodermatous panniculitis *Ann Intern Med 142:47–55, 2005; JAAD 45:325–361, 2001; Am J Dermatopathol 23:283–287, 2001; Mayo Clin Proc 68:122–127, 1993;* radiation fibrosis *JAAD 49:417–423, 2003*

Spinal injury – dermal fibrosis

Surgical trauma

### VASCULAR DISORDERS

Angiosarcoma of the breast post-irradiation for breast cancer – late thickening, edema, or induration of the breast *JAAD 49:532–538, 2003*

Erythrocyanosis – may have ulceration, erythema, keratosis pilaris, desquamation, nodular lesions, edema, and fibrosis *Rook p.962–963, 1998, Sixth Edition*

Lipodermatosclerosis (hypodermatitis sclerodermiformis; sclerosing panniculitis) – chronic venous insufficiency with hyperpigmentation, induration, inflammation; champagne bottle legs *JAAD 46:187–192, 2002; Rook p.2256, 1998, Sixth Edition; Lancet ii:243–245, 1982*

Lymphedema, chronic – pseudo-scleroderma; Kaposi–Stemmer sign; failure to pick up fold of skin *Rook p.2285, 1998, Sixth Edition*

Malignant angioendotheliomatosis – scalp; livedoid red plaque of thigh with woody induration *Rook p.2396, 1998, Sixth Edition; JAAD 18:407–412, 1988*

## SCROTAL NODULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease

Cicatricial pemphigoid

Pemphigus vegetans

### CONGENITAL ANOMALY

Dermoid cyst *Curr Prob Dern 8:137–188, 1996*

Fibrous hamartoma of infancy *JAAD 41:857–859, 1999*

Midline raphe cyst of the scrotum

### DRUG-INDUCED

Chloracne

Cyclosporine

### EXOGENOUS AGENTS

Foreign body granuloma

Sclerosing lipogranuloma of penis and scrotum due to paraffin or mineral oil injection *Rook p.3199, 1998, Sixth Edition*

Hydrocarbon (tar) keratosis – flat-topped papules of face and hands; keratoacanthoma-like lesions on scrotum *JAAD 35:223–242, 1996*

### INFECTIONS AND INFESTATIONS

Abscess – parasitic (tumbu fly, guinea worm, filariasis, bacterial)

Amebiasis

Bacillary angiomatosis

Blastomycosis-like pyoderma – scrotal plaque *JAAD 36:633–634, 1997*

*Candida*, including *Candida* granuloma

Chancroid

Coccidioidomycosis

Condylomata acuminata

Cytomegalovirus

Dirofilariasis, subcutaneous (migratory nodules) – eyelid, scrotum, breast, arm, leg, conjunctiva *JAAD 35:260–262, 1996*

Filariasis – *Wuchereria bancrofti* – calcified scrotal nodules *Rook p.3199, 1998, Sixth Edition*

Furuncle

Granuloma inguinale

Herpes simplex virus – scarring

Histoplasmosis

Lymphocytoma cutis of Lyme borreliosis (*Borrelia burgdorferi*) *JAAD 47:530–534, 2002; Cutis 66:243–246, 2000; JAAD 38:877–905, 1998*

Lymphogranuloma venereum – remnant of chancre

*Mycobacterium tuberculosis Ghatan p.63, 2002, Second Edition;* onchocerciasis with calcified encysted nodules *Zentralbl Bakteriol 289:371–379, 1999; BJD 74:136–140, 1962*

Orf *JAAD 11:72–74, 1985*

Paracoccidioidomycosis – red plaques of scrotum *BJD 143:188–191, 2000*

Phaeohyphomycosis – flat papules

Scabies, nodular *The Clinical Management of Itching; Parthenon Publishing, p.xiii, 2000; J Cutan Pathol 19:124–127, 1992*

Schistosomal granuloma*s (Schistosoma mansoni) AD 115:869–870, 1979; S. haematobium JAAD 49:961–962, 2003*

Syphilis – chancre; condylomata lata; Jarisch–Herxheimer reaction

Tinea cruris

### INFILTRATIVE DISEASES

Langerhans cell histiocytosis *JAAD 25:1044–1053, 1991*

Lymphocytoma cutis *Acta DV (Stockh) 42:3–10, 1962*

Verruciform xanthoma *BJD 150:161–163, 2004; AD 138:689–694, 2002; AD 120:1378–1379, 1984;* cauliflower-like appearance *J Dermatol 16:397–401, 1989*

## INFLAMMATORY DISEASES

Crohn's disease

Hidradenitis suppurativa

Meconium periorchitis *J Ultrasound Med 13:491–494, 1994*

Rosai–Dorfman disease *Semin Diagn Pathol 7:19–73, 1990*

Sarcoid *J Cut Med Surg 4:202–204, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.59, 1998*

Sclerosing lipogranuloma *Acta Cytol 42:1181–1183, 1998*

## METABOLIC

Calcinosis – idiopathic calcinosis of the scrotum *JAAD 51:S97–101, 2004; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.76, 1998; Br J Plast Surg 42:324–327, 1989; Int J Derm 20:134–136, 1981; AD 114:957, 1978;* dystrophic calcinosis of benign epithelial cyst *BJD 144:146–150, 2001*

Fucosidosis – angiokeratomas *BJD 136:594–597, 1997*

Gout – tophi

Xanthomas

## NEOPLASTIC

Basal cell carcinoma *Cutis 59:116–117, 1997; JAAD 26:574–578, 1992*

Bowen's disease

Bowenoid papulosis

Cutaneous horn *Rook p.3198, 1998, Sixth Edition*

Dermatofibroma

Epidermal nevus

Epidermoid cyst

Extramammary Paget's disease

Fibroma, including pendulous fibromas *Rook p.3198, 1998, Sixth Edition*

Fibrosarcoma *Ghatan p.64, 2002, Second Edition*

Fibrous hamartoma of infancy *Ped Derm 15:326, 1998*

Giant cell fibroblastoma *Tumori 379:367–369, 1993*

Granular cell Schwannomas (multiple) *Cutis 63:77–80, 1999*

Isolated epidermolytic acanthoma *AD 101:220–223, 1970*

Kaposi's sarcoma

Kaposi's sarcoma

Leiomyoma *Urology 39:376–379, 1992; AD 125:417–422, 1989*

Leiomyosarcomas *JAAD 20:290–292, 1989*

Leukemia – acute myelogenous leukemia *JAAD 21:410–413, 1989*

Lipoma *Rook p.3198, 1998, Sixth Edition*

Lymphocytoma/lymphoma

Malignant mesothelioma – thick scrotum *J Cut Pathol 10:213–216, 1983*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Metastatic carcinoma

Multinucleate cell angiohistiocytoma – red to brown nodules *JAAD 30:417–422, 1994*

Neuroblastoma, metastatic

Sebocystomas *Rook p.3198, 1998, Sixth Edition*

Seborrheic keratosis

Sertoli cell tumor (calcifying) in Peutz–Jegher's syndrome *Ped Derm 11:335–337, 1994*

Squamous cell carcinoma, including mule spinner's disease; squamous cell carcinoma in cotton textile workers *Rook p.1689–1690,3202, 1998, Sixth Edition*; *AD 121:370–372, 1985*

Syringocystadenoma papilliferum *AD Syphilol 71:361–372, 1955*

Trichofolliculomas *Dermatologica 181:68–70, 1990*

Verrucous carcinoma (giant condylomata of Buschke and Lowenstein) *JAAD 23:723–727, 1990; Z Hautkr 58:1325–1327, 1983*

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis

Erythema of Jacquet

Granuloma gluteale infantum

Hernia

Lichen planus

Lichen simplex chronicus *BJD 144:915–916, 2001*

## SYNDROMES

Angiokeratoma corporis diffusum *Rook p.3198, 1998, Sixth Edition*

Behçet's syndrome

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Gardner's syndrome

Lipoid proteinosis *JAAD 39:149–171, 1998*

Neurofibromatosis

Steatocystoma multiplex

## TOXINS

Chloracne – cysts *Clin Exp Dermatol 6:243–257, 1981*

## TRAUMA

Post-traumatic spindle cell nodules *Arch Pathol Lab Med 118:709–711, 1994*

Scar

## VASCULAR

Aggressive angiomyxoma – polypoid mass *JAAD 38:143–175, 1998*

Angiokeratoma of Fordyce *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.78, 1998; Rook p.3198, 1998, Sixth Edition*

Angioma

Henoch–Schönlein purpura

Pyogenic granuloma *Cutis 62:282, 1998*

Varix

# SCROTAL NODULES WITH EROSIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Chronic granulomatous disease

Pemphigus vegetans

## DRUG-INDUCED

5-fluorouracil therapy *JAAD 19:929–931, 1988*

## INFECTIONS AND INFESTATIONS

Amebiasis

Bacillary angiomatosis

*Candida* – candida granuloma; chronic mucocutaneous candidiasis

Chancroid, including phagedenic chancroid *JAAD 19:330–337, 1988*

Coccidioidomycosis

Condylomata acuminata

Cryptococcosis

Cytomegalovirus

Granuloma inguinale

Group B beta hemolytic streptococcal infection

Herpes simplex

Histoplasmosis

Orf *JAAD 11:72–74, 1985*

Scabies

Schistosomal granulomas (*Schistosoma haematobium*)

Syphilis – chancre; Jarisch–Herxheimer reaction

Verruga peruana

Yaws, including secondary yaws (exudative lesion)

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis – Letterer–Siwe disease

Lymphocytoma cutis

Verruciform xanthoma *AD 120:1378–1379, 1984*

## INFLAMMATORY DISEASES

Crohn's disease

Malacoplakia *JAAD 34:325–332, 1996*

## METABOLIC DISEASES

Acrodermatitis enteropathica (see differential for intertrigo)

## NEOPLASTIC DISEASES

Extramammary Paget's disease *JAAD 17:497–505, 1987*

Kaposi's sarcoma

Leiomyoma *AD 125:417–422, 1989*

Leiomyosarcomas *JAAD 20:290–292, 1989*

Leukemia – acute myelogenous leukemia *JAAD 21:410–413, 1989*

Malignant mesothelioma – thick scrotum *J Cut Pathol 10:213–216, 1983*

Malignant papillary mesothelioma of the testis *JAAD 17:887–890, 1987*

Melanoma – amelanotic melanoma metastases

Metastases – renal cell, thyroid, colonic, prostatic, gastric carcinomas

Multinucleate cell angiohistiocytoma – red to brown nodules *JAAD 30:417–422, 1994*

Squamous cell carcinoma, including mule spinner's disease; squamous cell carcinoma in cotton textile workers *AD 121:370–372, 1985*

Verrucous carcinoma (giant condylomata of Buschke and Lowenstein) *JAAD 23:723–727, 1990; Z Hautkr 58:1325–1327, 1983*

## PRIMARY CUTANEOUS DISEASES

Atopic dermatitis

Darier's disease

Erythema of Jacquet

Granuloma gluteale infantum

Lichen planus

Lichen simplex chronicus

## SYNDROMES

Behçet's syndrome

## TOXINS

Dioxin exposure *JAAD 19:812–819, 1988*

Mustard gas exposure *JAAD 19:529–536, 1988*

## TRAUMA

Child abuse

## VASCULAR DISEASES

Angiokeratoma

Angiosarcoma

Cutaneous chylous scrotum (weeping scrotum)

Hemangiomas *Rook p.3198, 1998, Sixth Edition*

Pyogenic granulomas

# SCROTAL ULCERATIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous pemphoid

Linear IgA disease

Pemphigus vulgaris

## DRUG-INDUCED

All-*trans*-retinoic acid *JAAD 43:316–317, 2000; Clin Lab Haemotol 22:171–174, 2000*

Linear IgA disease, drug-induced

Multiple drugs

## EXOGENOUS AGENTS

Mustard gas exposure

## INFECTIONS AND INFESTATIONS

Actinomycosis *J Urol 121:256, 1979*

AIDS – oral and scrotal ulcers of HIV – major aphthae

Amebiasis *BJ Plast Surg 31:48, 1978; AD 24:1, 1931*

Anthrax *Ann Trop Ped 3:47, 1983*

Bacillary angiomatosis

*Brucella canis JAMA 598:172, 1978*

*Candida* – red bag *Rook p.1343, 1998, Sixth Edition*

Chancroid

*Corynebacterium urealyticum* – necrotic scrotal ulcer *J Clin Inf Dis 22:851–852, 1996*

Cytomegalovirus

Diphtheria

Ecthyma

Ecthyma gangrenosum

Fournier's fulminating synergistic scrotal gangrene *JAAD 6:289–299, 1982; J R Soc Med 75:916–917, 1982; Am J Surg 129:591–596, 1975*

Granuloma inguinale

Herpes simplex virus infection

Herpes zoster

Histoplasmosis

Human bite

*Mycobacterium haemophilum AD 138:229–230, 2002*

*Mycobacterium tuberculosis*

Onchocerciasis – calcified nodules

*Pseudomonas* sepsis – gangrenous scrotal ulcer in infants (noma neonatorum) *Lancet 2:289–291, 1978*

Rickettsial diseases

Schistosomiasis – phagedenic ulceration *Rook p.3199, 1998, Sixth Edition*

Snake bite *Br J Urol 47:334, 1975*

Spider bite

Syphilis – primary, secondary, or tertiary (gumma)

## INFLAMMATORY DISEASES

Crohn's disease *Gut 11:18, 1970*

Fistulae
- Fecal *J Indian Med Assoc 73:192, 1979*
- Urethral *Urology 9:310, 1977*

Pyoderma gangrenosum *BJD 138:337–340, 1998; JAAD 34:1046–1060, 1996; AD 131:609–614, 1995; J Urol 144:984–986, 1990; Actas Urol Esp 9:263–266, 1985; J Urol 127:547, 1982*

Stevens–Johnson syndrome

Superficial granulomatous pyoderma *Acta DV 80:311–312, 2000*

## METABOLIC

Acrodermatitis enteropathica

Riboflavin deficiency (oculogenital syndrome)

## NEOPLASTIC DISEASES

Basal cell carcinoma *J Urol 127:145, 1982*

Kaposi's sarcoma *Urology 9:686, 1977*

Leukemia cutis – acute myelogenous leukemia *JAAD 21:410–413, 1989*

Lymphoma – NK cell lymphoma *Am J Dermatopathol 20:582–585, 1998*

Metastatic carcinomas, including metastatic male breast carcinoma *JAAD 38:995–996, 1998*

Paget's disease

Squamous cell carcinoma *J Urol 130:423, 1983; J Urol 108:760, 1972*

## PARANEOPLASTIC DISEASES

Glucagonoma syndrome (necrolytic migratory erythema) – red scrotum *AD 121:389–404, 1985*

## PRIMARY CUTANEOUS DISEASES

Erythema of Jacquet

Hailey–Hailey disease (benign familial pemphigus) *Rook p.3198, 1998, Sixth Edition*

Hidradenitis suppurativa *J Urol 118:686, 1977*

Lichen simplex chronicus

Pustular ulcerative dermatosis of the scalp with ulcerative scrotal lesions *J Dermatol 25:657–661, 1998*

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

Neurotic exoriations *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.92, 1998*

## SYNDROMES

Behçet's disease *JAAD 51:S83–87, 2004; Tyring p.104, 2002; Genital Skin Disorders, Fischer and Margesson, Mosby p.55, 1998; JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*

MAGIC syndrome – combination of relapsing polychondritis and Behçet's syndrome *AD 126:940–944, 1990*

Reiter's syndrome

## TRAUMA

Coma bullae

Excoriations

Paraquat burn *J Tenn Med Assoc 72:109, 1979*

Mechanical trauma

Pressure ulcerations

Radiation necrosis

## VASCULAR DISEASES

Cholesterol emboli *BJD 150:1230–1232, 2004; SMJ 75:677, 1982*

Juvenile gangrenous vasculitis of the scrotum *Rook p.3199, 1998, Sixth Edition*

Weeping scrotum – cutaneous chylous reflux *AD 115:464–466, 1979*

# SERPIGINOUS LESIONS

## AUTOIMMUNE DISEASES AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – to temporary tattoo

Dermatitis herpetiformis *AD 126:527–532, 1990*

Epidermolysis bullosa acquisita

Graft vs. host disease – serpiginous plaques – columnar epidermal necrosis in transfusion-associated chronic GVH *AD 136:743–746, 2000*

IgA pemphigus (intraepidermal IgA pustulosis) – vesiculopustules *JAAD 43:923–926, 2000*

Linear IgA disease – annular psoriasiform, serpiginous red plaques of palms *JAAD 51:S112–117, 2004*

Lupus erythematosus – neonatal lupus erythematosus *JAAD 29:848–852, 1993;* discoid lupus erythematosus; subacute cutaneous lupus erythematosus *Ann DV 128:244–246, 2001; Dermatologica 173:146–149, 1986;* SCLE in children – annular and polycyclic *Ped Derm 20:31–34, 2003*

Pemphigus foliaceus of children – arcuate, circinate, polycyclic lesions *JAAD 46:419–422, 2002; Ped Derm 3:459–463, 1986*

Scleroderma – supravenous serpiginous hyperpigmentation *JAAD 11:265–268, 1984*

Serum sickness *NEJM 311:1407–1413, 1984*

Urticaria *Rook p.2116–2117,3372, 1998, Sixth Edition*

## DRUG-INDUCED

5-fluorouracil serpentine hyperpigmentation *JAAD 29:325–330, 1993; JAAD 25:905–908, 1991*

## EXOGENOUS AGENTS

Coral dermatitis *JAAD 52:534–535, 2005*

Cutaneous pili migrans (embedded hair) – resembling cutaneous larva migrans *BJD 144:219, 2001; AD 76:254, 1957*

Tattoos *Caputo p.199, 2000*

## INFECTIONS AND INFESTATIONS

Amebiasis – serpiginous ulcer

Chronic mucocutaneous candidiasis

Coccidioidomycosis

Coelenterate sting – recurrent eruptions following coelenterate envenomation *JAAD 17:86–92, 1987*

Cutaneous larva migrans – *Ancylostoma brasiliensis*, *A. caninum*, *Bunostomum phlebotomum*, *Uncinaria stenocephala*, *Gnathostoma spinigerum*, *Dirofilaria* species, *Strongyloides procyonis*, *S. stercoralis Clin Inf Dis 31:493–498, 2000; Ped Derm 15:367–369, 1998; South Med J 89:609–611, 1996; Hautarzt 31:450–451, 1980*

Demodicidosis in childhood ALL – facial rash *J Pediatr 127:751–754, 1995*

Dracunculosis

Erysipelas

Fascioliasis *BJD 145:487–489, 2001*

Gnathostomiasis – cutaneous larva migrans *BJD 145:487–489, 2001; The Clinical Management of Itching; Parthenon; p.54, 2000*

*Gongylonema pulchrum* – nematode; migrating intraoral serpiginous tract of buccal mucosa, lower lip *Clin Inf Dis 32:1378–1380, 2001*

Granuloma inguinale – papule or nodule breaks down to form ulcer with overhanging edge; deep extension may occur; or serpiginous extension with vegetative hyperplasia; pubis, genitalia, perineum; extragenital lesions of nose and lips, or extremities *JAAD 32:153–154, 1995; JAAD 11:433–437, 1984*

Herpes simplex

Jellyfish envenomation *Caputo p.167, 2000*

Larva currens *Dermatol Clin 7:275–290, 1989; AD 124:1826–1830, 1988*

Leprosy – lepromatous leprosy, reactional state

Loiasis – adult worm seen migrating through trunk, scalp, fingers, eyelids, tongue, penis, and conjunctivae *AD 108:835–836, 1973*

Leprosy – lepromatous leprosy, reactional state

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis; verrucous plaque of hand knees, ankles, buttocks; serpiginous outline with finger-like projections *Clin Exp Dermatol 13:211–220, 1988;* lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; plaque form – psoriasiform, irregular scarring, serpiginous margins *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Myiasis causing creeping eruption

North American blastomycosis – disseminated blastomycosis *Am Rev Resp Dis 120:911–938, 1979; Medicine 47:169–200, 1968*

Oral hairy leukoplakia

Paragonomiasis *BJD 145:487–489, 2001*

Portuguese man-of-war stings *The Clinical Management of Itching; Parthenon; p.65, 2000; J Emerg Med 10:71–77, 1992*

Rheumatic fever – erythema marginatum – polycyclic pattern *Rook p.2090, 1998, Sixth Edition; JAAD 8:724–728, 1983; Ann Intern Med 11:2223–2272, 1937–1938*

Scabies – burrow; periaxillary, periareolar, abdomen, periumbilical, buttocks, thighs *The Clinical Management of Itching; Parthenon; p.57, 2000*; *Rook p.1460–1461, 1998, Sixth Edition*

Smallpox vaccination – with lymphangitis *Clin Inf Dis 37:241–250, 2003;* progressive vaccinia (vaccinia necrosum) *Clin Inf Dis 37:251–271, 2003*

Sparganosis *BJD 145:487–489, 2001*

Streptococcal ulcers of the legs – serpiginous margins *AD 104:271–280, 1971*

Strongyloidiasis – larva currens *AD 124:1826–1830, 1988*

Syphilis – secondary, late nodular, noduloulcerative lesions; tertiary *JAAD 24:832–835, 1991; AD 123:1707–1712, 1987*

Tinea corporis treated with topical corticosteroids; generalized dermatophytosis; dermatophyte immune restoration inflammatory syndrome (IRIS) *Clin Inf Dis 40:113, 182–183, 2005*

Tinea faciei – treated with topical fluorinated corticosteroids

Tinea imbricata

Tinea versicolor

Trypanosomiasis

Wart

Yaws – serpiginous ulcers *Clin Dermatol 18:687–700, 2000*

## INFILTRATIVE DISEASES

Amyloidosis, primary systemic *JAAD 15:379–382, 1986;* presenting as dilated veins *Am J Med 109:174–175, 2000*

## INFLAMMATORY DISORDERS

Erythema multiforme

Hidradenitis suppurativa

Interstitial granulomatous dermatitis with plaques (aka linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare) – red, linear plaques with arthritis *JAAD 46:892–899, 2002*

Pyostomatitis vegetans – oral serpiginous lesions *JAAD 46:107–110, 2002*

Sarcoidosis *Rook p.2691, 1998, Sixth Edition*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *Tyring p.203, 2002*

## METABOLIC DISEASES

Diabetes mellitus – migratory ichthyosiform dermatosis with type 2 diabetes mellitus and insulin resistance; polycyclic ichthyosiform rash *AD 135:1237–1242, 1999*

Hereditary LDH M-subunit deficiency – acroerythema *JAAD 27:262–263, 1992; JAAD 24:339–342, 1991*

Liver disease, chronic – telangiectasias

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Pseudoglucagonoma syndrome with alcoholic liver disease *AD 138:405–410, 2002;* with chronic liver disease, chronic pancreatitis, traumatic necrotizing pancreatitis, celiac disease, jejunal adenocarcinoma *AD 115:1429–1432, 1979*

Scurvy – coiled hairs *JAAD 41:895–906, 1999; JAAD 29:447–461, 1993; NEJM 314:892–902, 1986*

Xanthomas – Type II hypercholesterolemia

## NEOPLASTIC DISEASES

Atrial myxoma, serpiginous lesions of distal finger pads *Cutis 62:275–280, 1998; Arthr Rheum 23:240–243, 1980*

Cutaneous horn

Disseminated superficial actinic porokeratosis

Epidermal nevi – S-shaped in lines of Blaschko *Rook p.524, 1998, Sixth Edition*

Ganglion cyst of foot *JAAD 47:S266–267, 2002*

Keloid

Giant keratoacanthoma – serpiginous polycycylic border

Lymphoma – cutaneous T-cell lymphoma *Rook p.2376–2378, 1998, Sixth Edition;* anaplastic large cell lymphoma *Cutis 60:211–214, 1997*

Metastatic cancer

Porokeratosis – of Mibelli *Cutis 72:391–393, 2003;* treated with topical corticosteroid *AD 136:1568–1569, 2000*

Woolly hair nevus – isolated woolly hair nevus, associated with epidermal nevus, keratosis pilaris atrophicans facei *XVI Congressus Internat Dermatol, Tokyo, 1982*; associated with Noonan's syndrome *BJD 100:409–416, 1979;* associated with cardiofaciocutaneous syndrome *JAAD 28:815–829, 1993*

## PARANEOPLASTIC DISEASES

Erythema gyratum repens – seen with malignancy, benign breast hypertrophy, pulmonary tuberculosis, CREST syndrome, bullous pemphigoid, ichthyosis, palmoplantar hyperkeratosis, and pityriasis rubra pilaris *JAAD 37:811–815, 1997*

Glucagonoma syndrome (necrolytic migratory erythema) *JAAD 21:1–30, 1989*

Lymphoma – serpiginous, reticulated plaques due to cutaneous granulomas associated with systemic lymphoma *JAAD 51:600–605, 2004*

Necrobiotic xanthogranuloma with paraproteinemia *Rook p.2330, 1998, Sixth Edition*

## PHOTODERMATOSES

Actinic granuloma

Annular elastolytic granuloma *JAAD 26:359–363, 1992*

Cutis rhomboidalis nuchae

Phytophotodermatitis from a plant (*Cneoridium dumosum*) *Cutis 54:400–402, 1994*

## PRIMARY CUTANEOUS DISEASES

Acquired progressive kinking of hair *AD 125:252–255, 1989; AD 121:1031–1037, 1985*

Annular epidermolytic ichthyosis *JAAD 27:348–355, 1992*

Elastosis perforans serpiginosa *JAAD 51:1–21, 2004; Hautarzt 43:640–644, 1992; AD 97:381–393, 1968;* folliculitis *J Derm 20:329–340, 1993*

Eosinophilic pustular folliculitis of Ofuji – circinate and serpiginous plaques with overlying papules and pustules in seborrheic areas; pustules are follicular *J Dermatol 16:388–391, 1989; Acta DV 50:195–203, 1970*

Epidermolysis bullosa pruriginosa – domnant dystrophic or recessive dystrophic; mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 146:267–274, 2002; BJD 130:617–625, 1994*

Erythema annulare centrifugum

Erythema cracquele (asteatotic dermatitis) *Rook p.644–645, 1998, Sixth Edition*

Erythema dyschromicum perstans

Erythema elevatum diutinum – gyrate, serpiginous, annular lesions *Rook p.2194, 1998, Sixth Edition; BJD 67:121–145, 1955*

Erythema gyratum repens – benign breast hypertrophy, bullous pemphigoid, CREST syndrome, ichthyosis, internal malignancy, palmoplantar hyperkeratosis, pityriasis rubra pilaris, pulmonary tuberculosis *Ghatan p.133, 2002, Second Edition*

Erythrokeratoderma hiemalis (erythrokeratolysis hiemalis (Oudtshoorn disease)) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet; annular serpiginous lesions of lower legs, knees, thighs, upper arms, shoulders – seen in South African whites; precipitated by cold weather or fever *BJD 98:491–495, 1978*

Erythrokeratoderma variabilis *BJD 152:1143–1148, 2005; Ped Derm 19:510–512, 2002; AD 124:1271–1276, 1988;* with erythema gyratum repens-like lesions *Ped Derm 19:285–292, 2002*

Erythrokeratolysis – peeling skin syndrome

Geographic tongue

Granuloma annulare *Ghatan p.44, 2002, Second Edition*

Linear and whorled nevoid hypermelanosis

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Onychogryphosis *Cutis 68:233–235, 2001*

Parakeratosis variegata

Progressive symmetric erythrokeratoderma *JAAD 34:858–859, 1996*

Psoriasis, including erythema gyratum repens-like psoriasis *Int J Derm 39:695–697, 2000;* erythema gyratum repens in patient with psoriasis treated with acetretin *J Drugs Dermatol 3:314–316, 2003;* palatal psoriasis *J Can Dent Assoc 66:80–82, 2000*

Resolving pityriasis rubra pilaris resembling erythema gyratum repens *AD 129:917–918, 1993*

Ridgeback anomaly of scalp hair *AD 125:98–102, 1989*

Seborrheic dermatitis

Striae

Subcorneal pustular dermatosis of Sneddon–Wilkinson – pustules which expand to annular and serpiginous lesions with scaly edge; heal with hyperpigmentation *Ped Derm 20:57–59, 2003; BJD 145:852–854, 2001; J Dermatol 27:669–672, 2000; Cutis 61:203–208, 1998; JAAD 19:854–858, 1988; BJD 68:385–394, 1956*

Terra firme

Vitiligo – serpiginous papulosquamous variant of inflammatory vitiligo *Dermatology 200:270–274, 2000;* overlying varicose veins

### SYNDROMES

Ankyloblepharon-nail dysplasia syndrome – curly hair *Birth Defects Original Article Ser 7:100–102, 1971*

Antiphospholipid antibody syndrome – unmasked by sclerotherapy with extensive thrombosis of treated superficial veins *BJD 146:527–528, 2002*

Ataxia telangiectasia

Carney complex – non-blanching annular and serpiginous macules of digital pads *JAAD 46:161–183, 2002*

Hereditary angioneurotic edema *Sybert's Genetic Skin Disorders*

Hypomelanosis of Ito

Incontinentia pigmenti

Keratosis–ichthyosis–deafness (KID) syndrome – reticulated severe diffuse hyperkeratosis of palms and soles, well marginated, serpiginous erythematous verrucous plaques, perioral furrows, leukoplakia, sensory deafness, photophobia with vascularizing keratitis, blindness *AD 117:285–289, 1981*

Netherton's syndrome – ichthyosis linearis circumflexa *AD 136:875–880, 2000; Ped Derm 13:183–199, 1996*

Pseudoxanthoma elasticum – elastosis perforans serpiginosa with PXE

Reiter's syndrome

Treacher Collins syndrome with reactive perforating collagenosis *JAAD 36:982–983, 1997*

Tricho-odonto osseous syndrome – curly hair *Am J Med Genet 72:197–204, 1997*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever and familial periodic fever) – serpiginous tender red plaques, fever, polycyclic, reticulated, and migratory patches and plaques, conjunctivitis, periorbital edema, myalgia, abdominal pain, headache; Irish and Scottish predominance *Pre-AAD Pediatric Dermatology Meeting, March 2000*

Uncombable hair syndrome (spun glass hair syndrome)

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004*

Woolly hair, alopecia, premature loss of teeth, nail dystrophy, reticulate acral hyperkeratosis, facial abnormalities *BJD 145:157–161, 2001*

### TRAUMA

Babinski sign, cutaneous

Cauliflower ears

Heel sticks – scarring *Textbook of Neonatal Dermatology, p.112, 2001*

Lightning injury

Radiation dermatitis

### VASCULAR

Angioma serpiginosum – red or purple punctae within background of erythema; serpiginous pattern *Rook p.2092–2093, 1998, Sixth Edition; JAAD 37:887–920, 1997; AD 92:613–620, 1965*

Arteriovenous fistulae – congenital or acquired; red pulsating nodules with overlying telangiectasia and distal serpiginous varicosities of an extremity or trunk *Rook p.2238, 1998, Sixth Edition*

Atrophie blanche

Blue rubber bleb nevus *AD 129:1505–1510, 1993*

Caput medusae – portal obstruction *Rook p.2724, 1998, Sixth Edition*

Emboli – from cardiac myxomas; violaceous annular and serpiginous lesions *BJD 147:379–382, 2002*

Lipodermatosclerosis with ankle flare – serpiginous vascular accentuation along the lower ankle and lateral foot *Rook p.2252, 1998, Sixth Edition*

Lymphedema of abdomen in pregnancy *JAAD 12:930–932, 1985*

Lymphangiectasias

Mondor's disease – periphlebitis of the chest wall

Non-venereal sclerosing lymphangitis of penis *Urology 127:987–988, 1982; BJD 104:607–695, 1981*

Sunburst varicosities and telangiectasia *J Derm Surg Oncol 15:184–190, 1989*

Superficial thrombophlebitis

Superior vena cava syndrome

Telangiectasia

Urticarial vasculitis, including urticarial vasculitis associated with mixed cryoglobulins, hepatitis B or C infection, IgA multiple myeloma, infectious mononucleosis, monoclonal IgM gammopathy (Schnitzler's syndrome), fluoxetine ingestion, metastatic testicular teratoma, serum sickness, Sjögren's syndrome, systemic lupus erythematous *Rook p.2127, 1998, Sixth Edition; JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992*

Varicosities *Rook p.2250, 1998, Sixth Edition; Br Med J 300:763–764, 1990*

Vasculitis – leukocytoclastic vasculitis presenting as gyrate erythema *JAAD 47:S254–256, 2002*

Venous stasis

## SHORT STATURE

### SEVERE

Aarskog syndrome (facio-digito-genital syndrome) – X-linked recessive – anteverted nostrils, long philtrum, broad nasal bridge; short broad hands with syndactyly, scrotal shawl (scrotal fold which surrounds the base of the penis); skeletal defects; learning disabilities *Am J Med Genet 46:501–509, 1993; Am J Ophthalmol 109:450–456, 1990; Am J Med Genet 15:39–46, 1983; Hum Genet 42:129–135, 1978; J Pediatr 77:856–861, 1970*

Abruzzo–Erickson syndrome (cleft palate, eye cloboma, short stature, hypospadias) *J Med Genet 14:76–80, 1977*

Achondroplasia *Syndromes of the Head and Neck p.171–175, 1990*

Acraniofacial dysostosis *Am J Med Genet 29:95–106, 1988*

Acrogeria (Gottron's syndrome) – micrognathia, atrophy of tip of nose, atrophic skin of distal extremities with telangiectasia, easy bruising, mottled pigmentation or poikiloderma of extremities, dystrophic nails *BJD 103:213–223, 1980*

Acromesomelic dysplasia *Birth Defects 10:137–146, 1974*

Acro-osteolysis (Hajdu–Cheney syndrome) *J Periodontol 55:224–229, 1984*

Adenine deaminase deficiency – autosomal recessive; disproportionate short stature; short limb skeletal dysplasia type 1 (bowed femurs) *Am J Med Genet 66:378–398, 1996*

Aganglionic megacolon and cleft lip/palate *J Craniofac Genet Dev Biol 1:185–189, 1981*

Albright's hereditary osteodystrophy (pseudohypoparathyroidism) *Ergeb Inn Med Kinderheilkd 42:191–221, 1979*

Ataxia telangiectasia *Rook p.2095,1998, Sixth Edition; Ann Intern Med 99:367–379, 1983*

Autosomal recessive blepharophimosis, ptosis, V-esotropia, syndactyly, and short stature *Clin Genet 41:57–61, 1992*

Braegger syndrome – proportionate short stature, IUGR, ischiadic hypoplasia, renal dysfunction, craniofacial anomalies, postaxial polydactyly, hypospadias, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; blisters of nose and cheeks; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Curr Prob Derm 14:41–70, 2002; Ped Derm 14:120–124, 1997; JAAD 17:479–488, 1987; AD 114:755–760, 1978; Clin Genet 12:85–96, 1977; Am J Hum Genet 21:196–227, 1969; Am J Dis Child 116:409–413, 1968; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Cardio-facio-cutaneous syndrome (Noonan–like short stature syndrome) (NS) – xerosis/ichthyosis, eczematous dermatitis, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris, autosomal dominant, patchy or widespread ichthyosiform eruption, sparse curly short scalp hair and eyebrows and lashes, hemangiomas, acanthosis nigricans, congenital lymphedema of the hands, redundant skin of the hands, short stature, abnormal facies, cardiac defects *JAAD 46:161–183, 2002; Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; JAAD 22:920–922, 1990;* port wine stain *Clin Genet 42:206–209, 1992*

Cartilage–hair hypoplasia (metaphyseal chondrodysplasia of McKusick) (disproportionate short stature; short limb skeletal dysplasia) – dwarfism, mild leg bowing, short sparse, lightly colored hair; some with total baldness, immune defects *Eur J Pediatr 155:286–290, 1996; Eur J Pediatr 142:211–217, 1993; Am J Med Genet 41:371–380, 1991; Bull Johns Hopkins Hosp 116:285–326, 1965*

CINCA syndrome (chronic infantile, neurological, cutaneous, and articular syndrome) *Scand J Rheumatol Suppl 66:57–68, 1987*

Cleft lip/palate, posterior keratoconus, short stature, mental retardation, genitourinary anomalies *J Med Genet 19:332–336, 1982*

Cleft lip/palate and pituitary dysfunction *Syndromes of the Head and Neck p.781, 1990*

Cleft palate, macular coloboma, short stature, skeletal abnormalities *Br J Ophthalmol 53:346–349, 1969*

Cleft palate, microcephaly, large ears, short stature (Say syndrome) *Humangenetik 26:267–269, 1975*

Cleft palate and sensorineural hearing loss *Helv Paediatr Acta 38:267–280, 1983*

Cleidocranial dysplasia *Syndromes of the Head and Neck p.249–253, 1990*

Cockayne syndrome – xerosis with rough, dry skin, anhidrosis, erythema of hands, hypogonadism; autosomal recessive; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *Ped Derm 20:538–540, 2003; Am J Hum Genet 50:677–689, 1992; J Med Genet 18:288–293, 1981;* birdheaded dwarfism *Rook p.3261, 1998, Sixth Edition*

Coffin–Lowry syndrome – X-linked inheritance; straight coarse hair, prominent forehead, prominent supraorbital ridges, hypertelorism, large nose with broad base, thick lips with mouth held open, large hands, tapering fingers, severe mental retardation; loose skin easily stretched, cutis marmorata, dependent acrocyanosis, varicose veins *Clin Genet 34:230–245, 1988; Am J Dis Child 112:205–213, 1966*

Congenital erythropoietic porphyria *Ped Derm 20:498–501, 2003*

Conradi–Hunermann syndrome – X-linked dominant ichthyosis (Happle's syndrome) – chondrodysplasia punctata, ichthyosis, cataract syndrome; collodion baby or ichthyosiform erythroderma; Blaschko pattern of erythroderma and scaling; plantar hyperkeratosis; resolves with time to reveal swirls of fine scale, linear hyperpigmentation, follicular atrophoderma of arms and legs, cicatricial alopecia; mutation in gene encoding 8–7 sterol isomerase; collodion baby or generalized ichthyosiform erythroderma; Blaschko erythroderma and scaling; palmoplantar keratoderma; follicular atrophoderma and cicatricial alopecia in adults; short stature; asymmetric shortening of limbs; chondrodysplasia punctata, cataracts *Eur J Dermatol 10:425–428, 2000; Hum Genet 53:65–73, 1979;* skeletal defects with short stature severe autosomal rhizomelic type; X-linked recessive variant *Rook p.1520, 1998, Sixth Edition;* chondrodysplasia punctata, X-linked recessive – with ichthyosis *Ped Derm 18:442–444, 2001;* rhizomelic form Syndromes of the *Head and Neck p.190–191, 1990*

Cornelia de Lange syndrome – cutis marmorata, short stature, specific facies, hypertrichosis of forehead, face, back, shoulders, and extremities, synophrys; long delicate eyelashes, skin around eyes and nose with bluish tinge *Rook p.428, 1998, Sixth Edition; JAAD 37:295–297, 1997*

Cross syndrome – autosomal recessive; gingival fibromatosis, microphthalmia with cloudy corneas, mental retardation, spasticity, growth retardation, athetosis, hypopigmentation, silvery gray hair *Ped Derm 18:534–536, 2001; J Pediatr 70:398–406, 1967*

Cutis laxa *Syndromes of the Head and Neck p.424, 1990*

DeBarsey syndrome – cutis laxa with psychomotor retardation, corneal clouding, growth retardation *Eur J Pediatr 144:348–354, 1985*

DeSanctis–Cacchione syndrome – dwarfism, gonadal hypoplasia, mental deficiency, microcephaly, xeroderma pigmentosum *Ghanan p.199, 2002, Second Edition*

Diastrophic dysplasia – cystic ear during hemorrhagic phase; calcifies *J Bone Jt Surg 50A:113–118, 1968*

Distal aphalangia, syndactyly, extra metatarsal, short stature, microcephaly, borderline intelligence – autosomal dominant *Am J Med Genet 55:213–216, 1995*

DNA ligase I deficiency – short stature, photosensitivity *Am J Med Genet 66:378–398, 1996*

Down's syndrome – short stature, cutis marmorata, acrocyanosis, low-set, small ears *JAAD 46:161–183, 2002; Rook p.3015–3016, 1998, Sixth Edition*

Dubowitz syndrome – autosomal recessive, erythema and scaling of face and extremities in infancy, sparse blond scalp and eyebrow hair, high pitched hoarse voice, delayed eruption of teeth, growth retardation, craniofacial abnormalities; developmental delay, transitory short stature, hyperactive behavior, blepharophimosis, ptosis of the eyelids, micrognathia, sparse scalp and eyebrow hair, and atopic dermatitis *Am J Med Genet 63:277–289, 1996; Eur J Pediatr 144:574–578, 1986; Am J Med Genet 4:345–347, 1979*

Dwarfism–alopecia–pseudoanodontia–cutis laxa; autosomal recessive; generalized atrichia, unerupted teeth, hyperconvex nails, cutis laxa with fragile skin, dwarfism, deafness, eye anomalies *Cien Cult 34 (Suppl):705, 1982*

Dwarfism, bilateral club feet, premature aging, progressive panhypogammaglobulinemia *J Rheumatol 21:961–963, 1994*

Dyggve–Melchior–Clausen syndrome – short trunk dwarfism and mental retardation *Clin Genet 14:24–30, 1978*

Dysosteosclerosis – oligodontia *Birth Defects 11:349–351, 1975*

Ehlers–Danlos syndrome type VII (arthrochalasis multiplex congenita) *J Med Genet 24:698–701, 1987; J Bone Jt Surg 40:663, 1958;* type IV *Rook p.2035, 1998, Sixth Edition*

Ellis–van Creveld syndrome (chondroplastic dwarf with defective teeth and nails, and polydactyly) – autosomal recessive; chondrodysplasia, polydactyly, peg-shaped teeth or hypodontia, short upper lip bound down by multiple frenulae; nail dystrophy, hair may be normal or sparse and brittle; cardiac defects; ichthyosis, palmoplantar keratoderma *Ped Derm 18:485–489, 2001; J Med Genet 17:349–356, 1980; Arch Dis Child 15:65–84, 1940*

Familial eosinophilic cellulitis, short stature, dysmorphic habitus, and mental retardation – bullae, vesicles, and red plaques *JAAD 38:919–928, 1998*

Femoral hypoplasia–unusual facies syndrome *J Pediatr 86:107–111, 1975*

Fetal alcohol syndrome – short stature, angiomas, hypertrichosis *JAAD 46:161–183, 2002*

Fetal hydantoin syndrome – short stature, hypertrichosis, hypoplastic distal phalanges *JAAD 46:161–183, 2002*

Filippi syndrome – short stature, microcephaly, characteristic face, syndactyly, mental retardation *Genet Couns 4:147–151, 1993*

Fleisher syndrome – X-linked, proportionate short stature, hypogammaglobulinemia, isolated growth hormone deficiency *Am J Med Genet 66:378–398, 1996*

Frydman syndrome – autosomal recessive; prognathism, syndactyly, short stature, blepharophimosis, weakness of extraocular and frontal muscles, synophrys *Clin Genet 41:57–61, 1992*

GAPO syndrome – growth retardation, alopecia, pseudoanodontia, progressive optic atrophy *J Craniofac Genet Dev Biol 19:189–200, 1999; Am J Med Genet 19:209–216, 1984*

Geleophysic dysplasia *Am J Med Genet 19:483–486, 1984*

Gerodermia osteodysplastica (Bamatter syndrome) *J Genet Hum 17:137–178, 1969*

Gingival fibromatosis, hypertrichosis, cherubism, mental and somatic retardation, and epilepsy (Ramon syndrome) *Am J Med Genet 25:433–442, 1986*

Hajdu–Cheney syndrome (acroosteolysis) – dissolution of the terminal phalanges, abnormally shaped skull, premature loss of teeth, short stature; thick scalp and eyebrow hair with synophrys; hypertrichosis and hyperelastic skin *Int J Oral Surg 14:113–125, 1985; J Periodontol 55:224–229, 1984; Am J Med 65:627–636, 1978; J Pediatr 88:243–249, 1976*

Hallermann–Streiff syndrome – partial anodontia, short stature, atrophy and telangiectasia of central face, parrot-like appearance, microphthalmia, cataracts, high-arched palate, small mouth, sutural alopecia *JAAD 50:644, 2004; Birth Defects 18:595–619, 1982*

Hunter's syndrome – reticulated 2–10-mm skin-colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004;* macrocephaly *Ghatan p.199, 2002, Second Edition*

Hurst syndrome – short stature, hypertonia, unusual facies, mental retardation, hemolytic anemia, delayed puberty *Am J Med Genet 29:107–115, 1988; Am J Med Genet 28:965–970, 1987*

Hutchinson–Gilford syndrome (progeria) – loss of subcutaneous tissue, hyper- and hypomelanosis, alopecia, mid-facial cyanosis around mouth and nasolabial folds, decreased sweating, sclerodermoid changes, cobblestoning of soft pebbly nodules *Am J Med Genet 82:242–248, 1999; Rook p.3261, 1998, Sixth Edition*

Hydrocephalus *J Pediatr Endocrinol Metab 9:181–187, 1996*

Hyper-IgE syndrome – papular, pustular, excoriated dermatitis of scalp, buttocks, neck, axillae, groin; furunculosis; growth failure *Clin Exp Dermatol 11:403–408, 1986; Medicine 62:195–208, 1983*

Hypertelorism–microtia–clefting syndrome (Bixler syndrome) *J Med Genet 387–388, 1982*

Hypochondroplasia *J Bone Jt Surg 51A:728–736, 1969*

Ichthyosis – rarely severe in infants due to failure to thrive *Ichthyosis Focus 23:1,4, 2004*

Johanson–Blizzard syndrome – aplasia cutis congenita of the scalp, sparse hair, deafness, absence of permanent tooth buds, hypoplastic ala nasi, dwarfism, microcephaly, mental retardation, hypotonia, pancreatic insufficiency with malabsorption, hypothyroidism, genital and rectal anomalies *Clin Genet 14:247–250, 1978; J Pediatr 79:982–987, 1971*

Juvenile hyaline fibromatosis (infantile systemic hyalinosis) – nodular perianal lesions, ears, lips, gingival hypertrophy, hyperpigmentation, flexion contractures of joints, osteolytic defects, stunted growth *Dermatology 190:148–151, 1995; Ped Derm 11:52–60, 1994*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Kenny syndrome (tubular stenosis) *Clin Pediatr 28:175–179, 1989*

Kniest dysplasia (metatropic dysplasia) *Am J Med Genet 6:171–178, 1980*

Langerhans cell histiocytosis – growth hormone deficiency due to hypothalamic involvement *Rook p.2321, 1998, Sixth Edition; NEJM 292:332–333, 1975*

Lenz microphthalmia syndrome *Z Kenderheilkd 77:384–390, 1955*

LEOPARD (Moynahan's) syndrome – autosomal dominant; CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *Ped Derm 20:173–175, 2003; JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; J Dermatol 25:341–343, 1998; Am J Med 60:447–456, 1976; AD 107:259–261, 1973; Am J Dis Child 117:652–662, 1969*

Leprechaunism – Donohue's syndrome – decreased subcutaneous tissue and muscle mass, characteristic facies, severe intrauterine growth retardation, broad nose, low-set ears, hypertrichosis of forehead and cheeks, loose folded skin at flexures, gyrate folds of skin of hands and feet; breasts, penis, clitoris hypertrophic *Ped Derm 19:267–270, 2002; Endocrinologie 26:205–209, 1988*

Leri–Weill dyschondrosteosis – mesomelic short stature syndrome with Madelung's deformity; SHOX haploinsufficiency like Turner's syndrome *JAAD 50:767–776, 2004*

Macrocephaly with cutis marmorata, hemangioma, and syndactyly syndrome – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydrocephalus *Ped Derm 16:235–237, 1999*

Marden–Walker syndrome – autosomal recessive; mental retardation, failure to thrive, microcephaly, immobility of facial muscles, blepharophimosis, congenital joint contractures, arachnodactyly, kyphoscoliosis, and transverse palmar creases *J Child Neurol 16:150–153, 2001*

Martsolf syndrome – cataracts, facial dysmorphism, microcephaly, short stature, hypogonadism *Am J Med Genet 1:291–299, 1978*

Mastocytosis of the skin, short stature, conductive hearing loss, and microtia *Clin Genet 37:64–68, 1990*

MC/MR syndrome with multiple circumferential skin creases – multiple congenital anomalies including high forehead, elongated face, bitemporal sparseness of hair, broad eyebrows, blepharophimosis, bilateral microphthalmia and microcornea, epicanthic folds, telecanthus, broad nasal bridge, puffy cheeks, microstomia, cleft palate, enamel hypoplasia, micrognathia, microtia with stenotic ear canals, posteriorly angulated ears, short stature, hypotonia, pectus excavatum, inguinal and umbilical hernias, scoliosis, hypoplastic scrotum, long fingers, overlapping toes, severe psychomotor retardation, resembles Michelin tire baby syndrome *Am J Med Genet 62:23–25, 1996*

Microcephaly–lymphedema syndrome – with short stature *Am J Med Genet 280:506–509, 1998*

Microphthalmia with linear skin defects (MIDAS syndrome) – Xp22.3 deletion *Ped Derm 20:153–157, 2003*

Monosuperocentroincisivodontic dwarfism *Clin Genet 32:370–373, 1987*

Moore–Federman syndrome – short stature, stiffness of joints, characteristic facies *J Med Gen 26:320–325, 1989*

Mucopolysaccharidoses (Hunter's, Hurler's, Sanfilippo syndromes) *JAAD 48:161–179, 2003*

Mulibrey nanism – autosomal recessive; proportionate short stature, prenatal growth deficiency, muscle weakness, abnormal sella turcica, hepatomegaly, ocular fundi lesions *Am J Med Genet 66:378–398, 1996*

Multiple pterygium syndrome *Am J Dis Child 142:794–798, 1988; Eur J Pediatr 147:550–552, 1988; J Med Genet 24:733–749, 1987*

Neu–Laxova syndrome – variable presentation; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990*

Oculo-palato-cerebral dwarfism *Clin Genet 27:414–419, 1985*

Osteodysplastic geroderma (Walt Disney dwarfism) – short stature, cutis laxa-like changes with drooping eyelids and jowls, osteoporosis and skeletal abnormalities *Am J Med Genet 3:389–395, 1979*

Premature aging syndrome (Mulvihill–Smith syndrome) – Mulvihill–Smith syndrome – autosomal dominant; short stature, microcephaly, unusual birdlike facies (broad forehead, small face, micrognathia) (progeroid with lack of facial subcutaneous tissue), multiple pigmented congenital melanocytic nevi, freckles, blue nevi, hypodontia, immunodeficiency with chronic infections, high pitched voice, xerosis, telangiectasias, thin skin, fine silky hair, premature aging, hypodontia, high-pitched voice, mental retardation, sensorineural hearing loss, hepatomegaly low birth weight, short stature, conjunctivitis, delayed puberty *Am J Med Genet 66:378–398, 1996; J Med Genet 31:707–711, 1994; Am J Med Genet 45:597–600, 1993*

Naegeli–Franceschetti–Jadassohn syndrome variant – reticulate pigmentary dermatosis with hypohidrosis and short stature *Int J Dermatol 34:30–31, 1995*

Nijmegen breakage syndrome – autosomal recessive; microcephaly, mental retardation, prenatal onset short stature, bird-like facies, café-au-lait macules *Am J Med Genet 66:378–398, 1996*

Noonan's syndrome *Cutis 67:315–316, 2001*

Oculocutaneous albinism, dysmorphic features, short stature *Ophthalmic Paediatr Genet 11:209–213, 1990*

Oliver–McFarlane syndrome – trichomegaly with mental retardation, dwarfism, and pigmentary degeneration of the retina *JAAD 37:295–297, 1997; Can J Ophthalmol 28:191–193, 1993*

Olmsted syndrome – periorificial keratotic plaques; congenital diffuse sharply marginated transgradient keratoderma of palms and soles, onychodystrophy, constriction of digits, diffuse alopecia, thin nails, chronic paronychia, leukokeratosis of oral mucosa, linear keratotic streaks, follicular keratosis, constriction of digits (ainhum), anhidrosis, small stature; differential diagnostic considerations include Clouston hidrotic ectodermal dysplasia, pachyonychia congenita, acrodermatitis enteropathica, Vohwinkel's keratoderma, mal de Meleda, and other palmoplantar keratodermas *Ped Derm 20:323–326, 2003; AD 132:797–800, 1996; JAAD 10:600–610, 1984*

Omenn syndrome – disproportionate short stature, short limb skeletal dysplasia type 1; alopecia, eosinophilia, ichthyosiform skin lesions, reticuloendotheliosis, erythroderma *Am J Med Genet 66:378–398, 1996*

Oral–facial–digital syndrome with acromelic short stature *Clin Dysmorphol 8:185–188, 1999;* type VI *Am J Med Genet 35:360–369, 1990*

Osteoglophonic dysplasia *Eur J Pediatr 147:547–549, 1988*

Otopalatodigital syndrome *Arch Otolaryngol 85:394–399, 1967*

Panhypopituitary dwarfism – short stature, excess subcutaneous fat, high pitched voice, soft, wrinkled skin, child-like facies *Birth Defects 12:15–29, 1976*

Pansclerotic morphea *Ped Derm 19:151–154, 2002*

Polydysplastic epidermolysis bullosa *Rook p.3261, 1998, Sixth Edition*

Premature aging syndrome with osteosarcoma, cataracts, diabetes mellitus, osteoporosis, erythroid macrocytosis, severe growth and developmental deficiency *Am J Med Genet 69:169–170, 1997*

Pseudoxanthoma elasticum with osteoectasia – dwarfism, radiographic changes, increased alkaline phosphatase *Clin Exp Dermatol 7:605–609, 1982*

Restrictive dermopathy (stiff skin syndrome) – severe intrauterine growth retardation; micrognathia, fixed facial expression, low-set ears, pinched nose, O-shaped mouth, flexion contractures, rigid, translucent, inelastic skin *AD 138:831–836, 2002*

Rhizomelic dwarfism – autosomal recessive; chondrodysplasia punctata with mild ichthyosis *Ped Derm 18:442–444, 2001*

Ring chromosome 7, 11 – CALMs microcephaly, mental retardation *Am J Med Genet 30:911–916, 1988;* 12, and 15 syndromes *JAAD 40:877–890, 1999*

Ritscher–Schinzel syndrome – autosomal recessive; Dandy Walker-like malformation, atrioventricular canal defect, short stature *Am J Med Genet 66:378–398, 1996*

Robert's syndrome (hypomelia–hypotrichosis–facial hemangioma syndrome) – autosomal recessive; mid-facial port wine stain extending from forehead to nose and philtrum, cleft lip +/– cleft palate, sparse silver-blond hair, limb reduction malformation, characteristic facies, malformed ears with hypoplastic lobules, marked growth retardation *Clin Genet 31:170–177, 1987; Clin Genet 5:1–16, 1974*

Rombo syndrome – acral erythema, cyanotic redness, follicular atrophy (atrophoderma vermiculata), milia-like papules, telangiectasias, red ears with telangiectasia, thin eyebrows, sparse beard hair, basal cell carcinomas, short stature *BJD 144:1215–1218, 2001*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; scalp hair sparse and fine *Ped Derm 18:210–212, 2001; Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Rook p.417, 1998, Sixth Edition; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992; BJD 122:821–829, 1990; Ped Derm 6:325–328, 1989; Ped Derm 6:321–324, 1989; JAAD 17:332–328, 1987; JAAD 17:332–338, 1987; Arch Ophthalmol* (*German*) *4:159, 1887*

Rubenstein–Taybi syndrome – arciform keloids, hypertrichosis, long eyelashes, thick eyebrows, keratosis pilaris or ulerythema ophyrogenes, low-set ears, very short stature, broad terminal phalanges of thumbs and great toes, hemangiomas, nevus flammeus, café au lait macules, pilomatrixomas, cardiac anomalies, mental retardation *Ped Derm 19:177–179, 2002; Am J Dis Child 105:588–608, 1963*

Russell–Silver syndrome – intrauterine and post-natal growth retardation; triangular facies, childhood hyperhidrosis, limb asymmetry, café au lait macules, blue sclerae, achromia, 5th finger clinodactyly, genital dysmorphia

SADDAN syndrome – autosomal dominant; short stature, severe tibial bowing, severe achondroplasia with profound developmental delay and acanthosis nigricans *BJD 147:1096–1011, 2002; Am J Med Genet 85:53–65, 1999*

Satoyoshi syndrome – alopecia areata with progressive painful intermittent muscle spasms, diarrhea or unusual malabsorption, endocrinopathy with amenorrhea (hypothalamic dysfunction), very short stature, flexion contractures, skeletal abnormalities *Ped Derm 18:406–410, 2001; AD 135:91–92, 1999*

Say–Barber syndrome – short stature, microcephaly, large ears, flexion contractures, decreased subcutaneous fat; dermatitis in infancy with transient hypogammaglobulinemia *Am J Med Genet 86:165–167, 1999; Am J Med Genet 45:358–360, 1993*

Schimke immunoosseous dysplasia – disproportionate short stature, spondyloepiphyseal dysplasia, progressive nephropathy, episodic lymphopenia, pigmentary skin changes *Am J Med Genet 66:378–398, 1996*

Schwachman syndrome – disproportionate short stature, metaphyseal dysplasia, exocrine pancreatic insufficiency, cyclic neutropenia *Am J Med Genet 66:378–398, 1996*

Schwartz–Jampel syndrome (chondrodystrophic myotonia) *Am J Med Genet 66:378–398, 1996; J Neurol Neurosurg Psychiat 41:161–169, 1978*

Seckel's syndrome – autosomal recessive; hair sparse and prematurely gray, growth retardation, beak-like nose, large eyes, skeletal defects *Am J Med Genet 12:7–21, 1982*

SHORT syndrome – short stature, joint hyperextensibility, ocular depression (deep-set eyes), Rieger anomaly, teething delay; lipoatrophy of face *Clin Dysmorphol 8:219–221, 1999; Birth Am J Med Genet 61:178–181, 1996; J Med Genet 26:473–475, 1989; Defects 11:46–48, 1975*

Short limb skeletal dysplasia type 3 (disproportionate short stature) – metaphyseal dysplasia, exocrine pancreatic insufficiency, cyclic neutropenia *Am J Med Genet 66:378–398, 1996*

Short stature, alopecia, and macular degeneration *Rook p.3261, 1998, Sixth Edition*

Short stature, characteristic facies, mental retardation, skeletal anomalies, and macrodontia *Clin Genet 26:69–72, 1984*

Short stature and delayed dental eruption *Oral Surg 41:235–243, 1976*

Short stature and macrocephaly, mental retardation *Am J Med Genet 21:697–705, 1985*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Short stature, mental retardation, ocular abnormalities *Helv Paediat Acta 27:463–469, 1972*

Short stature, oligodontia *Syndromes of the Head and Neck p.873, 1990*

Short stature and osteopetrosis *Radiology 164:23–224, 1987*

Short stature, premature aging, pigmented nevi *J Med Genet 25:53–56, 1988*

Short stature, sensorineural hearing loss, low nasal bridge, cleft palate *Am J Med Genet 21:317–324, 1985*

Short stature and short thin dilacerated dental roots *Oral Surg 54:553–559, 1982*

Short stature and solitary maxillary central incisor *J Pediatr 91:924–928, 1977*

Smith–Fineman–Myers syndrome (unusual facies, short stature, and mental deficiency) *Am J Med Genet 22:301–304, 1985*

Stanescu osteosclerosis syndrome – short stature, brachycephaly, hypoplastic midface, ocular proptosis, micrognathia, brachydactyly, dense cortices of long bones *J Genet Hum 29:129–139, 1981*

Stickler syndrome (hereditary arthroophthalmopathy) – autosomal dominant; flat midface, cleft palate, myopia with retinal detachment, cataracts, hearing loss, arthropathy *J Med Genet 36:353, 359, 1999; Birth Defects 11:77–103, 1975*

Tay syndrome – autosomal recessive, growth retardation, triangular face, cirrhosis, trident hands, premature canities, vitiligo *Bolognia p.859, 2003*

Thanatophoric dysplasia – autosomal dominant; micromelic dwarfism; defect in FGFR3 *BJD 147:1096–1011, 2002*

3-M syndrome *Birth Defects 11:39–47, 1975*

Tonoki syndrome – short stature, brachydactyly, nail dysplasia, mental retardation *Am J Med Genet 80:403–405, 1998*

Toriello syndrome – autosomal recessive; proportionate short stature, prenatal growth deficiency, delayed skeletal maturation, cataracts, enamel hypoplasia, neutropenia, microcephaly, mental retardation *Am J Med Genet 66:378–398, 1996*

Trichothiodystrophy syndromes (Tay syndrome) – BIDS, IBIDS, PIBIDS – poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm14:441–445, 1997; Eur J Pediatr 141:147–152, 1984;* trichothiodystrophy, mental retardation, short stature, ataxia, and gonadal dysfunction *Am J Med Genet 35:566–573, 1990;* with XP group D mutation *JAAD 16:940–947, 1987*

Tuomaala–Haapanen syndrome (brachymetapody, anodontia, hypotrichosis, albinoid trait) *Acta Ophthalmol 46:365–371, 1968*

Vertebral and eye anomalies, cutis aplasia, and short stature (VECS) *Am J Med Genet 77:225–227, 1998*

Watson's syndrome – café au lait macules, axillary and perianal freckling, pulmonic stenosis, low intelligence, short stature *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999*

Werner's syndrome – *Leuk Lymphoma 21:509–513, 1996*

Wiedemann–Rautenstrauch syndrome (neonatal progeroid syndrome) – autosomal recessive; aged facies at birth, frontal and biparietal bossing, scalp with sparse hair and prominent veins, retarded psychomotor development; death by age five *Eur J Pediatr 136:245–248, 1981*

Winchester syndrome (hereditary contractures with sclerodermatoid changes of skin) – scleredema-like skin changes, joint contractures, gingival hyperplasia, dwarfism, arthritis of small joints, corneal opacities *JAAD 50:S53–56, 2004; Am J Med Genet 26:123–131, 1987; J Pediatr 84:701–709, 1974; Pediatrics 47:360–369, 1971*

X-aneuploidy variants *Syndromes of the Head and Neck, p.58, 1990*

49,XXXXX syndrome *Syndromes of the Head and Neck, p.63, 1990*

49,XXXXY syndrome *Syndromes of the Head and Neck, p.59, 1990*

## MODERATE

Aagenaes syndrome (hereditary cholestasis with lymphedema) – autosomal recessive; lymphedema of legs due to congenital lymphatic hypoplasia; pruritus, growth retardation *Textbook of Neonatal Dermatology, p.334, 2001*

Acrodermatitis enteropathica or acquired zinc deficiency – stunted growth in infant with vesiculobullous dermatitis of hands, feet, periorificial areas *Ped Derm 19:426–431, 2002; AD 116:562–564, 1980; Acta DV (Stockh) 17:513–546, 1936*

Alagille syndrome – xanthomas of palmar creases, extensor fingers, nape of neck; growth retardation, delayed puberty *Ped Derm 22:11–14, 2005*

Atopic dermatitis

Barber–Say syndrome – autosomal dominant, X-linked *JAAD 48:161–179, 2003*

Begeer syndrome – cataracts, deafness, short stature, ataxia, polyneuropathy *Clin Dysmorphol 4:283–288, 1995*

Berlin syndrome – no vellus hairs; mottled pigmentation and leukoderma, flat saddle nose, thick lips, fine wrinkling around the eyes and mouth (similar to Christ–Siemens ectodermal dysplasia); stunted growth, bird-like legs, mental retardation *Dermatologica 123:227–243, 1961*

Borrone dermatocardioskeletal syndrome – autosomal recessive or X-linked; gingival hypertrophy, coarse facies, late eruption of teeth, loss of teeth, thick skin, acne conglobata, osteolysis, large joint flexion contractures, short stature, brachydactyly, camptodactyly, mitral valve prolapse, congestive heart failure *Ped Derm 18:534–536, 2001*

Buschke–Ollendorf syndrome – with or without precocious puberty *Ped Derm 11:31–34, 1994; AD 106:208–214, 1972*

Cardio-facio-cutaneous syndrome – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure (short stature), hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris *Ped Derm 17:231–234, 2000; JAAD 28:815–819, 1993; AD 129:46–47, 1993; Eur J Pediatr 150:486–488, 1991; JAAD 22:920–922, 1990*

CHARGE syndrome – short stature, coloboma of the eye, heart anomalies, choanal atresia, somatic and mental retardation, genitourinary abnormalities, ear anomalies, primary lymphedema *Ped Derm 20:247–248, 2003*

Chronic granulomatous disease – short stature, low weight *Ped Derm 21:646–651, 2004*

Chronic infantile neurological cutaneous articular syndrome (CINCA) (Neonatal onset multisystem inflammatory disorder (NOMID)) – urticarial rash at birth, arthropathy, uveitis, mental retardation, short stature *AD 136:431–433, 2000; Eur J Ped 156:624–626, 1997; J Pediatr 99:79–83, 1981*

Congenital cataracts, sensorineural deafness, hypogonadism, hypertrichosis, gingival hyperplasia, short stature *Clin Dysmorphol 4:283–288, 1995*

Congenital ichythyosis, hypogonadism, small stature, facial dysmorphism, scoliosis, and myogenic dystrophy *Ann Genet 42:45–50, 1999*

Congenital ichthyosis, retinitis pigmentosa, hypergonadotropic hypogonadism, small stature, mental retardation, cranial dysmorphism, abnormal electroencephalogram *Ophthalmic Genet 19:69–79, 1998*

Corneodermatoosseous syndrome – autosomal dominant; premature birth; diffuse PPK; photophobia, corneal dystrophy, distal onycholysis, brachydactyly, short stature, medullary narrowing of digits, dental decay *Curr Prob Derm 14:71–116, 2002; Am J Med Genet 18:67–77, 1984*

Costello syndrome – warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet, thick palmoplantar surfaces, hypoplastic nails, short stature, craniofacial abnormalities *Am J Med Genet 82:187–193, 1999; JAAD 32:904–907, 1995*; *Am J Med Genet 41:346–349, 1991; Aust Paediat J 13:114–118, 1977*

Cross–McKusick–Breen syndrome (oculocerebral syndrome with hypopigmentation) – autosomal recessive; albino-like hypopigmentation, silver-gray hair, microphthalmos, opaque cornea, nystagmus, spasticity, mental retardation; post-natal growth retardation *J Pediatr 70:398–406, 1967*

Cutis laxa *J Med Genet 24:556–561, 1987*

Darier's disease *Rook p.3261, 1998, Sixth Edition*

DeBarsy syndrome – autosomal recessive progeroid syndrome; cloudy corneas, mental retardation, athetoid movements,

synophrys, pinched nose, thin skin, sparse hair, large malformed ears, thin lips *Eur J Pediatr 144:348–354, 1985*

Depigmented hypertrichosis with dilated follicular pores, short stature, scoliosis, short broad feet, dysmorphic facies, supernumery nipple, and mental retardation (cerebral-ocular malformations) *BJD 142:1204–1207, 2000*

Down's syndrome *Syndromes of the Head and Neck p.35, 1990*

Dyskeratosis congenita

Ectodermal dysplasia with sparse hair, short stature, hypoplastic thumbs, single upper incisor, and abnormal skin pigmentation *Am J Clin Genet 29:209–216, 1988*

Epidermolysis bullosa, recessive dystrophic *Ped Derm 19:436–438, 2002*

Familial dysautonomia (Riley–Day syndrome) (hereditary sensory and autonomic neuropathy type III) – delayed growth *AD 89:190–195, 1964*

Familial partial lipodystrophy, mandibuloacral dysplasia variety – autosomal recessive; short stature, high pitched voice, mandibular and clavicular hypoplasia, dental anomalies, acro-osteolysis, stiff doints, cutaneous atrophy, alopecia, nail dysplasia *Am J Med 108:143–152, 2000*

GEMMS syndrome (glaucoma, lens ectopia, microspherophakia (small, spherical lens), joint stiffness, and short stature; cutaneous sclerosis of upper back and extremities *Am J Med Genet 44:48–51, 1992*

Goltz's syndrome (focal dermal hypoplasia) *Rook p.3261, 1998, Sixth Edition*

Gorlin–Chaudhry–Moss syndrome – short and stocky with craniosynostosis, midface hypoplasia, hypertrichosis of the scalp, arms, legs, and back, anomalies of the eyes, digits, teeth, and heart, and genitalia hypoplasia *Am J Med Genet 44:518–522, 1992*

Hunter's syndrome – decreased sulfoiduronate sulfatase *Ped Derm 15:370–373, 1998*

Hurler's syndrome *Syndromes of the Head and Neck p.100, 1990*

Hurler–Schei syndrome *Syndromes of the Head and Neck p.105, 1990*

Hypertrichosis cubiti (hairy elbow) *JAAD 48:161–179, 2003; Clin Exp Dermatol 24:497–498, 1999; Clin Exp Dermatol 19:86–87, 1994; J Med Genet 26:382–385, 1989;* with facial asymmetry *Am J Med Genet 53:56–58, 1994*

Hypohidrotic ectodermal dysplasia *Rook p.3261, 1998, Sixth Edition*

Hypopituitarism – hypopituitary dwarf; hairless *Rook p.2704–2705,2914, 1998, Sixth Edition*

Ichthyosis – failure to thrive *Ichthyosis Focus 23:1,4, 2004*

Ichthyosis follicularis with atrichia and photophobia (IFAP) *Am J Med Genet 85:365–368, 1999; Med Genet 44:233–236, 1992*

Incontinentia pigmenti *JAAD 47:169–187, 2002*

Infantile systemic hyalinosis – autosomal recessive; synophrys, thickened skin, perianal nodules, dusky red plaques of buttocks, gingival hypertrophy, joint contractures, juxta-articular nodules (knuckle pads), osteopenia, growth failure, diarrhea, frequent infections, facial red papules *JAAD 50:S61–64, 2004*

Iron deficiency in infants and children – retarded growth *Rook p.2666, 1998, Sixth Edition*

Keratitis–ichthyosis–deafness (KID) syndrome – postnatal growth deficiency in 50% of the cases *AD 115:467–471, 1979; AD 113:1701–1704, 1977*

Lesch–Nyhan syndrome *Arch Int Med 130:186–192, 1972*

Lymphedema–distichiasis syndrome – periorbital edema, vertebral abnormalities, spinal arachnoid cysts, congenital heart disease, thoracic duct abnormalities, hemangiomas, cleft palate, microphthalmia, strabismus, ptosis, short stature, webbed neck *Ped Derm 19:139–141, 2002*

Marinesco–Sjögren syndrome – sparse, fine, short, fair, brittle hair, short stature, congenital cataracts, cerebellar ataxia *J Ped 65:431–437, 1964*

Maroteaux–Lamy syndrome (pycnodysostosis) *Syndromes of the Head and Neck p.113, 1990; Birth Defects 10:78–98, 1974*

Microcephaly–lymphedema syndrome – autosomal dominant *Am J Med Genet 80:506–509, 1998*

Morquio syndrome *Syndromes of the Head and Neck p.100, 1990*

Mulibrey nanism *Act Ophthalmol 52:162–171, 1974*

Neu–Laxova syndrome – rudimentary eyelids, polyhydramnios, growth retardation, microcephaly, ichthyosis, thick hyperkeratotic skin *Am J Med Genet 43:602–605, 1992*

Neurofibromatosis *Rook p.380, 1998, Sixth Edition*

Noonan's syndrome – short stature or normal height with broad short, webbed neck, lymphedema of feet and legs, orbital edema, leukokeratosis of lips and gingiva, low posterior hairline, hypertrichosis of cheeks or shoulders, ulerythema oophyrogenes *JAAD 46:161–183, 2002; Arch Dis Child 84:440–443, 2001; JAAD 40:877–890, 1999*

Odonto-trichomelic syndrome – autosomal recessive; severe hypotrichosis, few small conical teeth, hypoplastic or absent areolae, cleft lip, tetramelic dysplasia, short stature *Hum Hered 22:91–95, 1972*

Oto-palatal–digital syndrome – short stature, distinctive facies, cleft palate, hearing loss, short thumbs and big toes *Am J Dis Child 113:214–221, 1967*

Pituitary dwarfism *Rook p.2704–2705, 1998, Sixth Edition*

Porphyria – congenital erythropoietic porphyria *Semin Liver Dis 2:154–63, 1982*

Prader–Willi syndrome – obesity, hypogonadism, cryptorchidism, mental retardation, hypotonia, disproportionately small hands *Dermatol Clin 10:609–622, 1992*

Rabson–Mendenhall syndrome – autosomal recessive; insulin-resistant diabetes mellitus, growth retardation, fissured tongue, unusual facies (prominent jaw), dental precocity, hypertrichosis, acanthosis nigricans, onychauxis, and premature sexual development, pineal hyperplasia *Ped Derm 19:267–270, 2002*

Ramon syndrome – cherubism, gingival fibromatosis, epilepsy, mental deficiency, hypertrichosis, and stunted growth *Am J Med Genet 25:433–441, 1986*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Ring chromosome 17 – multiple café au lait macules, short stature *Ped Derm 22:270–275, 2005*

Robinow syndrome – overfolded helix *Eur J Pediatr 151:586–589, 1992; Am J Med Genet 35:64–68, 1990*

Rubinstein–Taybi syndrome – mental deficiency, small head, broad thumbs and great toes, beaked nose, malformed low-set ears, capillary nevus of forehead, hypertrichosis of back and eyebrows, large keloids, cardiac defects; mutations or deletions of chromosome 16p13.3; human cAMP response element binding protein *Ped Derm 21:44–47, 2004; JAAD 46:161–183, 2002; JAAD 46:159, 2002; Cutis 57:346–348, 1996; Am J Dis Child 105:588–608, 1963*

Russell–Silver syndrome – large head, short stature, premature sexual development, CALMs, clinodactyly, syndactyly of toes, triangular face *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999; Clin Genet 29:151–156, 1986; Am J Dis Child 13:447–451, 1977*

Schwachman syndrome – autosomal recessive; malabsorption, failure to thrive, neutropenia; dry face with perioral dermatitis, palmoplantar hyperkeratosis *J Pediatr 135:81–88, 1999; J Pediatr 65:645–663, 1964*

Sjögren–Larsson syndrome *Ped Derm 20:180–182, 2003*

Tricho-oculo-dermo-vertebral syndrome (Alves syndrome) – dry, sparse, brittle hair, dystrophic nails, plantar keratoderma, short stature, cataracts *Am J Med Genet 46:313–315, 1993*

Trichorhinophalangeal syndrome *Am J Hum Genet 68:81–91, 2001; Dermatology 193:349–352, 1996;* trichorhinophalangeal syndrome I – autosomal dominant; pear-shaped nose, tubercle of normal skin below the lower lip, fusiform swelling of the PIP joints; fine brittle sparse hair, eyebrows sparse laterally, dense medially, short stature *JAAD 31:331–336, 1994*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – poikiloderma, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 52:224–232, 2005; JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997;* trichothiodystrophy, mental retardation, short stature, ataxia, and gonadal dysfunction *Am J Med Genet 35:566–573, 1990*

Turner's syndrome (XO in 80%) – peripheral edema at birth which resolves by age 2; redundant neck skin in newborn; small stature, broad shield-shaped cest with widely spaced nipples, arms show wide carrying angle, webbed neck, low posterior hairline, low misshhapen ears, high arched palate, cutis laxa of neck and buttocks, short fourth and fifth metacarpals and metatarsals, hypoplastic nails, keloid formation, increased numbers of nevi; skeletal, cardiovascular, ocular abnormalities; increased pituitary gonadotropins with low estrogen levels *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; NEJM 335:1749–1754, 1996*

Variegate porphyria – homozygous variegate porphyria – erosions, photosensitivity, short stature *BJD 144:866–869, 2001*

Werner's syndrome *Medicine 45:177–221, 1966*

Wolf–Hirschhorn syndrome – 4p deletion; posterior midline scalp defects, cutaneous T-cell lymphoma, growth retardation *Ped Derm 22:270–275, 2005*

Xeroderma pigmentosum *Rook p.3261, 1998, Sixth Edition*

X-linked recessive ichthyosis with mild mental retardation, chondrodysplasia punctata and short stature *Clin Genet 34:31–37, 1988*

Zinc deficiency, endemic *Am J Clin Nutr 30:833–834, 1977; Arch Int Med 111:407–428, 1963*

# SINUS TRACTS

## AUTOIMMUNE DISEASES AND DISORDERS OF IMMUNE REGULATION

Chronic granulomatous disease – scrofula *JAAD 36:899–907, 1997*

Dermatomyositis – panniculitis with ulceration and sinuses *Rook p.1560, 1998, Sixth Edition*

Leukocyte adhesion deficiency *JAAD 31:316–319, 1994*

Rheumatoid arthritis – fistulous rheumatism; tracking of nodules to skin *JAAD 53:191–209, 2005*

## CONGENITAL LESIONS

Accessory auricles with congenital fistulae *Rook p.3016, 1998, Sixth Edition*

Branchial cleft sinus and fistulae – pit in lower third of the neck along anterior border of sternocleidomastoid muscle; skin tag at opening *Arch Otolaryngol Head Neck Surg 123:438–441, 1997; Clin Otolaryngol 3:77–92, 1978;* Melnick–Fraser syndrome – preauricular pits, hearing loss, and renal anomalies

Bronchogenic cyst and sinus *Ped Derm 15:277–281, 1998; JAAD 11:367–371, 1984*

Cloacal sinuses – between anus and adjoining skin; urethra, perineum *Rook p.3169, 1998, Sixth Edition*

Congenital dermal sinus – over lower spine; hair may protrude from opening *Pediatr Neurosurg 26:275, 1997; AD 112:1724–1728, 1976*

Congenital lip sinus *Ghatan p.34, 2002, Second Edition*

Congenital pilonidal sinus *Pediatrics 35:795–797, 1965*

Congenital sinus or cyst of genitoperineal raphe (mucous cysts of the penile skin) *Cutis 34:495–496, 1984; AD 115:1084–1086, 1979*

Dermoid cyst and sinus *Neurosurg Clin N Am 6:359–366, 1995; AD 107:237–239, 1973*

Dorsal dermal sinus – dimple in suboccipital or lumbosacral regions *AD 112:1724–1728, 1976; J Pediatr 87:744–750, 1975*

Fourth branchial sinus causing recurrent cervical abscess *Aust N Z J Surg 67:119–122, 1997*

Fistula in ano *Dis Colon Rectum 41:1147–1152, 1998*

Omphalomesenteric duct – patent peripheral portion of omphalomesenteric duct; red nodule with a fistula with fecal discharge or intestinal prolapse *Am J Surg 88:829–834, 1954*

Preauricular cyst and sinuses *Textbook of Neonatal Dermatology, p.118, 2001; J La State Med Soc 151:447–450, 1999; Plast Reconstr Surg 102:1405–1408, 1998*

Spinal dysraphism, occult – overlying protrusion, dimple, sinus, lipoma, faun tail nevus, dermoid cyst, hemangioma, port wine stain *AD 114:573–577, 1978; AD 112:1724–1728, 1976*

Sternal clefts – associated with fistulae, ulceration or scarring, supra-umbilical midline raphe, and facial hemangiomas *Rook p.601, 1998, Sixth Edition*

Thyroglossal duct cyst and/or sinus – midline cervical cleft with sinus tract *Am J Neuroradiol 20:579–582, 1999; JAAD 26:885–902, 1992; J Pediatr Surg 19:437–439, 1984*

## DEGENERATIVE DISORDERS

Neurotrophic ulcers including those associated with neuropathies – on metatarsal heads and heels with surrounding (hemorrhagic) callosities *Rook p.2775, 1998, Sixth Edition*

## EXOGENOUS AGENTS

Barber's hair sinus *Derm Surg 29:288–290, 2003; AD 112:523–524, 1976*

BCG vaccination with scrofuloderma *Ped Derm 22:179–180, 2005*

Foreign body

Hair sinus of the breast *Clin Exp Dermatol 7:445–447, 1982*

Hair sinuses of the feet

Paraffinoma – grease gun injury; nodule, plaque, sinus of hand *BJD 115:379–381, 1986*

Silicone, injected – draining sinuses *AD 141:13–15, 2005; Derm Surg 27:198–200, 2001*

Umbilical hair sinus

## INFECTIONS AND INFESTATIONS

Actinomycosis (*A. israelii*) – cervicofacial – nodule of cheek or submaxillary area; board-like induration; multiple sinuses with puckered scarring; sulfur granules discharged *Cutis 60:191–193, 1997; Infect Dis Clin North Am 2:203–220, 1988; Arch Int Med 135:1562–1568, 1975;* perianal *Dis Colon Rectum 37:378–380, 1994;* thoracic actinomycosis with multiple sinuses *Am J Clin Pathol 75:113–116, 1981;* abdominal *Hum Pathol 4:319–330, 1973;* primary cutaneous – subcutaneous nodules with draining sinuses *Hum Pathol 4:319–330, 1973;* actinomycetoma – forehead sinus tracts; Nocardia braseliensis, N. asteroides *BJD 143:192–194, 2000*

African blastomycosis

Alveolar echinococcosis *JAAD 34:873–877, 1996*

Amebiasis – perianal abscesses and fistulae *Proc R Soc Med 66:677–678, 1973;* Entamoeba histolytica in neonate *Textbook of Neonatal Dermatology, p.234, 2001*

Botryomycosis – granulomatous reaction to bacteria with granule formation; single or multiple abscesses of skin and subcutaneous tissue break down to yield multiple sinus tracts; small papule; extremities, perianal sinus tracts, face *JAAD 24:393–396, 1991; Int J Dermatol 22:455–459, 1983; AD 115:609–610, 1979*

Calymmatobacterium granulomatis (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*

Carbuncle *Rook p.1119, 1998, Sixth Edition*

Coccidioidomycosis *South Med J 77:1464–1465, 1984*

Cryptococcosis *JAAD 32:844–50, 1995*

Dental sinus *Cutis 70:264–267, 2002; J Am Dent Assoc 130:832–836, 1999; JAAD 14:94–100, 1986; JAAD 8:486–492, 1983; AD 114:1158–1161, 1978;* in edentulous patients with retained tooth fragments *J Craniofac Surg 11:254–257, 2000;* dual sinus tracts *Oral Surg Oral Med Oral Pathol 52:653–656, 1981*

Giant condyloma of Buschke and Lowenstein *AD 136:707–710, 2000*

Glanders

Granuloma inguinale – fistulae and scarring *Rook p.3222, 1998, Sixth Edition*

Histoplasmosis with fistulae *AD 132:341–346, 1996*

Linear bacterial dissection *Cutis 51:43–44, 1993*

Lymphogranuloma venereum – inguinal adenitis with abscess formation and draining chronic sinus tracts; rectal syndrome in women with pelvic adenopathy, periproctitis with rectal stricture and fistulae; esthiomene – scarring and fistulae of the buttocks and thighs with elephantiasic lymphedema of the vulva; lymphatics may develop abscesses which drain and form ulcers *Int J Dermatol 15:26–33, 1976*

Malacoplakia *AD 134:244–245, 1998; Am J Dermatopathol 20:185–188, 1998; JAAD 34:325–332, 1996; JAAD 30:834–836, 1994*

Mamillary fistula (periareolar abscess) *Br J Surg 73:367–368, 1986*

Melioidosis *AD 135:311–322, 1999*

Milker's sinuses

Mycetoma – eumycetoma; Acremonium falciforme, Madurella mycetomatis, Madurella grisea, Exophiala jeanselmei, Leptosphaeria senegalensis, Leptosphaeria tompkinsii; actinomycetoma – Nocardia asteroids, Nocardia brasiliensis, Actinomyces madurae, Streptomyces somaliensis *JAAD 32:311–315, 1995; Cutis 49:107–110, 1992; Australas J Dermatol 31:33–36, 1990; JAAD 6:107–111, 1982;* due to *Microsporum canis Mycopathologica 81:41–48, 1983;* Scytalidium dimidiatum (formerly Hendersonula toruloidea) *BJD 148:174–176, 2003*

Mycobacterium abscessus *J Clin Inf Dis 24:1147–1153, 1997*

Mycobacterium avium complex *JAAD 26:1108–1110, 1990*

Mycobacterium avium-intracellulare – cervicofacial lymphadenitis in children with fistulae *Ped Derm 21:24–29, 2004*

Mycobacterium chelonae *J Inf Dis 166:405–412, 1992*

Mycobacterium fortuitum *Dermatol Surg 26:588–590, 2000*

Mycobacterium malmoense – cervicofacial lymphadenitis in children with fistulae *Ped Derm 21:24–29, 2004*

Mycobacterium szulgai – diffuse cellulitis, nodules, and sinuses *Am Rev Respir Dis 115:695–698, 1977*

Mycobacterium tuberculosis – scrofuloderma – infected lymph node, bone, joint, lacrimal gland with overlying red-blue nodule which breaks down, ulcerates, forms fistulae, scarring with adherent fibrous masses which may be fluctuant and draining *JAAD 52:S65–68, 2005; Ped Derm 20:309–312, 2003; Ped Derm 18:328–331, 2001; BJD 134:350–352, 1996; Thorax 16:77–81, 1967*

Nocardia brasiliensis – mycetoma or multiple subcutaneous draining nodules mimicking foreign body granuloma *Cutis 60:191–193, 1997; JAAD 13:125–133, 1985; J Inf Dis 134:286–289, 1976;* mediastinal infection with draining sternal sinus tracts *West J Med 167:47–49, 1997;* Nocardia asteroides – mycetoma *BJD 144:639–641, 2001*

North American blastomycosis (Blastomyces dermatitidis) *JAAD 21:1285–1293, 1989; Oral Surg Oral Med Oral Pathol 54:12–14, 1982*

Osteomyelitis *Radiology 173:355–359, 1989*

Paecilomycosis

Paracoccidioidomycosis *JAAD 31:S91-S102, 1994*

Pasteurella multocida (*P. haemolytica, pneumotropica,* and *ureae*) – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *JAAD 33:1019–1029, 1995; Medicine 63:133–144, 1984*

Schistosomal granuloma – perianal hypertrophic plaques; perianal fissuring; paragenital granulomas due to S. haematobium. May have communicating sinuses and fistulae *Br J Vener Dis 55:446–449, 1979*

Sporotrichosis – fistulae *Derm Clinics 17:151–185, 1999*

Syphilis – tabes dorsalis – callus with sinus tract of weight bearing regions of sole *Arch Neurol 42:606–613, 1985*

Tinea capitis (T. verrucosum, T. mentagrophtes) – kerion *AD 114:371–372, 1978*

Tinea corporis, invasive (T.violaceum) *BJD 101:177–183, 1979*

## INFILTRATIVE DISORDERS

Langerhans cell histiocytosis – draining sinuses over involved lymph nodes *Rook p.2320, 1998, Sixth Edition; Curr Prob Derm VI Jan/Feb 1994; Clin Exp Derm 11:183–187, 1986; JAAD 13:481–496, 1985*

## INFLAMMATORY DISORDERS

Crohn's disease – enterocutaneous fistula *NEJM 347:417–429, 2002; Gut 45:874–878, 1999;* fistulae and sinus tracts *BJD 80:1–8, 1968;* penile sinus tracts/fistulae *Cutis 72:432–437, 2003*

Dissecting cellulitis of the scalp (perifolliculitis capitis abscedens et suffodiens) *Cutis 67:37–40, 2001; Minn Med 34:319–325, 1951; AD 23:503–518, 1931*

Diverticulitis of sigmoid colon *Ghatan p.33, 2002, Second Edition*

Esophago-pleuro-cutaneous fistula *Jpn J Surg 14:139–142, 1984*

Hidradenitis suppurativa *Derm Surg 26:638–643, 2000; BJD 141:231–239, 1999;* retroauricular sinus *Ghatan p.34, 2002,Second Edition*

Peristomal fistulae and ulcers *Ann Surg 197:179–182, 1982*

Peristomal hidradenitis suppurativa *J Wound Ostomy Continence Nurs 23:171–173, 1996*

Pseudofolliculitis barbae

Pyoderma fistulans sinifica (fox den disease) *Clin Inf Dis 21:162–170, 1995*

Pyodermia chronica glutealis J Dermatol *25:242–245, 1998*

SAPHO syndrome

### METABOLIC DISORDERS

Calcinosis cutis

Pancreatic cutaneous fistulas *Am J Surg 155:36–42, 1988*

### NEOPLASTIC DISORDERS

Adenocarcinoma of the colon *Ghatan p.34, 2002, Second Edition*

Nevus comedonicus *AD 116:1048–1050, 1980*

Pilonidal cyst and sinus *Surg Clin North Am 74:1309–1315, 1994*

Sacro-coccygeal chordoma – mimicking pilonidal sinus *J R Coll Surg Edinb 45:254–255, 2000*

Squamous cell carcinoma *Am J Orthop 28:253–256, 1999;* anal squamous cell carcinoma in situ – multiple fistulae *J Clin Inf Dis 21:603–607, 1995; Am J Gastroenterol 86:1829–1832, 1991*

Suppurative keloidosis *JAAD 15:1090–1092, 1986*

Verrucous carcinoma (epithelioma cuniculatum) *AD 136:547–548, 550–551, 2000; Cancer 49:2395–2403, 1982*

### PRIMARY CUTANEOUS DISEASES

Acne conglobata *Ped Derm 17:123–125, 2000;* familial – plaque with sinus tracts *JAAD 14:207–214, 1986*

Acne keloidalis nuchae *JAAD 39:661, 1998*

Acne rosacea *Hautarzt 46:417–420, 1995*

Pyoderma faciale *AD 128:1611–1617, 1992*

### SYNDROMES

Branchio-oto-renal syndrome – pre-auricular sinus tract or cyst, abnormal pinna, branchial cleft fistulae and/or cyst; autosomal dominant, chromosome 8q *Genomics 14:841–844, 1992; Clin Genet 9:23–34, 1976*

### TRAUMA

Pressure ulcer *Clin Geriatr Med 13:455–481, 1997*

## SPINAL DYSRAPHISM, CUTANEOUS STIGMATA

***AD 140:1109–1115, 2004; Textbook of Neonatal Dermatology, p.123, 2001; JAAD 31:892–896, 1994; AD 118:643–648, 1982***

- Depressed lesions
  - Aplasia cutis congenita (denuded skin)
  - Dermal sinus
  - Deviated superior gluteal crease
  - Dimple (dermal pit) – large, greater than 2.5-cm from anal verge
  - Dimple – small; less than 2.5-cm from anal verge; low index of suspicion
  - Scar
  - Sinus tract (with or without dermoid cyst)
- Dermal lesions
  - Congenital scar
  - Connective tissue nevus
  - Hamartoma, unclassifiable
  - Hypertrophic skin
  - Neurofibroma
- Dyschromic lesions
  - Hyperpigmentation – low index of suspicion
  - Hypopigmentation or depigmentation
- Hairy lesions
  - Hypertrichosis (faun tail nevus)
- Neoplasms (benign or malignant)
  - Ependymoma
  - Epidermal nevus *AD 118:643–648, 1982*
  - Hamartoma, unclassified
  - Lipoma, sacral
  - Melanocytic nevi – low index of suspicion
  - Neurofibroma
  - Teratoma – low index of suspicion
- Polypoid lesions
  - Acrochordon
  - Pseudotail
  - True tail (human tail)
- Subcutaneous nodules
  - Dermoid cyst or sinus
  - Lipoma
  - Neural tissue – includes ependymoma, lipomeningocoele, lipomyelomeningocoele, occult meningocoele, neurofibroma
- Vascular lesions
  - Port wine stain – low index of suspicion
  - Hemangioma
  - Lipoma with overlying port wine stain *AD 140:1109–1115, 2004*
  - Lumbar twin nevus – combined telangiectasia and nevus anemicus *Ped Derm 21:664–666, 2004*
  - Telangiectasia – low index of suspicion

Types of spinal dysraphism
- Dermal sinus tract
- Diastemetamyelia
- Filum terminale with tethered conus
- Hydrosyringomyelia
- Lipomyelomeningocoele
- Myelomeningocoele
- Neurofibroma

## SPLINTER HEMORRHAGES

***JAAD 50:289–292, 2004***

Anti-phospholipid antibody syndrome

Arthritis

Behcet's disease
Blood dyscrasia
Buerger's disease
Cancer chemotherapy
Cirrhosis
Collagen vascular disease
Cryoglobulinemia
Cutaneous T-cell lymphoma
Darier's disease
Dermatitis
Diabetes mellitus
Emboli, arterial
Exfoliative dermatitis
Fungal endocarditis
Hemochromatosis
Hemodialysis
High altitude
Hypertension
Hypoparathyroidism
Idiopathic
Indwelling brachial artery cannula
Internal malignancy
Langerhans cell histiocytosis
Lupus erythematosus, subacute cutaneous LE
Mitral sternosis
Occupational trauma
Onychomycosis
Osler–Weber–Rendu syndrome
Peptic ulcer disease
Peritoneal dialysis
Psoriasis
Pterygium
Pulmonary disease
Radial artery puncture
Raynaud's disease
Renal disease
Sarcoidosis
Scurvy
Sepsis
Subacute bacterial endocarditis
Sweet's syndrome
Tetracycline
Thyrotoxicosis
Trauma
Trichinosis
Vasculitis

## SPOROTRICHOID LESIONS

***AD 131:1329–1334, 1995***

Alternaria infectoria *BJD 145:484–486, 2001*
Anthrax
Cat scratch fever
Coccidioidomycosis
Cow pox *BJD 122:705–708, 1990*
*Cryptococcus BJD 120:683–687, 1989*
Ecthyma *Cutis 54:279–286, 1994*
Epithelioid sarcoma
*Fusarium*
Glanders (*Burkholderia mallei*) *Cutis 54:279–286, 1994*
Histoplasmosis
Insect bites
Kaposi's sarcoma
Leishmaniasis *JAAD 51:S125–128, 2004; BJD 147:1022–1023, 2002; JAAD 36:847–849, 1997; South Med J 90:325–327, 1997;* American leishmaniasis (*Leishmania brasiliensis*) and *L. major BJD 153:203–205, 2005; Trans R Soc Trop Med Hyg 88:552–554, 1994; JAAD 17:759–764, 1987*
Lipomas
Lymphatic tumors
Lymphogranuloma venereum *Cutis 54:279–286, 1994*
Melioidosis *Ghatan p.20, 2002, Second Edition*
Mercury granuloma *JAAD 43:81–90, 2000*
Metastases
Mycetoma *JAAD 49:S170–173, 2003*
*Mycobacterium avium-intracellulare JAAD 47:S249–250, 2002; AD 129:1343–1344, 1993; AD 124:1545–1549, 1988*
*Mycobacterium bovis JAAD 43:535–537, 2000*
*Mycobacterium chelonei* (*M. abscessus*) *BJD 151:1101, 2004; J Cutan Med Surg 5:28–32, 2001; BJD 143:1345, 2000; Clin Inf Dis 18:999–1001, 1994; Clin Exp Dermatol 14:309–312, 1989; Ann DV 112:319–324, 1985*
*Mycobacterium fortuitum*
*Mycobacterium kansasii JAAD 41:854–856, 1999; JAAD 36:497–499, 1997*
*Mycobacterium marinum Clin Inf Dis 31:439–443, 2000; Clin Exp Dermatol 23:214–221, 1998;* facial *J Pediatr 130:324–326, 1997; AD 122:698–703, 1986*
*Mycobacterium scrofulaceum AD 138:689–694, 2002*
*Mycobacterium tuberculosis* – tuberculous gumma; extremities more than trunk *Scand J Infect Dis 32:37–40, 2000; Int J Dermatol 26:600–601, 1987; JAAD 6:101–106, 1982; Semin Hosp Paris 43:868–888, 1967;* primary tuberculosis; tuberculosis verrucosa cutis *Ped Derm 18:393–395, 2001;* lupus vulgaris *Int J Derm 40:336–339, 2001;* sporotrichoid pattern *Int J Derm 40:336–339, 2001*
*Mycobacterium xenopi Cutis 67:81–82, 2001*
Nocardiosis *J Inf Dis 134:286–289, 1976; Nocardia brasiliensis Cutis 76:33–35, 2005; N. asteroides BJD 144:639–641, 2001; AD 124:659–660, 1988; N. caviae JAAD 29:639–641, 1993; N. transvaalensis JAAD 28:336–340, 1993*
North American blastomycosis *Ghatan p.20, 2002, Second Edition*
*Paecilomyces lilacinus JAAD 39:401–409, 1998*
Phaeohyphomycosis – *Alternaria infectoria BJD 145:484–486, 2001*
*Pseudoallescheria boydii AD 138:271–272, 2002*
Rat bite fever *Ghatan p.20, 2002, Second Edition*
Scedosporiosis *Rev Inst Med Trop Sao Paulo 39:227–230, 1997*
Spindle cell hemangioendotheliomas *Cutis 62:23–26, 1998*
Sporotrichosis *Cutis 54:279–286, 1994; Dermatologica 172:203–213, 1986*

Squamous cell carcinoma

*Staphylococcus aureus Clin Inf Dis 21:433–434, 1995; Dermatologica 178:278–80, 1989*

*Streptococcus pyogenes*

Syphilis – extragenital chancre

*Trichosporon beigelii*

Tularemia – *Franciscella tularensis*; skin, eye, respiratory, gastrointestinal portals of entry; ulceroglandular, oculoglandular, glandular types; toxemic stage heralds generalized morbilliform eruption, erythema multiforme-like rash, crops of red nodules on extremities *Medicine 54:252–269, 1985*

## SPOTTY PIGMENTATION OF THE FACE

Carney complex

Cronkhite–Canada syndrome

LEOPARD syndrome

Noonan's syndrome

Seborrheic keratoses, macular

Solar lentigines

Turner's syndrome

## STRIAE DISTENSAE

Adolescent/pubertal striae

Athletes, weight lifters

Prolonged therapy with ACTH or adrenocorticosteroids

Cushing's syndrome/disease *Semin Dermatol 3:287–294, 1984*

Growth striae *Ghatan p.252, 2002, Second Edition*

Liver disease, chronic – lower abdomen, thighs, buttocks *Rook p.2725, 1998, Sixth Edition*

Marfan's syndrome – progressive striae *Textbook of Neonatal Dermatology, p.459, 2001; Int J Dermatol 28:291–299, 1989*

Mid-dermal elastolysis *Int J Derm 28:426, 1989*

Obesity

Pregnancy

Protease inhibitors – intra-abdominal fat ('crix belly') ('protease paunch')

Pruritic urticarial papules and plaques of pregnancy (PUPPP)

Rapid weight gain or loss

Topical steroid therapy, either superpotent or under occlusion

## SYNDACTYLY

Aarskog syndrome (facio-digito-genital syndrome) – X-linked recessive – anteverted nostrils, long philtrum, broad nasal bridge; short broad hands with syndactyly, scrotal shawl (scrotal fold which surrounds the base of the penis); skeletal defects; learning disabilities *J Pediatr 77:856–861, 1970*

Albright's hereditary osteodystrophy

Acrocallosal syndrome (Greig cephalopolysyndactyly syndrome) (Greig's polysyndactyly–cranial dysmorphism syndrome) – abnormal upper lids, frontonasal dysostosis, callosal agenesis, cleft lip/palate, redundant skin of neck, grooved chin, bifid thumbs, polydactyly, syndactyly *Am J Med Genet 43:938–941, 1992; Am J Med Genet 32:311–317, 1989; Clin Genet 24:257–265, 1983*

Acrodental dysostosis (polydactyly, conical teeth, nail dystrophy, short limbs) *Birth Defects 15:253–263, 1979*

Acrodermatitis continua of Hallopeau *BJD 152:1083–1084, 2005*

Acro-fronto-facio-nasal dysostosis *Am J Med Genet 20:631–638, 1985*

Acro-renal complex

Adams–Oliver syndrome *Bolognia p.930, 2003*

Albright's hereditary osteodystrophy

Amnion rupture malformation sequence (amniotic band syndrome) – congenital ring constrictions and intrauterine amputations; secondary syndactyly, polydactyly; distal lymphedema *JAAD 32:528–529, 1995; Am J Med Genet 42:470–479, 1992; Cutis 44:64–66, 1989*

Ankyloblepharon–ectrodactyly–cleft lip/palate syndrome (AEC syndrome)

Apert's syndrome (acrocephalosyndactyly) – craniosynostosis, mid-facial malformations, symmetrical syndactyly; severe acne vulgaris; mutation of fibroblast growth factor receptor-2 *AD 102:381–385, 1970; Ann Hum Genet 24:151–164, 1960; Bull Soc Med Hop (Paris) 23:1310–1330, 1906*

Aplasia cutis congenita type II – scalp ACC with associated limb anomalies; hypoplastic or absent distal phalanges, syndactyly, club foot, others *Ped Derm 19:326–329, 2002*

Auralcephalosyndactyly *J Med Genet 25:491–493, 1988*

Autosomal recessive blepharophimosis, ptosis, V-esotropia, syndactyly, and short stature *Clin Genet 41:57–61, 1992*

Autosomal recessive ectodermal dysplasia with corkscrew hairs, pili torti, syndactyly, keratosis pilaris, onychodysplasia, dental abnormalities, conjunctival erythema, palmoplantar keratoderma, cleft lip or palate, and mental retardation *JAAD 27:917–921, 1992*

Bannayan–Riley–Ruvalcaba–Zonana syndrome (PTEN phosphatase and tensin homolog hamartoma) – dolicocephaly, frontal bossing, macrocephaly, ocular hypertelorism, long philtrum, thin upper lip, broad mouth, relative micrognathia, lipomas, penile or vulvar lentigines, facial verruca-like or acanthosis nigricans-like papules, multiple acrochordons, angiokeratomas, transverse palmar crease, accessory nipple, syndactyly, brachydactyly, vascular malformations, arteriovenous malformations, lymphangiokeratoma, goiter, hamartomatous intestinal polyposis *JAAD 53:639–643, 2005*

Bart's syndrome with germ line mosaicism

Bowen–Armstrong syndrome – ectodermal dysplasia, syndactyly, mental retardation, autosomal recessive *Clin Genet 9:35–42, 1976*

Burns *BJD 152:1083–1084, 2005*

C syndrome (Opitz trigonocephaly syndrome) *Birth Defects 5:161–166, 1969*

Carpenter's syndrome *Klin Pediatr 189:120, 1977*

Cenani–Lenz syndactyly syndrome

CHARGE syndrome – syndactyly, short stature, coloboma of the eye, heart anomalies, choanal atresia, somatic and mental retardation, genitourinary abnormalities, ear anomalies, primary lymphedema *Ped Derm 20:247–248, 2003; J Med Genet 26:202–203, 1989*

Cleft lip/palate – ectodermal dysplasia *Bolognia p.930, 2003*

Cleft lip-palate, mental and growth retardation, sensorineural hearing loss, and postaxial polydactyly *Syndromes of the Head and Neck, p.772, 1990*

Cleft lip-palate, preaxial and postaxial polydactyly of hands and feet, congenital heart defect, and genitourinary anomalies *Syndromes of the Head and Neck, p.751, 1990*

Cleft lip and palate, pili torti, malformed ears, partial syndactyly of fingers and toes, mental retardation *J Med Genet 24:291–293, 1987*

Cleft palate, absent tibiae, preaxial polydactyly of the feet, and congenital heart defect *Am J Dis Child 129:714–716, 1975*

Cleft palate, dysmorphic facies, digital defects *Syndrome Ident 5:14–18, 1977*

Cleft palate, microcephaly, short stature – large ears

Cleft uvula, preaxial and postaxial polysyndactyly, somatic and motor retardation *Eur J Pediatr 130:47–51, 1979*

Congenital onychodysplasia of the index fingers (COIF) (Iso Kikuchi syndrome) *J Hand Surg 15A:793–797, 1990*

Cornelia de Lange syndrome *Am J Med Genet 25:163–165, 1986*

Craniofrontonasal syndrome *Birth Defects 15:85–89, 1979*

Curry–Jones syndrome – streaks of atrophy with craniosynostosis, preaxial polysyndactyly, agenesis of the corpus callosum *Clin Dysmorphol 4:116–129, 1995*

del (3p) syndrome *J Med Genet 21:307–310, 1984*

Distal aphalangia, syndactyly, extra metatarsal, short stature, microcephaly, borderline intelligence – autosomal dominant *Am J Med Genet 55:213–216, 1995*

Dubowitz syndrome

Duplication of the eyebrows, stretchable skin and syndactyly

Ectrodactyly–ectodermal dysplasia–cleft lip/palate syndrome (EEC syndrome) – syndactyly; split hand *Ped Derm 20:113–118, 2003*

EEM syndrome *Bolognia p.930, 2003*

Ellis–van Creveld syndrome *J Med Genet 17:349–356, 1980*

Epidermal (sebaceus) nevus syndrome *Bolognia p.930, 2003*

Epidermolysis bullosa – cicatricial junctional EB – scarring, alopecia, syndactyly, contractures *JAAD 12:836–844, 1985;* recessive dystrophic EB *Epidermolysis Bullosa: Basic and Clinical Aspects. New York:Springer, 1992:135–151*

FG syndrome (unusual facies, mental retardation, congenital hypotonia, imperforate anus) *Am J Med Genet 19:383–386, 1984*

Filippi syndrome – short stature, microcephaly, characteristic face, syndactyly, mental retardation *Genet Couns 4:147–151, 1993*

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp, abnormal ears and teeth, nail dystrophy, syndactyly, reduced apocrine secretion *Bolognia p.924, 2003*

Fontaine syndrome (ectrodacytyly of the feet and cleft palate) *J Genet Hum 22:289–307, 1974*

Fraser syndrome (cryptophthalmos–syndactyly syndrome)

Frontonasal malformation *Clin Genet 10:214–217, 1976*

Frydman syndrome – autosomal recessive; prognathism, syndactyly, short stature, blepharophimosis, weakness of extraocular and frontal muscles, synophrys *Clin Genet 41:57–61, 1992*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; linear alopecia, xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *Cutis 53:309–312, 1994; J Dermatol 21:122–124, 1994; JAAD 25:879–881, 1991*

Hemihyperplasia–multiple lipomatosis syndrome – extensive congenital vascular stain, compressible blue nodule, multiple subcutaneous nodules, hemihypertrophy, syndactyly, thickened but not cerebriform soles, dermatomyofibroma *Soc Ped Derm Annual Meeting, July 2005; Am J Med Genet 130A:111–122, 2004; Am J Med Genet 79:311–318, 1998*

Hidrotic ectodermal dysplasia *AD 113:472–476, 1977*

Holoprosencephaly syndrome

Holt–Oram syndrome (Hand–heart syndrome type I)

Hydrolethalus syndrome *Am J Med Genet 27:935–942, 1987*

Hypohidrosis and diabetes insipidus (Fleck syndrome) – hypohidrosis, hypotrichosis, diabetes insipidus, syndactyly, coloboma, disturbed hematopoiesis *Dermatol Wochenschr 132:994–1007, 1955*

Hypomelanosis of Ito/pigmentary mosaicism *Bolognia p.930, 2003*

Kabuki makeup syndrome – short stature, distinct face (long palpebral fissures, eversion of the lower eyelids, sparse arched lateral eyebrows, prominent malformed ears), cutis laxa, hyperextensible joints, syndactyly, fetal finger pads with abnormal dermatoglyphics, mental retardation *JAAD S247–251, 2005; Am J Med Genet 94:170–173, 2000; Am J Med Genet 31:565–589, 1988; J Pediatr 105:849–850, 1984; J Pediatr 99:565–569, 1981*

Kaufman–McKusick syndrome – hydrometrocolpos, postaxial polydactyly, congenital heart defect *Eur J Pediatr 136:297–305, 1981*

Kindler's syndrome – webbing due to congenital blistering *AD 140:939–944, 2004; AD 1487–1490, 1996*

Klippel–Trenaunay syndrome *Bolognia p.930, 2003*

Koraxitrachitic syndrome – self-healing collodion baby; heals with mottled reticulated atrophy; alopecia, absent eyelashes and eyebrows, conjunctival pannus, hypertelorism, prominent nasal root, large mouth, micrognathia, brachydactyly, syndactyly of interdigital spaces *Am J Med Genet 86:454–458, 1999*

*LADD* syndrome *Eur J Pediatr 146:536–537, 1987*

Lenz–Majewski syndrome *Radiology 149:129–131, 1983*

LEOPARD (Moynahan's) syndrome – CALMs, granular cell myoblastomas, steatocystoma multiplex, small penis, hyperelastic skin, low-set ears, short webbed neck, short stature, syndactyly *JAAD 46:161–183, 2002; JAAD 40:877–890, 1999; Am J Med 60:447–456, 1976*

Lichen planus, ulcerative – webbing of toes *J R Soc Med 79:363–365, 1986*

Macrocephaly – cutis marmorata telangiectatica congenita syndrome (macrocephaly, cutis marmorata, hemangioma, and syndactyly syndrome) – macrocephaly, hypotonia, hemihypertrophy, hemangioma, cutis marmorata telangiectatica congenita, internal arteriovenous malformations, syndactyly, joint laxity, hyperelastic skin, thickened subcutaneous tissue, developmental delay, short stature, hydroocephalus *Ped Derm 16:235–237, 1999; Genet Couns 9:245–253, 1998; Am J Med Genet 70:67–73, 1997*

Mal de Meleda – autosomal dominant, autosomal recessive transgrediens with acral erythema in glove-like distribution; syndactyly *Dermatology 203:7–13, 2001; AD 136:1247–1252, 2000; J Dermatol 27:664–668, 2000; Dermatologica 171:30–37, 1985*

Meckel syndrome – microcephaly, microphthalmia, congenital heart defects, postaxial polydactyly, polycystic kidneys, cleft lip/palate *J Med Genet 8:285–290, 1971*

Nail–patella syndrome (Fong's syndrome, hereditary onychoosteodysplasia, Turner–Kieser syndrome) – autosomal dominant; webbing between digits and/or within popliteal fossa, cloverleaf iris (Lester iris); LMX1B mutation (dorsal/ventral patterning) *JAAD 49:1086–1087, 2003*

Nasal alar colobomas, mirror hands and feet, and talipes *J Bone Jt Surg 52:367–370, 1970*

Neu–Laxova syndrome – variable presentation; mild scaling to harlequin ichthyosis appearance; ichythosiform scaling, increased subcutaneous fat and atrophic musculature, generalized edema and mildly edematous feet and hands, absent nails; microcephaly, intrauterine growth retardation, limb contractures, low-set ears, sloping forehead, short neck; small genitalia, eyelid and lip closures, syndactyly, cleft lip and palate, micrognathia; autosomal recessive; uniformly fatal *Ped Derm 20:25–27,78–80, 2003; Curr Prob Derm 14:71–116, 2002; Clin Dysmorphol 6:323–328, 1997; Am J Med Genet 35:55–59, 1990; Am J Med Genet 13:445–452, 1982*

Nevoid basal cell carcinoma syndrome *JAAD 53:S256–259, 2005; JAAD 11:98–104, 1984*

Oculo-dento-osseous (oculo-dento-digital) dysplasia – sparse scalp hair, eyebrows and eyelashes sparse or absent, small closely set sunken eyes, small mouth, enamel hypoplasia producing yellow teeth, syndactyly, camptodactyly, iris anomalies, hypertelorism *J Pediatr 63:69–75, 1963*

Opitz trigonocephaly syndrome (Smith–Lemli–Opitz syndrome) – syndactyly of 2nd and 3rd toes *BJD 138:885–888, 1998; Am J Dis Child 129:1348, 1975*

Oral–facial–digital syndrome type I (Papillon–Leage syndrome) – X-linked dominant; short upper lip, hypoplastic ala nasi, hooked pug nose, hypertrophied labial frenulae, bifid or multilobed tongue with small tumors within clefts, clefting of hard and soft palate, teeth widely spaced, trident hand or brachydactyly, syndactyly, or polydactyly; hair dry and brittle, alopecic, numerous milia of face, ears, backs of hands, mental retardation *Ped Derm 9:52–56, 1992*

Oro-acral syndrome – microglossia to aglossia, cleft palate

Oto-palato-digital syndrome

Pallister–Hall syndrome *Am J Med Genet 7:75–83, 1980*

Pfeiffer syndrome – syndactyly, craniosynostosis, broad great toes, pre-auricular tag, gingival hypertrophy *Z Kinderheilkd 90:301–320, 1964*

Pili torti, defective teeth, webbed fingers *JAAD 46:301–303, 2002*

Poland's chest wall deformity – breast and pectoralis muscle hypoplasia; absence of axillary hair, ipsilateral syndactyly, dermatoglyphic abnormalities *Clin Exp Dermatol 25:308–311, 2000; Plast Reconstr Surg 99:429–436, 1997*

Polydactyly and syndactyly

Popliteal pterygium syndrome – autosomal dominant; bilateral popliteal pterygia, intercrural pterygium, hypoplastic digits, valgus or varus foot deformities, syndactyly, cryptorchidism, inguinal hernia, cleft scrotum, lower lip pits, mucous membrane bands, eyelid adhesions *J Med Genet 36:888–892, 1999; Int J Pediatr Otorhinolaryngol 15:17–22, 1988*

Postaxial acrofacial dysostosis *J Pediatr 95:970–975, 1979*

Postaxial polydactyly–dental–vertebral syndrome *J Pediatr 90:230–235, 1977*

Proteus syndrome *Bolognia p.930, 2003*

Rabenhorst syndrome – syndactyly of 2nd and 3rd toes

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome (syndactyly); lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Robert's syndrome (pseudothalidomide syndrome)

Rosselli–Gulinetti syndrome – autosomal recessive, hypohidrosis, fine, dry, sparse scalp hair, dystrophic nails and teeth, cleft lip and palate, syndactyly, defects of external genitalia *J Plast Surg 14:190–204, 1961*

Russell–Silver syndrome – large head, short stature, premature sexual development, CALMs, clinodactyly, syndactyly of toes, triangular face *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999*

Saethre–Chotzen syndrome – partial syndactyly of second and third fingers, craniosynostosis, low-set frontal hairline, facial asymmetry, ptosis, brachydactyly, other skeletal anomalies *Rook p.426, 1998, Sixth Edition; Dtsch Z Nerverneilkd 117:533–555, 1931*

Sataki syndrome *J Pediatr 79:104–109, 1971*

Say–Poznanski syndrome *Pediatr Radiol 17:93–96, 1987*

Scalp–ear–nipple syndrome – autosomal dominant; aplasia cutis congenita of the scalp, irregularly shaped pinna, hypoplastic nipple, widely spaced teeth, partial syndactyly *Am J Med Genet 50:247–250, 1994*

Sclerosteosis *Ann Intern Med 84:393–397, 1976*

Short rib–polydactyly syndrome *Am J Roentgenol 114:257–263, 1972*

Smith–Lemli–Opitz syndrome – autosomal recessive; occasional immunodeficiency; hypospadias, cryptorchidism, hypospadias partial syndactyly of 2nd and 3rd toes, polydactyly, dysmorphic facies with anteverted nostrils, cleft palate, congenital heart disease, severe photosensitivity, 7-dehydrocholesterol reductase deficiency (defect in cholesterol metabolism) *BJD 153:774–779, 2005; NEJM 351;2319–2326, 2004; JAAD 41:121–123, 1999; BJD 141:406–414, 1999; Am J Med Genet 66:378–398, 1996; Clin Pediatr 16:665–668, 1977; J Pediatr 64:210–217, 1964*

Symphalangism–brachydactyly syndrome with conductive hearing impairment

Syndactyly, congenital *Caputo p.172, 2000*

Townes–Brocks syndrome *J Pediatr 81:321–326, 1972*

Trauma *BJD 152:1083–1084, 2005*

Triploidy syndrome *Syndromes of the Head and Neck, p.64, 1990*

Trisomy 13 (Patau) syndrome *J Genet Hum 23:83–109, 1975*

Varadi syndrome (polydactyly, cleft lip/palate, lingual lump, cerebellar anomalies *J Med Genet 17:119–122, 1980*

Waardenburg syndrome, type 3 *Bolognia p.930, 2003*

Zlotogora–Ogur syndrome – ectodermal dysplasia, syndactyly, mental retardation, autosomal recessive *J Med Genet 24:291–293, 1987*

## SYNDACTYLY WITH CRANIODYSOSTOSIS

***AD 128:1378–1386, 1992***

Apert's syndrome

Cranioectodermal dysplasia

Craniosynostosis syndromes

# TAIL

Caudal appendage, short terminal phalanges, deafness, cryptorchidism, and mental retardation *Clin Dysmorphol 3:340–346, 1994*

Cervical braid

Tail-like malformation (cervical)

Human tail – with underlying spinal dysraphism

Persistent vestigial tail

Pseudotail with spinal dysraphism

# TARGET LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – to rubber gloves *Contact Dermatitis 45:311–312, 2001;* cardiac monitor electrodes

Autoimmune estrogen dermatitis – erythema multiforme-like *JAAD 49:130–132, 2003*

Autoimmune progesterone dermatitis – bullous erythema multiforme *Rook p.3267–3268, 1998, Sixth Edition; J R Soc Med 78:407–408, 1985; Cutis 33:490–491, 1984*

Bullous pemphigoid *Clin Exp Dermatol 24:263–265, 1999; Rook p.1869, 1998, Sixth Edition; AD 133:775–780, 1997;* pemphigoid en cocarde *JAAD 20:1125, 1989*

Dermatitis herpetiformis

Epidermolysis bullosa acquisita *AD 133:1122–1126, 1997*

Herpes (pemphigoid) gestationis *Rook p.1878–1879, 1998, Sixth Edition; JAAD 40:847–849, 1999*

Linear IgA bullous dermatosis – rosette lesions *AD 139:1121–1124, 2003; Caputo p.25, 2000; Ped Derm 13:509–512, 1996; Cutis 45:37–42, 1990; Int J Dermatol 26:513–517, 1987*

Lupus erythematosus – neonatal lupus erythematosus; bullous dermatosis of SLE (annular bullae) – face, neck, upper trunk, oral bullae *JAAD 27:389–394, 1992; Ann Intern Med 97:165–170, 1982; Arthritis Rheum 21:58–61, 1978;* discoid LE resembling erythema multiforme (targetoid lesions) *Dermatologica 122:6–10, 1961;* subacute cutaneous LE *Acta DV 80:308–309, 2000; JAAD 35:147–169, 801–803, 1996;* lupus with erythema multiforme-like lesions (Rowell's syndrome) *BJD 142:343–346, 2000; Eur J Dermatol 10:459–462, 2000; Clin Exp Dermatol 24:74–77, 1999;* systemic lupus erythematosus – lesions of palate, buccal mucosa, gums; red or purpuric areas with red halos break down to form shallow ulcers *BJD 135:355–362, 1996; BJD 121:727–741, 1989*

Morphea *Caputo p.39, 2000*

Pemphigus – IgG/IgA pemphigus – herpetiform, targetoid lesions *BJD 147:1012–1017, 2002*

Urticaria – foods, drugs, hymenoptera stings, plasma expanders, blood products, anesthetic agents *Rook p.2116–2117, 1998, Sixth Edition*

## DRUGS

Acute generalized exanthematous pustulosis with erythema multiforme-like lesions *Eur J Dermatol 12:475–478, 2002*

Drug reactions surrounding seborrheic keratoses

Drug-induced linear IgA disease – amiodarone, captopril, cefamandole, cyclosporine, diclofenac, euglucon, furosemide, interleukin, lithium, phenytoin, somatostatin, sulfa, vigabatrin, piroxicam, vancomycin *JAAD 45:691–696, 2001; Cutis 44:393–396, 1989*

Fixed drug reactions *Rook p.3378–3379, 1998; AD 120:520–524, 1984*

Ranitidine drug rash

Syringosquamous metaplasia associated with chemotherapy *Soc Ped Derm Annual Meeting, July 2005*

Vitamin K reaction

Vasculitis, drug-induced

## EXOGENOUS AGENTS

Bath powder *BJD 148:171–172, 2003*

*Rhus* lacquer – ingestion resulting in erythema multiforme, exfoliative erythroderma, morbilliform exanthema *BJD 142:937–942, 2000*

## INFECTIONS AND INFESTATIONS

Acremonium – target-like lesions with central necrosis *Rook p.1375, 1998, Sixth Edition*

African trypanosomiasis *AD 131:1178–1182, 1995*

Anthrax – central eschar with surrounding vesicles *J Clin Inf Dis 19:1009–1014, 1994*

Brown recluse spider bite

*Burkholderia pseudomallei* (melioidosis) – disseminated; ecthyma-like lesions *Clin Inf Dis 40:988–989, 1053–1054, 2005*

*Candida* – candidal sepsis; disseminated candidiasis

Coccidioidomycosis – erythema multiforme as hypersensivity reaction in acute coccidioidomycosis *JAAD 46:743–747, 2002*

Coxsackie virus – erythema multiforme-like exanthem *Tyring p.460, 2002*

Cryptococcal panniculitis – erythema with central hyperpigmentation *Cutis 74:165–170, 2004*

Ecthyma gangrenosum

Erysipeloid (*Erysipelothrix insidiosa* (*E. rhusiopathiae*)) in neonate – erythema multiforme-like eruption *J Clin Inf Dis 24:511, 1997*

*Fusarium* – sepsis *Ped Derm 9:62–65, 1992; Fusarium solanae* – target-like lesions with central necrosis *Rook p.1375, 1998, Sixth Edition; Eur J Clin Microbiol Infect Dis 13:152–161, 1994*

Gonococcemia – hemorrhagic pustules with halo of erythema *Rook p.2170–2171, 1998, Sixth Edition; AD 107:403–406, 1973*

Hepatitis B – erythema multiforme *Ghatan p.246, 2002, Second Edition*

Herpes simplex virus

Histoplasmosis *J Cutan Pathol 29:215–2002*

Insect bites

Leprosy – targetoid erythematous plaques *Eur J Dermatol 11:65–67, 2001*

Lyme disease (*Borrelia burgdorferi*) – erythema (chronicum) migrans *JAAD 49:363–392, 2003*

Meningococcemia

Milker's nodule (pseudocowpox, bovine papular stomatitis virus) – starts as flat red papule on fingers or face, progresses to red–blue tender nodule, which crusts; zone of erythema; may resemble pyogenic granulomas *JAAD 44:1–14, 2001; Rook p.1004, 1998, Sixth Edition; AD 111:1307–1311, 1975*

Molluscum contagiosum – molluscum dermatitis *Acta DV 82:217–218, 2002*

*Mycobacterium avium-intracellulare JAAD 39:493–495, 1998*

Orf – Parapoxvirus (genus); Family Poxviridae *Cutis 71:288–290, 2003; JAAD 44:1–14, 2001*

Parvovirus B19 infection – erythema multiforme-like *J Clin Inf Dis 21:1424–1430, 1995*

Psittacosis – erythema multiforme *Br Med J 2:1469–1470, 1965*

Rickettsial pox

Sealpox (parapoxvirus) – gray concentric nodule with superimposed bulla on dorsum of hand *BJD 152:791–793, 2005*

Spider bites – black widow spider (*Latrodectus mactans*) – punctum with erythema and edema *AD 123:41–43, 1987;* brown recluse spider (*Loxosceles reclusa*) – erythema, edema, central bulla; targetoid lesion with central blue/purple, ischemic halo, outer rim of erythema; at 3–4 days central necrosis, eschar, ulcer, scar *South Med J 69:887–891, 1976*

Syphilis – secondary – corymbose lesions; erythema multiforme-like lesions *BJD 149:658–660, 2003*

Tick bite

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980*

Tinea corporis, cruris, faciei, bullous tinea *Cutis 6:661–668, 1970*

Tinea imbricata

Toxic shock syndrome – targetoid spotty rashes *Acta DV 82:449–452, 2002*

*Trichosporon beigelii* sepsis

Tularemia – erythema multiforme *JAAD 49:363–392, 2003*

Varicella-zoster infection – varicella or herpes zoster; atypical recurrent varicella with vesiculopapular lesions with central necrosis *JAAD 48:448–452, 2003*

Verruca vulgaris – rosettes after cryotherapy *Tyring p.286, 2002*

Yaws – primary red papule, ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (raspberry-like) (framboesia); heals with large atrophic scar with white center with dark halo *Rook p.1268–1271, 1998, Sixth Edition*

Zygomycosis – *Rhizopus arrhizus*; bull's eye infarct *JAAD 51:996–1001, 2004; JAMA 2254:737–738, 1973*

## INFILTRATIVE DISEASES

Amyloid – purpuric halos surrounding cherry angiomas *Cutis 48:141–143, 1991; BJD 112:209–211, 1985*

Digital myxoid cyst

## INFLAMMATORY DISORDERS

Erythema multiforme *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* marginal ring of vesicles (herpes iris of Bateman) *Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* id reaction, erythema multiforme-like *J Eur Acad Dermatol Venereol 17:699–701, 2003*

Interstitial granulomatous dermatitis *BJD 152:814–816, 2005*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – erythema multiforme lesions *Ped Derm 18:403–405, 2002*

Neutrophilic eccrine hidradenitis *Cutis 75:93–97, 2005*

Ofuji's disease (eosinophilic pustular folliculitis) *Cutis 58:135–138, 1996*

Pyoderma gangrenosum *Rook p.2185, 1998, Sixth Edition;* bullous pyoderma gangrenosum *JAAD 51:996–1001, 2004*

Sarcoid – erythema multiforme-like lesions *Cutis 33:461–463, 1984*

Relapsing idiopathic nodular panniculitis *BJD 152:582–583, 2005*

Toxic epidermal necrolysis *Australas J Dermatol 43:35–38, 2002*

## METABOLIC DISORDERS

Pruritic urticarial papules and plaques of pregnancy – targetoid lesions *JAAD 39:933–939, 1998; JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAAD 5:401–405, 1981; JAMA 241:1696–1699, 1979*

## NEOPLASTIC DISORDERS

Atypical nevus

Blue nevi – target blue nevi *AD 119:919–920, 1983*

Cytophagic histiocytic panniculitis – manifestation of hemophagocytic syndrome; red tender nodules; T-cell lymphoma, B-cell lymphoma, histiocytic lymphoma, sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *Rook p.2419, 1998, Sixth Edition; JAAD 4:181–194, 1981; Arch Int Med 140:1460–1463, 1980*

Halo lesions (lesions with halos) *AD 92:14–35, 1965*
- Basal cell carcinoma
- Blue nevus
- Cafe au lait macules *Ped Derm 15:70–71, 1998*
- Congenital melanocytic nevus *Ped Derm 19:73–75, 2002; J Derm Surg Oncol 16:377–380, 1990*
- Histiocytoma
- Nevocellular nevus
- Primary melanoma
- Metastatic melanoma
- Neurofibroma *AD 112:987–990, 1976*
- Seborrheic keratosis
- Involuting flat wart

HTLV-1 leukemia, lymphoma

Kaposi's sarcoma

Lymphoma – cutaneous T-cell lymphoma *Rook p.2376, 1998, Sixth Edition*; CTCL mimicking erythema multiforme *JAAD 47:914–918, 2002;* nasal T-cell lymphoma *Pathology 21:164–168, 1989*

Lymphomatoid papulosis

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* cockarde nevus *Ped Derm 5:250–253, 1988;* eclipse nevus – tan center with stellate brown rim *BJD 145:1023–1026, 2001;* halo nevus (Sutton's nevus; leukoderma acquisitum centrifugum) *AD 92:14–35, 1965;* Myerson's nevus – melanocytic nevus with surrounding dermatitis *AD 103:510–512, 1971;* due to interferon-$\alpha$ and ribavirin *BJD 152:193–194, 2005;* atypical nevus *JAAD 34:357–361, 1996*

Melanoma – primary, metastatic *Semin Oncol 2:5–118, 1975*

Metastases – lung cancer, plurivisceral carcinoma *BJD 148:361, 2003*

Nevocentric lesions *JAAD 33:842–843, 1995*
- Erythema multiforme
- Halo dermatitis
- Halo nevus *JAAD 29:267–268, 1993*
- Nummular dermatitis (Meyerson's nevus – halo dermatitis) *BJD 118:125–129, 1988*
- Pityriasis rosea
- Psoriasis
- Targetoid halo nevus

Spitz nevus *Am J Dermatopathol 17:484–486, 1995; JAAD 27:901–913, 1992*

## PARANEOPLASTIC DISORDERS

Glucagonoma syndrome – alpha cell tumor in the tail of the pancreas; 50% of cases have metastasized by the time of diagnosis; skin rash, angular stomatitis, cheilosis, beefy red glossitis, blepharitis, conjunctivitis, alopecia, crumbling nails; rarely, associated with MEN I or IIA syndromes *Rook p.2728, 1998, Sixth Edition; AD 133:909, 912, 1997; JAAD 12:1032–1039, 1985; Ann Intern Med 91:213–215, 1979*

Paraneoplastic pemphigus – targetoid erythema multiforme-like lesions *BJD 145:127–131, 2001; Cutis 61:94–96, 1998; NEJM 323:1729–1735, 1990*

## PHOTODERMATOSES

Hydroa vacciniforme

Polymorphic light eruption

## PRIMARY CUTANEOUS DISEASES

Alopecia areata – targetoid hair regrowth *AD 134:1042, 1998*

Annular lichenoid dermatitis of youth *JAAD 49:1029–1036, 2003*

Epidermolysis bullosa simplex – Dowling–Meara type *AD 122:190–198, 1986*

Eruptive pseudoangiomatosis *AD 140:757–758, 2004*

Erythema annulare centrifugum

Erythrokeratoderma en cocardes *Ped Derm 19:285–292, 2002*

Erythrokeratolysis hiemalis – keratolytic winter erythema (Oudtshoorn disease) – palmoplantar erythema, cyclical and centrifugal peeling of affected sites, targetoid lesions of the hands and feet – seen in South African whites; precipitated by cold weather or fever *Ped Derm 19:285–292, 2002; BJD 98:491–495, 1978*

Febrile ulceronecrotic Mucha–Habermann disease *JAAD 49:1142–1148, 2003*

Granuloma annulare *Rook p.2300, 1998, Sixth Edition;* giant inflammatory targetoid plaques *AD 128:979, 982, 1992; AD 105:928, 1972*

Nummular dermatitis may surround: *JAAD 33:842–843, 1995*
- Basal cell carcinoma
- Dermatofibromas
- Insect bites
- Keloids
- Lentigines
- Nevus – Meyerson's nevus
- Squamous cell carcinoma
- Seborrheic keratosis
- Stucco keratosis

Pityriasis rosea *JAAD 15:159–167, 1986;* pityriasis rosea with erythema multiforme-like lesions *JAAD 17:135–136, 1987*

Psoriasis – Woronoff rings *BJD 148:170, 2003*

Toxic erythema of newborn

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis

## SYNDROMES

Behçet's disease *Yonsei Med J 38:380–389, 1997*

Erythrokeratoderma variabilis

Kawasaki's disease – erythema multiforme-like *Cutis 72:354–356, 2003; JAAD 39:383–398, 1998; Jpn J Allergol 16:178–222, 1967*

Marshall's syndrome *AD 131:1175–1177, 1995*

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

Sweet's syndrome *AD 141:881–884, 2005; Textbook of Neonatal Dermatology, p.305, 2001;* in chronic granulomatous disease *Ped Derm 11:237–240, 1994*

Turner's syndrome – halo nevi *JAAD 51:354–358, 2004*

Vogt–Koyanagi–Harada syndrome – halo nevi; occurs primarily in Asians, blacks, and darkly pigmented Caucasians; stage 1 – aseptic meningitis; stage 2 – uveitis (iritis, iridocyclitis) and dysacusis (tinnitus, hearing loss); stage 3 – depigmentation of skin (60% of patients), depigmentation of hair (poliosis – eyelashes, eyebrows, scalp, and body hair – 90% of patients), alopecia areata *Ann DV 127:282–284, 2000; AD 88:146–149, 1980*

## TRAUMA

Radiation therapy *Australas Radiol 40:334–337, 1996*

Ricocheted action safety bullet marks *Am J Forensic Med Pathol 18:15–20, 1997*

S/P treatment with liquid nitrogen

## VASCULAR DISORDERS

Acute hemorrhagic edema of infancy (Finkelstein's disease) (Seidlmayer's purpura) *Ped Int 45:697–700, 2003; Cutis 68:127–129, 2001; J Dermatol 28:279–281, 2001; Cutis 61:283–284, 1998; AD 130:1055–1060, 1994*

Angiolymphoid hyperplasia with eosinophilia *Ped Derm 15:91–96, 1998*

Bossed hemangioma with telangiectasia and peripheral pallor *AD 134:1145–1150, 1998*

Cherry angioma *BJD 112:209–211, 1985*

Churg–Strauss disease – erythema multiforme-like lesions *Rook p.2221, 1998, Sixth Edition*

Degos' disease (malignant atrophic papulosis) *BJD 100:21–36, 1979; Ann DV 79:410–417, 1954*

Hemangioma of pregnancy *JAAD 32:282–284, 1995*

Hemangioma, traumatized

Henoch–Schönlein purpura mimicking erythema multiforme

Leukocytoclastic vasculitis; Henoch-Schönlein purpura; urticarial vasculitis *AD 134:231–236, 1998;* erythema multiforme-like lesions *Rook p.2178, 1998, Sixth Edition*

Non-involuting congenital hemangioma – round to ovoid pink to purple papule or plaque with central or peripheral pallor, coarse telangiectasias *JAAD 50:875–882, 2004*

Pustular vasculitis – annular pustular plaques with central necrosis *Rook p.2167, 1998, Sixth Edition*

Targetoid hemosiderotic hemangioma – brown to violaceous nodule with ecchymotic halo *Cutis 72:51–52, 2003; AD 138:117–122, 2002; AD 136:1571–1572, 2000; J Cutan Pathol 26:279–286, 1999; JAAD 32:282–284, 1995; JAAD 41:215–224, 1999*

Wegener's granulomatosis – erythema multiforme-like lesions

# TATTOO, PALPABLE: LESIONS IN A TATTOO

***J Derm Surg 5:14–70,1979***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis to paraphenylenediamine in temporary henna tattoo *Am J Contact Dermat 12:186–187, 2001; Australas J Dermatol 41:168–171, 2000; AD 136:1061–1062, 2000;* radiotherapy tattoos *Australas Radiol 43:558–561, 1999*

Cadmium reaction – red *Cutis 23:71–72, 1979;* mercury–cadmium photoallergic reaction in red pigment *Ann Intern Med 67:984–989, 1967;* yellow *South Med J 55:792–795, 1962*

Carbon – black *JAAD 35:477–479, 1996;* track marks of IVDA

Chrome salts (chromic oxide) – green pigment *Contact Dermatitis 21:276–278, 1989; AD 82:237–243, 1960; Acta DV (Stockh) 39:23–29, 1959*

Cinnabar allergy (mercury) – red pigment *BJD 124:576–580, 1991;* organic pigments in red tattoos *Acta DV 71:70–73, 1991; Br J Plast Surg 30:84–85, 1977; Acta DV 48:103–105, 1968; US Armed Forces Med J 11:261–280, 1960;* due to thimerosol as preservative *Ann Intern Med 88:428, 1978*

Cobalt chloride – light blue *Acta DV (Stockh) 41:259–263, 1961*

Lupus erythematosus, discoid *AD 98:667–669, 1968*

Manganese reaction – purple *Contact Dermatitis 16:198–202, 1987; Cutis 23:71–72, 1979*

Purple tattoo pigment – granulomatous reaction *Contact Dermatitis 16:198–202, 1987*

Red azo dye – delayed allergic reaction *Hautarzt 48:666–670, 1997*

## EXOGENOUS AGENTS

Aluminum granuloma in a tattoo *JAAD 20:903–908, 1989*

Black gun powder *Rook p.922–923, 1998, Sixth Edition*

Drug abuse – soot tattooing *NY State J Med 68:3129–3134, 1968*

Earrings – iron tattoo *JAAD 24:788–789, 1991*

Foreign body granulomas after ochre tattoos

Monsel's solution (ferric chloride) *JAAD 17:819–825, 1987*

## INFECTIONS AND INFESTATIONS

AIDS – tattoo reaction to black pigment (carbon) – after immune restoration in AIDS *AD 137:669–670, 2001*

Cellulitis *JAAD 48:S73–74, 2003*

Erysipelas *JAAD 48:S73–74, 2003*

Influenza vaccine *Ann Intern Med 88:428, 1978*

Leishmaniasis in HIV disease *JAAD 41:847–850, 1999*

Leprosy – inoculation leprosy; upgrading borderline tuberculoid leprosy *Int J Dermatol 26:332–333, 1987*

Molluscum contagiosum *Br Med J 285:607, 1982*

Mycobacterial, atypical *JAAD 48:S73–74, 2003*

*Mycobacterium tuberculosis* – inoculation tuberculosis *AD 121:648–650, 1985*

Staphylococcal infection

Streptococcal infection

Syphilis – in a tattoo, spares mercury

Tinea – *Trichophyton tonsurans Cutis 73:232, 2004; Cutis 28:541–542, 1981*

Vaccinia *JAAD 48:S73–74, 2003*

Verruca vulgaris

## INFLAMMATORY DISEASES

Pseudolymphomatous reactions *JAAD 6:485–488, 1982*

Sarcoidosis – papules within a tattoo *Cutis 75:44–48, 2005; J Cutan Laser Ther 2:41–43, 2000; Cutis 59:113–115, 1997; Clin Exp Dermatol 22:254–255, 1997; BJD 130:658–662, 1994; Cutis 36:423–424, 1985;* confined to red tattoos *Clin Exp Dermatol 17:446–448, 1992;* in green tattoo *Wien Klin Wochenschr 99:14–18, 1987; Clin Exp Dermatol 1:395–399, 1976*

## NEOPLASTIC DISEASES

Basal cell carcinoma *Cutis 39:125–126, 1987; Br J Plast Surg 36:258–259, 1983; Br J Plast Surg 29:288–290, 1976*

Keloid

Lymphocytoma cutis *JAAD 38:877–905, 1998*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma *Cutis 59:111–112, 1997*

Seborrheic keratosis – erupting in a tattoo *Ann DV 125:261–263, 1998*

Squamous cell carcinoma *JAAD 48:S73–74, 2003*

## PHOTODERMATOSES

Photoallergy to cadmium sulfide

## PRIMARY CUTANEOUS DISEASE

Lichen planus *Rook p.1815, 1998, Sixth Edition*

Perforating granuloma annulare *BJD 138:360–361, 1998*

Psoriasis *Rook p.1596, 1998, Sixth Edition*

Reactive perforating collagenosis *JAAD 48:S73–74, 2003*

Urticaria *JAAD 48:S73–74, 2003*

## TRAUMA

Loss of pigmentation *Ghatan p.267, 2002, Second Edition*

Pachuco mark *JAAD 18:1066–1073, 1988*

Silversmith – traumatic silver tattoos

# TEETH

## NATAL TEETH

***Textbook of Neonatal Dermatology, p.478, 2001***

Adrenogenital syndrome

Chondroectodermal dysplasia (Ellis–van Creveld syndrome) *J Dent Child 47:28–31, 1980*

Cyclopia *Syndromes of the Head and Neck, p.583, 1990*

Febrile systemic illness *Textbook of Neonatal Dermatology, p.477, 2001*

Gardner's syndrome – unerupted supernumerary teeth *JAAD 45:940–942, 2001*

Hallermann–Streiff (oculomandibular syndrome with hypotrichosis)

Hypovitaminosis *Textbook of Neonatal Dermatology, p.477, 2001*

Idiopathic or familial *Rook p.3049, 1998, Sixth Edition*

Natal teeth with patent ductus arteriosus and intestinal pseudo-obstruction *Clin Genet 9:479–482, 1976*

Pachyonychia congenita, Jadassohn Lewandowsky

Pallister–Hall syndrome (hypothalamic hamarblastoma) *Am J Med Genet 7:75–83, 1980*

Polychlorinated biphenyls – natal teeth, pigment anomalies *Textbook of Neonatal Dermatology, p.507, 2001*

Pyelitis during pregnancy *Textbook of Neonatal Dermatology, p.477, 2001*

Restrictive dermopathy *Ped Derm 20:25–27, 2003*

Short rib–polydactyly syndrome, type II (Majewski) *Am J Med Genet 14:115–123 m 1983*

Steatocystoma multiplex *J Craniofac Genet Dev Biol 7:311–317, 1987*

Syphilis, congenital *Textbook of Neonatal Dermatology, p.477, 2001*

Wiedemann–Rautenstrauch (neonatal progeroid syndrome) – generalized lipoatrophy, macrocephaly, premature aging, wide open sutures, hypoplasia of facial bones, low-set ears, beak shaped nose, neonatal teeth, slender limbs, large hands and feet with long fingers, large penis *J Med Genet 34:433–437, 1997*

Witkop tooth and nail syndrome *Ped Derm 13:63–64, 1996*

## PREMATURE LOSS OF TEETH

*Rook p.3049–3050, 1998, Sixth Edition*

Acrodynia

AIDS

Caries

Cockayne syndrome – caries *Ghatan p.267, 2002, Second Edition*

Congenital analgia *Syndromes of the Head and Neck, p.598, 1990*

Congenital atrichia, palmoplantar keratoderma, mental retardation, early loss of teeth *JAAD 30:893–898, 1994*

Cyclic neutropenia *Ped Derm 18:426–432, 2001; Am J Med 61:849–861, 1976*

Down's syndrome – periodontal disease; dental abnormalities *Ghatan p.267, 2002, Second Edition*

Ehlers–Danlos syndrome

Eosinophilic granuloma

Epidermolysis bullosa, recessive dystrophic – dental caries *Ped Derm 19:436–438, 2002;* dystrophic epidermolyosis bullosa inversa – flexural bullae, oral ulcers, dental caries, milia *Ped Derm 20:243–248, 2003*

Familial mandibuloacral dysplasia (craniomandibular dermatodysostosis) – onset at age 3–5 years; atrophy of skin over hands and feet with club shaped terminal phalanges and acro-osteolysis, mandibular dysplasia, delayed cranial suture closure, short stature, dysplastic clavicles, prominent eyes and sharp nose, alopecia, sharp nose, loss of lower teeth, multiple Wormian bones, acro-osteolysis *Ped Derm 22:75–78, 2005; BJD 105:719–723, 1981; Birth Defects x:99–105, 1974*

Haim–Munk syndrome – palmoplantar keratoderma, progressive periodontal destruction, pes plansu, recurrent pyogenic infections, arachnodactyly *BJD 77:42–54, 1965*

Hajdu–Cheney syndrome

Hypophosphatasia

Immune defects

Juvenile periodontitis

Langerhans cell histiocytosis *Curr Prob Derm 14:41–70, 2002*

Neutropenia

Papillon–Lefevre syndrome

Periodontal disease – destructive; rapidly progressive

Sclerodactyly, non-epidermolytic palmoplantar keratoderma, multiple cutaneous squamous cell carcinomas, periodontal disease with loss of teeth, hypogenitalism with hypospadius, altered sex hormone levels, hypertriglyceridemia, 46XX *JAAD 53:S234–239, 2005*

Trauma

Tumors

Woolly hair, alopecia, premature loss of teeth, nail dystrophy, reticulate acral hyperkeratosis, facial abnormalities *BJD 145:157–161, 2001*

## HYPODONTIA

Anhidrotic ectodermal dysplasia – defective dentition *J Med Genet 38:579–585, 2001; Am J Med Genet 53:153–162, 1994*

Autosomal dominant hypodontia with nail dysgenesis *Oral Surg 39:409–423, 1975*

Autosomal recessive ectodermal dysplasia *Birth Defects 24:205–207, 1988*

Book syndrome *Am J Hum Genet 2:240–263, 1950*

Borrone dermatocardioskeletal syndrome – autosomal recessive or X-linked; gingival hypertrophy, coarse facies, late eruption of teeth, loss of teeth, thick skin, acne conglobata, osteolysis, large joint flexion contractures, short stature, brachydactyly, camptodactyly, mitral valve prolapse, congestive heart failure *Ped Derm 18:534–536, 2001*

Cleft palate, stapes fixation, and oligodontia *Birth Defects 7:87–88, 1971*

Coffin–Lowry syndrome *J Pediatr 86:724–731, 1975*

Congenital hypertrichosis lanuginosa and dental anomalies *Clin Genet 10:303–306, 1976*

Cornelia de Lange syndrome – irregular teeth *JAAD 48:161–179, 2003*

Cranioectodermal dysplasia – shortened arms, fingers, toes, fine sparse hair *Ped Derm 18:332–335, 2001; J Pediatr 90:55–61, 1977*; *Birth Defects XI:372–379, 1975*

Craniofacial dysostosis – hypoplastic teeth *JAAD 48:161–179, 2003*

Curry–Hall syndrome – small conical teeth, short limbs, polydactyly, nail dysplasia *Am J Med Genet 17:579–583, 1984*

Dyskeratosis congenita – edentulous, extensive caries; widely separated, crowded, malformed teeth *Ghatan p.177, 2002, Second Edition*

Dysosteosclerosis – oligodontia *Birth Defects 11:349–351, 1975*

Ectrodactyly–ectodermal dysplasia–cleft lip/palate syndrome (EEC syndrome) – delayed eruption of teeth; p63 mutation; hypodontia, abnormal teeth *Ped Derm 20:113–118, 2003; BJD 146:216–220, 2002; Dermatologica 169:80–85, 1984*

Ehlers–Danlos syndrome type VIII – periodontitis, loss of permanent teeth by second or third decade *Ghatan p.177, 2002, Second Edition*

Ellis–van Creveld syndrome (chondroplastic dwarf with defective teeth and nails, and polydactyly) – autosomal recessive; chondrodysplasia, polydactyly, peg-shaped teeth or

hypodontia, short upper lip bound down by multiple frenulae; nail dystrophy, hair may be normal or sparse and brittle; cardiac defects; ichthyosis, palmoplantar keratoderma *Ped Derm 18:485–489, 2001; J Med Genet 17:349–356, 1980; J Dent Child 47:28–31, 1980; Arch Dis Child 15:65–84, 1940*

FG syndrome (unusual facies, mental retardation, congenital hypotonia, imperforate anus) *Am J Med Genet 19:383–386, 1984*

Frontometaphyseal dysplasia – oligodontia *Radiol Clin North Am 10:225–243, 1972*

GAPO (growth retardation, alopecia, pseudoanodontia, optic atrophy) – frontal bossing, midface hypoplasia *Birth Defects 24:205–207, 1988*

Goltz's syndrome

Hair–nail–skin–teeth dysplasias (dermo-odonto-dysplasia, pilo-dento-ungular dysplasia, odonto-onycho-dermal dysplasia, odonto-onychial dysplasia, tricho-dermo-sysplasia with dental alterations) *Am J Med Genet 14:335–346, 1983*

Hallermann–Streiff syndrome – partial anodontia, short stature, atrophy and telangiectasia of central face, parrot-like appearance, microphthalmia, cataracts, high-arched palate, small mouth, sutural alopecia *JAAD 50:644, 2004*

Hay–Wells syndrome (AEC syndrome) *BJD 94:277–289, 1976*

Hemimaxillofacial dysplasia (segmental odontomaxillary dysplasia) (HATS – hemimaxillary enlargement, asymmetry of face, skin findings) – facial asymmetry, hypertrichosis of the face, unilateral maxillary enlargement, partial anodontia, delayed eruption of teeth, gingival thickening of affected segment, Becker's nevus, hairy nevus (hypertrichosis), lip hypopigmentation, depression of cheek, erythema, hypoplastic teeth *Ped Derm 21:448–451, 2004; JAAD 48:161–179, 2003; Oral Surg Oral Med Oral Pathol 64:445–448, 1987*

Hypodontia, sensorineural hearing loss and dizziness *Arch Otolaryngol 104:292–293, 1978*

Hypodontia, taurodontism, sparse hair *Birth Defects 11:39–50, 1975; Oral Surg 33:841–845, 1972*

Hypoglossia–hypodactylia *Syndromes of the Head and Neck, p.666–670, 1990*

Hypohidrotic ectodermal dysplasia *Helv Paediatr Acta 11:604–639, 1956*

Hypomelanosis of Ito – anodontia, dental dysplasia *Ghatan p.267, 2002, Second Edition*

Kindler's syndrome – severe periodontitis with premature loss of teeth *AD 140:939–944, 2004*

Incontinentia pigmenti – pegged, conical teeth; partial anodontia; delayed dentition *JAAD 47:169–187, 2002; J Pediatr 576:78–85, 1960*

Jakac–Wolf syndrome – palmoplantar keratoderma with squamous cell carcinoma, gingival dental anomalies, hyperhidrosis *JAAD 53:S234–239, 2005*

Johanson–Blizzard syndrome – hypodontia, microcephaly, hypoplastic alae nasi, hearing loss, pancreatic dysfunction, mental retardation *Birth Defects 24:205–207, 1988*

KID syndrome – dental abnormalities *Ped Derm 19:232–236, 2002*

LADD syndrome *Eur J Pediatr 146:536–537, 1987*

Microcephaly, short stature, characteristic facies – oligodontia *Syndromes of the Head and Neck, p.871–872, 1990*

Monosuperocentroincisivodontic dwarfism *J Pediatr 91:924–928, 1977*

Mulvihill–Smith syndrome (premature aging, multiple nevi, mental retardation) – oligodontia *J Med Genet 31:707–711, 1994; J Med Genet 25:53–56, 1988*

Nevus sebaceous syndrome (Schimmelpenning–Feuerstein–Mims syndrome) – anodontia, dysodontia *JAAD 52:S62–64, 2005; Ped Derm 13:22–24, 1996; Int J Oral Maxillofac Surg 12:437–443, 1983*

Oligodontia, keratitis, skin ulceration and arthroosteolysis *Am J Med Genet 15:205–210, 1983*

Otodental dysplasia *Clin Genet 8:136–144, 1975*

Pili torti, defective teeth, webbed fingers *JAAD 46:301–303, 2002*

Pili torti, enamel hypoplasia syndrome – keratosis pilaris, dry fair hair, enamel hypoplasia, widely spaced abnormal teeth *BJD 145:157–161, 2001*

Pseudoacromegaly – autosomal recessive; skin ulcers, arthro-osteolysis, keratitis, oligodontia *Am J Med Genet 15:205–210, 1983*

Rapp–Hodgkin syndrome *J Med Genet 5:269–272, 1968*

Reticulolinear aplasia cutis congenita of the face and neck – Xp deletion syndrome, MIDAS (microphthalmia, dermal aplasia, sclerocornea), MLS (microphthalmia and linear skin defects), and Gazali–Temple syndrome; lethal in males; residual facial scarring in females, short stature, organ malformations *BJD 138:1046–1052, 1998*

Rieger syndrome – hypodontia and primary mesodermal dysgenesis of the iris *Trans Am Ophthalmol Soc 81:736–784, 1983*

Rutherfurd syndrome – autosomal dominant; gum hypertrophy, failure of tooth eruption, corneal opacities, mental retardation, aggressive behavior *Ped Derm 18:534–536, 2001*

Schopf–Schulz–Passarge syndrome (hypotrichosis, palmoplantar hyperkeratosis, apocrine hidrocystomas of eyelid margins) – oligodontia *AD 140:231–236, 2004; JAAD 10:922–925, 1984*

Trichodental syndrome – fine short hair, madurosis *BJD 116:259–263, 1987*

Trichodento-osseous syndrome – curly hair, sclerotic cortical bone, thin dental enamel, unerupted teeth *Oral Surg 77:487–493, 1994*

Tuomaala–Haapanen syndrome (brachymetapody, anodontia, hypotrichosis, albinoid trait) *Acta Ophthalmol 46:365–371, 1968*

Waardenburg syndrome – caries *Ghatan p.267, 2002, Second Edition*

Witkop tooth–nail syndrome – hypodontia with nail dysgenesis *Oral Surg 37:576–582, 1974*

X-linked anhidrotic ectodermal dysplasia *Birth Defects 24:205–207, 1988*

## OTHER DENTAL ANOMALIES

Actinomycosis – carous teeth; dental abscess *Ghatan p.177, 2002, Second Edition*

Albright's hereditary osteodystrophy (pseudohypoparathyroidism) – defective teeth *Ergeb Inn Med Kinderheilkd 42:191–221, 1979*

Apert's syndrome – delayed dental development and malocclusion *Ghatan p.177, 2002, Second Edition*

Dentinogenesis imperfecta

Elejalde syndrome (neuroectodermal (neurocutaneous) – melanolysosomal disease) – silvery hair, central nervous system dysfunction; hypotonic facies, plagiocephaly, micrognathia, crowded teeth, narrow high palate, pectus excavatum, cryptorchidism *JAAD 38:295–300, 1998*

Familial partial lipodystrophy, mandibuloacral dysplasia variety – autosomal recessive; short stature, high pitched voice, mandibular and clavicular hypoplasia, dental anomalies, acro-osteolysis, stiff doints, cutaneous atrophy, alopecia, nail dysplasia *Am J Med 108:143–152, 2000*

Finlay–Marks syndrome (scalp–ear–nipple syndrome) – nipple or breast hypoplasia or aplasia, aplasia cutis congenita of scalp,

abnormal ears and teeth, nail dystrophy, syndactyly, reduced apocrine secretion *Bolognia p.924, 2003*

Gardner's syndrome – supernumerary teeth *Ghatan p.267, 2002, Second Edition*

Hidrotic ectodermal dysplasia – 'tiger teeth' *Ghatan p.267, 2002, Second Edition*

Hunter's syndrome – widely spaced teeth; reticulated 2–10-mm skin-colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – enamel dysplasia; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; beefy red tongue and gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; Ped Derm 12:195, 1995; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Incontinentia pigmenti – anomalous crowns with extra cusps; supernumerary teeth *JAAD 47:169–187, 2002*

Jackli syndrome – generalized reticulated hyperpigmentation with alopecia, microdontia, and childhood cataracts

Job's syndrome (hyperimmunoglobulin E syndrome) – retention of primary teeth with double rows of teeth; deep-set eyes, broad nasal bridge, wide fleshy nasal tip, prognathism, ocular hypertelorism *Clin Inf Dis 34:1213–1214,1267–1268, 2002; JAAD S268–269, 2002; Pediatr 141:572–575, 2002; Curr Prob Derm 10:41–92, 1998*

Keratosis–ichthysosis–deafness (KID) syndrome – abnormal teeth *Ped Derm 19:513–516, 2002*

Minocycline – gray teeth *Ghatan p.267, 2002, Second Edition*

Naegeli–Franceschetti–Jadassohn syndrome – autosomal dominant; reticulate gray to brown pigmentation of neck, upper trunk and flexures, punctate or diffuse palmoplantar keratoderma, hypohidrosis with heat intolerance, onycholysis, subungual hyperkeratosis, yellow tooth enamel *Ped Derm 22:122–126, 2005; JAAD 28:942–950, 1993*

Oculodentodigital dysplasia – autosomal dominant; enamel hypoplasia

Oral–facial–digital syndrome type I (Papillon–Leage syndrome) – X-linked dominant; dental caries with widely spaced teeth; short upper lip, hypoplastic alanasi, hooked pug nose, hypertrophied labial frenulae, bifid or multilobed tongue with small tumors within clefts, clefting of hard and soft palate, trident hand or brachydactyly, syndactyly, or polydactyly; hair dry and brittle, alopecic, numerous milia of face, ears, backs of hands, mental retardation *Ped Derm 9:52–56, 1992*

Osteogenesis imperfecta

Porphyria – congenital erythropoietic porphyria – erythrodontia

Rabson–Mendenhall syndrome – insulin-resistant diabetes mellitus, unusual facies, dental precocity, fissured tongue, hypertrichosis, acanthosis nigricans, and premature sexual development *Ped Derm 19:267–270, 2002*

Rapp–Hodgkin hypohidrotic ectodermal dysplasia – autosomal dominant; alopecia of wide area of scalp in frontal to crown area, short eyebrows and eyelashes, coarse wiry sparse hypopigmented scalp hair, sparse body hair, scalp dermatitis, ankyloblepharon, syndactyly, nipple anomalies, cleft lip and/or palate; nails narrow and dystrophic, small stature, hypospadius, conical teeth and anodontia or hypodontia; distinctive facies, short stature *JAAD 53:729–735, 2005; Ped Derm 7:126–131, 1990; J Med Genet 15:269–272, 1968*

Rothmund–Thomson syndrome – dental dysplasia *Ghatan p.267, 2002, Second Edition*

SHORT syndrome – short stature, hyperextensible joints, ocular depression, Reiger (ocular and dental) anomaly, teething delay, loss of subcutaneous fat of face, upper extremities, chest and Sjögren–Larsson syndrome – autosomal recessive; enamel dysplasia; serrated teeth *Ghatan p.177, 2002, Second Edition*

Syphilis, congenital – Hutchinson's incisors, mulberry molars

Tetracycline – discoloration of teeth

Tuberous sclerosis – enamel pits *JAAD 49:163–166, 2003; Ghatan p.267, 2002, Second Edition*

# TELANGIECTASIAS

## CONGENITAL AND/OR GENETIC SYNDROMES WITH TELANGIECTASIAS

Acrogeria (Gottron's syndrome) – micrognathia, atrophy of tip of nose, atrophic skin of distal extremities with telangiectasia, easy bruising, mottled pigmentation or poikiloderma of extremities, dystrophic nails *BJD 103:213–223, 1980*

Amyoplasia congenita disruptive sequence – mid-facial macular telangiectatic nevi *Am J Med Genet 15:571–590, 1983*

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive; *NEJM 276:1163–1167, 1967;* fucosidosis ($\alpha_1$-fucosidase) *AD 107:754–757, 1973;* Kanzaki's disease ($\alpha$-*N*-acetylgalactosidase) – telangiectasias on lips, intraorally *AD 129:460–465, 1993*; aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991;* adult-onset GM1 gangliosidosis (beta galactosidase) *Clin Genet 17:21–26, 1980;* galactosialidosis (combined $\beta$-galactosidase and sialidase) *AD 120:1344–1346, 1984;* no enzyme deficiency – telangiectasias or small angiokeratomas *AD 123:1125–1127, 1987; JAAD 12:885–886, 1985*

Arteriovenous fistulae – congenital; red pulsating nodules with overlying telangiectasia – extremities, head, neck, trunk *Rook p.2237, 1998, Sixth Edition*

Ataxia telangiectasia (Louis–Bar syndrome) – telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *Rook p.2095,1998, Sixth Edition; JAAD 10:431–438, 1984; Ann Intern Med 99:367–379, 1983*

Benign familial telangiectasias

Bloom's syndrome (congenital telangiectatic erythema and stunted growth) – autosomal recessive; slender face, prominent nose; facial telangiectatic erythema with involvement of eyelids, ear, hand and forearms; bulbar conjunctival telangiectasias; stunted growth; CALMs, clinodactyly, syndactyly, congenital heart disease, annular pancreas, high-pitched voice, testicular atrophy; no neurologic deficits *Ped Derm 22:147–150, 2005; Am J Hum Genet 21:196–227, 1969; AD 94:687–694, 1966; Am J Dis Child 88:754–758, 1954*

Circumareolar telangiectasia, congenital *AD 126:1656, 1990*

Coats' disease – cutaneous telangiectasia or unilateral macular telangiectatic nevus with retinal telangiectasia *AD 108:413–415, 1973*

Cockayne's syndrome – autosomal recessive; short stature, facial erythema in butterfly distribution leading to mottled pigmentation and atrophic scars, premature aged appearance with loss of subcutaneous fat and sunken eyes, canities, mental deficiency, photosensitivity, disproportionately large hands, feet, and ears, ocular defects, demyelination *J Med Genet 18:288–293, 1981*

Congenital hemangioma of eccrine sweat glands *Ped Derm 10:341–343, 1993*

Congenital neuroangiopathies

Congenital poikiloderma

Cutis marmorata telangiectatica congenita – telangiecatasias may be prominent at birth *BJD 137:119–122, 1997; JAAD 20:1098–1104, 1989; AD 118:895–899, 1982*

Diffuse neonatal hemangiomatosis

Dyskeratosis congenita *JAAD 6:1034–1039, 1982*

Essential progressive telangiectasia

Fabry's disease – linear perioral telangiectasia *AD 126:1544–1545, 1990;* telangiectasis of axillae and upper chest *JAAD 46:161–183, 2002*

Fanconi's anemia

Fucosidosis *J Pediatr 84:727–780, 1974;* with angiokeratoma corporis diffusum on telangiectatic background *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.198, 1998*

Generalized essential telangiectasia – familial or acquired *Cutis 75:223–224, 2005; Rook p.2096, 1998, Sixth Edition; JAAD 37:321–325, 1997; JAMA 185:909–913, 1963*

Gingival and labial telangiectasia *Syndromes of the Head and Neck, p.119, 1990*

Goltz's syndrome

Hallermann–Streiff syndrome

Hemochromatosis – spider telangiectasias *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hereditary acrolabial telangiectasia – blue lips, blue nails, blue nipples, telangiectasia of the chest, elbows, knees, feet, dorsa of hands, varicosities of the legs, migraine headaches *AD 115:474–478, 1979*

Hereditary benign telangiectasia – autosomal dominant; lips, neck, trunk, arms, hands, and knees *Ped Derm 6:194–197, 1989; Trans St John's Hosp Dermatol Soc 57:148–156, 1971*

Hereditary hemorrhagic telangiectasia (Osler–Weber–Rendu disease) *Rook p.2091, 1998, Sixth Edition; Am J Med 82:989–997, 1987;* gingival, oral telangiectasia *Oral Surg 66:440–444, 1988*

Homocystinuria

I-cell disease (mucolipidosis II) – puffy eyelids; small orbits, prominent eyes, fullness of lower cheeks; small telangiectasias; fish-mouth appearance, short neck; gingival hypertrophy *Textbook of Neonatal Dermatology, p.446, 2001; Clin Genet 23:155–159, 1983; Am J Med Genet 9:239–253, 1981; Birth Defects 5:174–185, 1969*

Incontinentia pigmenti – linear and macular telangiectasias *Dermatol Wochenschr 153:489–496, 1967*

Klinefelter variants – macular telangiectatic vascular nevi *J Urol 119:103–106, 1978*

Klippel–Trenaunay–Weber syndrome *Syndromes of the Head and Neck, p.380, 1990*

Lethal multiple pterygium syndrome – mid-facial macular telangiectatic nevi *Am J Med Genet 12:377–409, 1982*

Linear telangiectatic erythema and mild atrophoderma *Cutis 39:69–70, 1987*

Maffucci's syndrome

Morquio's syndrome *Rook p.2625, 1998, Sixth Edition*

Multiple endocrine neoplasia syndrome (MEN I) – telangiectasias on face and lips *AD 133:853–857, 1997*

Non-involuting congenital hemangioma (NICH) – warm high-flow lesion with coarse telangiectasias over surface; less commonly ulcerated *Plast Reconstr Surg 107:1647–1654, 2001*

Nevus araneus (spider telangiectasia)

Nevus flammeus

Odonto-onycho-dermal dysplasia – telangiectatic atrophic patches of face, sparse hair, conical teeth, hyperkeratosis of palms and soles, dystrophic nails *Am J Med Genet 14:335–346, 1983*

Pre-auricular skin defects *AD 133:1551–1554, 1997*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996*; *JAAD 29:819–821, 1993; AD 127:124–125, 1991; AD 123:493–497, 1987*

Rapidly involuting congenital hemangioma (RICH) – palpable tumor with pale rim, coarse overlying telangiectasia with central depression or ulcer; *Ped Dev Pathol 6:495–510, 2003; Ped Derm 19:5–11, 2002*

Rombo syndrome – acral erythema, cyanotic redness, follicular atrophy (atrophoderma vermiculata), milia-like papules, telangiectasias, red ears with telangiectasia, thin eyebrows, sparse beard hair, basal cell carcinomas, short stature *BJD 144:1215–1218, 2001*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive *Am J Med Genet 22:102:11–17, 2001; Ped Derm 18:210212, 2001; Ped Derm 16:59–61, 1999; Dermatol Clin 13:143–150, 1995; JAAD 27:75–762, 1992*

Schinzel–Giedion syndrome – autosomal recessive; ectodermal dysplasia; midface retraction, hirsutism, telangiectasias of nose and cheeks, skeletal anomalies, mental retardation *Hum Genet 62:382, 1982; Am J Med Genet 1:361–375, 1978*

Short arm 4 deletion syndrome – macular telangiectatic vascular nevi *Am J Dis Child 122:421–425, 1971*

Sturge–Weber syndrome

Telangiectasias, spondyloepiphyseal dysplasia, hypothyroidism, neovascularization, and tractional retinal detachments *Ped Derm 6:178–184, 1989*

Trichothiodystrophy syndromes – BIDS, IBIDS, PIBIDS – telangiectasias, sparse or absent eyelashes and eyebrows, brittle hair, premature aging, sexual immaturity, ichthyosis, dysmyelination, bird-like facies, dental caries; trichothiodystrophy with ichthyosis, urologic malformations, hypercalciuria and mental and physical retardation *JAAD 44:891–920, 2001; Ped Derm 14:441–445, 1997*

Unilateral nevoid telangiectasia *Rook p.2091, 1998, Sixth Edition*

Vascular malformations, congenital

Vascular nevi *Rook p.2091, 1998, Sixth Edition*

Von Hippel–Lindau disease – macular telangiectatic nevi, facial or occipitocervical; retinal angiomatosis, cerebellar or medullary or spinal hemangioblastoma, renal cell carcinoma. Pheochromocytoma, café au lait macules *Arch Intern Med 136:769–777, 1976*

Werner's syndrome

Wyburn–Mason (Bonnet–Duchaume–Blanc) syndrome – unilateral salmon patch with punctate telangiectasias or port wine stain; unilateral retinal arteriovenous malformation,

ipsilateral aneurysmal arteriovenous malformation of the brain *Am J Ophthalmol 75:224–291, 1973*

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

XXYY syndrome – macular telangiectatic vascular nevi *AD 94:695–698, 1966*

# TELANGIECTASIAS – ACQUIRED DISORDERS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis

Lupus erythematosus – systemic lupus – reticulated telangiectatic erythema of thenar and hypothenar eminences, finger pulps, toes, lateral feet, and heels; bluish red with small white scars *Rook p.2473, 1998, Sixth Edition;* systemic, discoid, neonatal LE – facial telangiectasia *Ped Derm 10:177–178, 1993;* discoid lupus – facial, periungual and fingertip telangiectasias *Rook p.2452, 1998, Sixth Edition;* tumid lupus (lupus erythematosus telangiectoides) – reticulate telangiectasias of face, neck, ears, hands, breasts, heels, sides of feet; punctate atrophy *JAAD 41:250–253, 1999; Rook p.2447, 1998, Sixth Edition;* subacute cutaneous lupus erythematosus – annular and polycyclic lesions resolve with hypopigmentation and telangiectasias *Dermatology 200:6–10, 2000; Med Clin North Am 73:1073–1090, 1989; JAAD 19:1957–1062, 1988*

Mixed connective tissue disease

Morphea *Rook p.2504–2508, 1998, Sixth Edition*

Rheumatoid arthritis – periungual telangiectasias; spider telangiectasias *Ghatan p.153, 2002, Second Edition*

Scleroderma – telangiectatic mats of face, palms, back of hands, soles, upper trunk, lips, tongue, mouth *Rook p.2528, 1998, Sixth Edition;* gingival telangiectasia *Rook p.3057, 1998, Sixth Edition;* CREST syndrome

## DRUGS

Amlodipine – photo-induced telangiectasia *BJD 142:1255–1256, 2000*

Bleomycin – scaly linear erythema of dorsa of hands with atrophy and telangiectasia (dermatomyositis-like) *JAAD 48:439–441, 2003*

BCNU (carmustine)-treated cutaneous T-cell lymphoma *JAAD 46:325–357, 2002*

Calcium channel blockers – felodipine, nifedipine, amlodipine, diltiazem – photodistributed telangiectasias *JAAD 45:323–324, 2001; BJD 136:974–975, 1997*

Corticosteroids – systemic, topical *Rook p.2006–2007,3550, 1998, Sixth Edition; AD 126:1013–1014, 1990;* oral, inhaled, topical-induced acne rosacea – papules, pustules, atrophy, telangiectasia *Clin Exp Dermatol 18:148–150, 1993; AD Forsch 247:29–52, 1973*

Estrogen therapy

Felodipine-induced photodistributed facial telangiectasia *JAAD 45:323–324, 2001*

Interferon-$\alpha$ *JAAD 37:118–120, 1997*

Nifedipine – photodistributed facial telangiectasia *BJD 129:630–633, 1993*

## EXOGENOUS AGENTS

Aluminum plant workers – mat-like telangiectasias of upper back *NEJM 303:1278–1281, 1980*

Reticular telangiectatic erythema associated with implantable cardioverter defibrillator *AD 137:1239–1241, 2001;* overlying intrathecal pump *Soc Ped Derm Annual Meeting, July 2005; AD 141:106–107, 2005*

## INFECTIONS

AIDS – chest wall *Ann Intern Med 105:679–682, 1986;* periungual *Int J Dermatol 34:199–200, 1995;* neck, arms, shoulders *Tyring p.359, 2002*

Echovirus 23,32 – telangiectatic macular lesions *Pediatrics 44:498–502, 1969*

Hepatitis C infection – unilateral nevoid telangiectasia *JAAD 36:819–822, 1997*

Leprosy – Lucio's phenomenon – widespread telangiectasias *Rook p.1225, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Telangiectasia macularis eruptiva perstans (mastocytosis) *AD 124:429–434, 1988; JAAD 7:709–722, 1982*

## INFLAMMATORY DISEASES

Sarcoidosis – angiolupoid sarcoid – orange–red, reddish–brown nodules with marked telangiectasia *Rook p.2687, 1998, Sixth Edition;* lupus pernio *Rook p.2108, 1998, Sixth Edition*

## METABOLIC DISEASES

Carcinoid syndrome – flushing, patchy cyanosis, hyperpigmentation, telangiectasia, pellagrous dermatitis, salivation, lacrimation, abdominal cramping, wheezing, diarrhea *AD 77:86–90, 1958*

Cushing's disease *Semin Dermatol 3:287–294, 1984*

Hyperviscosity syndrome – spider telangiectasias *AD 128:860, 1992*

Hyperthyroidism, thyrotoxicosis – spider telangiectasias *Ghatan p.153, p.166, 2002, Second Edition*

Hypothyroidism – punctate telangiectasias of arms and fingertips *Rook p.2708, 1998, Sixth Edition*

Liver disease, chronic – spider telangiectasias *Rook p.2724, 1998, Sixth Edition*

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Polycythemia vera

Pregnancy – spider telangiectasias *JAAD 6:977–998, 1982*

Primary biliary cirrhosis – gingival telangiectasia *Rook p.3057, 1998, Sixth Edition*

## NEOPLASTIC DISEASES

Actinic keratosis *Rook p.1671, 1998, Sixth Edition*

Atrial myxoma *Cutis 62:275–280, 1998; JAAD 32:881–883, 1995; JAAD 21:1080–1084, 1989*

Basal cell carcinoma

Carcinoid, metastatic – unilateral nevoid telangiectasia *BJD 124:86–88, 1991;* foregut (stomach, lung, pancreas) – bright red geographic flush, sustained, with burning, lacrimation, wheezing, sweating; hindgut (ileal) – patchy, violaceous, intermixed with pallor, short duration *Rook p.2101, 1998, Sixth Edition;* edema, telangiectasia, cyanotic nose and face, rosacea *Acta DV (Stockh) 41:264–276, 1961*

Carcinoma telangiectoides *Rook p.2371, 1998, Sixth Edition; Cancer 19:162–168, 1966*

Lymphoma – angiotropic B-cell lymphoma *JAAD S260–262, 2002;* intravascular B-cell lymphoma (malignant angioendotheliomatosis) – red plaques with telangiectasias *Cutis 72:137–140, 2003*

Malignant myopericytoma *AD 141:1311–1316, 2005*

Plasmacytosis, systemic *JAAD 38:629–631, 1998*

## PARANEOPLASTIC DISORDERS

Telangiectasia of face and hands – paraneoplastic finding associated with bronchogenic carcinoma *BJD (Suppl 68):17, 2004*

## PHOTODERMATOSES

Dermatoheliosis – face, ears *Rook p.3016, 1998, Sixth Edition*

Poikiloderma of Civatte

## PRIMARY CUTANEOUS DISORDERS

Acne rosacea *Rook p.2104–2110, 1998, Sixth Edition*

Costal fringe telangiectasias *AD 127:1201–1202, 1991*

Lichen sclerosus et atrophicus – of glabrous skin; of glans penis *JAAD 38:831–833, 1998; Rook p.2549–2551, 1998, Sixth Edition*

Mid-dermal elastolysis *JAAD 51:165–185, 2004*

Poikiloderma vasculare atrophicans

Rosacea *Rook p.2091, 1998, Sixth Edition*

## SYNDROMES

Keratosis follicularis spinulosa decalvans – facial telangiectasia *JAAD 53:1–37, 2005*

Phakomatosis spilorosea (form of phakomatosis pigmentovascularis) – nevus spilus with a telangiectatic nevus *AD 141:385–388, 2005*

Phakomatosis cesiomarmorata – Mongolian spot and cutis marmorata telangiectatica congenita *AD 141:385–388, 2005*

Pseudoxanthoma elasticum

Reflex sympathetic dystrophy *AD 127:1541–1544, 1991*

Xeroderma pigmentosum

## TOXINS

Aluminum foundry workers *Ghatan p.21, 2002, Second Edition*

Vinyl chloride exposure – telangiectasias of face; thick skin of hands, face, and trunk *AD 106:219–223, 1972*

## TRAUMA

*Rook p.2091, 1998, Sixth Edition*

Actinic damage

Post-surgical sternal erythema – red patch with telangiectasia *JAAD 53:893–896, 2005*

Physical trauma

Post-surgical

Radiodermatitis – chronic radiodermatitis; gingival telangiectasia *Rook p.3057, 1998, Sixth Edition*

## VASCULAR DISORDERS

Angiomas

Angiokeratoma *Rook p.2091, 1998, Sixth Edition*

Angioma serpiginosum – red or purple punctae within background of erythema; serpiginous pattern *Rook p.2092–2093, 1998, Sixth Edition; JAAD 37:887–920, 1997; AD 92:613–620, 1965*

Arborizing telangiectasia – thighs and calves *Rook p.2092, 1998, Sixth Edition*

Arteriovenous fistulae – acquired; red pulsating nodules with overlying telangiectasia – extremities, head, neck, trunk *Rook p.2237, 1998, Sixth Edition*

Atrophie blanche (livedo with ulceration) – ivory white plaque of sclerosis with stippled telangiectasias and surrounding hyperpigmentation; venous insufficiency, thalassemia minor *Acta DV (Stockh) 50:125–128, 1970;* cryoglobulinemia, systemic lupus erythematosus, scleroderma *Rook p.2216, 2249, 1998, Sixth Edition; JAAD 8:792–798, 1983; AD 119:963–969, 1983*

Degos' disease (malignant atrophic papulosis) – porcelain white scar surrounded by rim of erythema and telangiectasia *JAAD 37:480–484, 1997; AD 122:90–91,93–94, 1986; BJD 100:21–36, 1979; Ann DV 79:410–417, 1954*

Disseminated neonatal hemangiomatosis

Emboli – from cardiac myxomas *BJD 147:379–382, 2002*

Generalized essential telangiectasia

Hemangiomas, proliferative – telangiectatic macules present at birth or in early infancy *JAAD 48:477–493, 2003; Cutis 66:325–328, 2000;* involuted hemangiomas – atrophy, telangiectasia, redundant skin *JAAD 48:477–493, 2003; Rook p.554, 1998, Sixth Edition*

Kaposiform hemangioendothelioma – tender telangiectatic plaque or multiple telangiectatic papules *JAAD 38:799–802, 1998*

Malignant angioendotheliomatosis (intravascular lymphomatosis) – purpuric papules, plaques, and nodules with overlying telangiectasias *AD 128:255, 258, 2003; JAAD 18:407–412, 1988* (angiotropic B-cell lymphoma) – red to purple nodules and plaques on trunk and extremities with prominent overlying telangiectasias *AD 128:255–260, 1992*

Nevus flammeus

Non-involuting congenital hemangioma – round to ovoid pink to purple papule or plaque with central or peripheral pallor, coarse telangiectasias *JAAD 50:875–882, 2004*

Progressive ascending telangiectasia

Purpura annularis telangiectoides (Majocchi's pigmented purpuric eruption) *Rook p.2149–2151, 1998, Sixth Edition; Dermatologica 140:45–53, 1970*

Rapidly involuting congenital hemangioma – large violaceous gray-blue nodule of scalp with overlying telangiectasia *Soc Ped Derm Annual Meeting, 2005*

Raynaud's disease – face and mucous membranes *Rook p.2091, 1998, Sixth Edition*

Spider telangiectasias (nevus araneus) – childhood, liver disease, actinic damage *Rook p.2096–2097, 1998, Sixth Edition; Pediatrics 33:227–232, 1964*

Sunburst varicosities and telangiectasia (arborizing telangiectasia) – thighs and calves *J Derm Surg Oncol 15:184–190, 1989*

Unilateral nevoid telangiectasia *JAAD 37:523–549, 1997; JAAD 8:468–477, 1983*

Varicose veins *Rook p.2091, 1998, Sixth Edition*

Vascular malformations

# TONGUE, ENLARGED (MACROGLOSSIA)

## TRUE MACROGLOSSIA

TRUE MACROGLOSSIA – primary muscular hypertrophy of the tongue (when histologic findings correlate with clinical evidence of an enlarged tongue) *Ped Derm 20:361–363, 2003; Plastic and Reconstructive Surgery 78:715–723, 1986; Laryngoscope 86:291–296, 1976; Arch Otolaryngol 93:378–383, 1971*

## CONGENITAL

Angelman syndrome ('happy puppet syndrome') *Acta Paediatr Scand 73:398–402, 1984*

Angioma *Rook p.3117, 1998, Sixth Edition*

Beckwith–Wiedemann syndrome (exomphalos–macroglossia–gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macroglossia (rhabdomyomas), hemihypertrophy of muscle fibers, visceromegaly, facial salmon patch of forehead, upper eyelids, nose, and upper lip and gigantism; linear earlobe grooves, circular depressions of helices; increased risk of Wilms' tumor, adrenal carcinoma, hepatoblastoma, and rhabdomyosarcoma *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Congenital macroglossal angiodysplasia (lymphangioendotheliomatosis) *Arch Pathol Lab Med 124:1349–1351, 2000*

Congenital macroglossia – autosomal dominant *Genet Couns 5:151–154, 1994*

Cornelia de Lange syndrome

Costello syndrome *JAAD 32:904–907, 1995*

Cretinism (congenital hypothyroidism) – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 3119, 1998, Sixth Edition*

Dermoid cyst, including sublingual dermoid *Br J Oral Maxillofac Surg 37:58–60, 1999; Oral Surg Oral Med Oral Pathol 50:217–218, 1980*

Diffuse angiomatosis *Arch Otolaryng 93:83–89, 1971*

Down's syndrome (trisomy 21) *Rook p.3117, 1998, Sixth Edition; J Laryngol Otol 104:494–496, 1990*

Ehlers–Danlos syndrome

Ellis–van Creveld syndrome – hypertrophied frenulum *J Am Dent Assoc 77:1090–1095, 1968*

Endocrine disorders *Textbook of Neonatal Dermatology, p.480, 2001*

Fibrous hamartoma *Int J Pediatr Otorhinolaryngol 33:171–178, 1995*

Fucosidosis type II

Glycogen storage disease *Textbook of Neonatal Dermatology, p.480, 2001*

GM1 gangliosidosis type I – X-linked – gingival hypertrophy, macroglossia, coarse facies, micrognathia, loose skin, inguinal hernia, delayed growth, hepatosplenomegaly, neonatal hypotonia, delayed motor development *Ped Derm 18:534–536, 2001; Syndromes of the Head and Neck, p.118, 1990*

Goldenhaar syndrome (oculo-auriculo-vertebral syndrome) – macroglossia, preauricular tags, abnormal pinnae, facial asymmetry, macrostomia, epibulbar dermoids, facial weakness, central nervous system, renal, and skeletal anomalies

Granular cell tumor *Textbook of Neonatal Dermatology, p.480, 2001*

Hemangiolymphangiomas

Hemangiomas *Head Neck Surg 9:299–304, 1987*

Hemihyperplasia (congenital hemihypertrophy) *Am J Dis Child 120:372–373, 1970*

Hereditary angioedema – of retropharyngeal space in an adult *Am J Otolaryngol 20:136–138, 1999*

Hereditary gelsolin amyloidosis (AGel amyloidosis) – cutis laxa, corneal lattice dystrophy, cranial and peripheral polyneuropathy *BJD 152:250–257, 2005*

Hunter's syndrome (decreased sulfoiduronate sulfatase) – macroglossia; reticulated 2–10-mm skin-colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration, inguinal and umbilical hernias *Ped Derm 21:679–681, 2004; Ped Derm 15:370–373, 1998; Syndromes of the Head and Neck, p.101, 1990*

Hunter's polydystrophy *Int J Pediatr Otorhinolaryngol 44:273–278, 1998; Laryngoscope 97:280–285, 1987*

Hurler's syndrome *Acta Anaestheiol Sin 37:93–96, 1999*

Klippel–Trenaunay–Weber syndrome – hemihypertrophy *Oral Surg Oral Med Oral Pathol 63:208–215, 1987; Ann DV 114:665–669, 1987; Rev Stomatol Chir Maxillofac 87:320–326, 1986*

Lingual cyst – recurrent swelling in adult *J Oral Maxillofac Surg 59:908–912, 2001*

Lingual tonsil *Int J Pediatr Otorhinolaryngol 53:63–66, 2000; Am J Forensic Med Pathol 14:158–161, 1993*

Lingual thyroid *Thyroid 10:511–514, 2000*

Lymphangiomas *Oto Head Neck Surg 2001, April p.477–478*

Lymphatic malformation *J Pediatr Surg 31:1648–1650, 1996*

Malignant oncocytoma – base of tongue *J Otorhinolaryngol Relat Spec 62:104–108, 2000*

Mannosidosis – autosomal recessive; gingival hypertrophy, macroglossia, coarse features, prognathism, thick eyebrows, low anterior hairline, deafness, lens opacities, hepatosplenomegaly, recurrent repiratory tract infections, muscular hypotonia, mental retardation *Ped Derm 18:534–536, 2001*

Mucopolysaccharidoses (Hurler's, Hurler–Schei, Sanfilippo, Morquio, Maroteaux–Lamy, Sly syndromes) *Rook p.2624–2625, 1998, Sixth Edition; Syndromes of the Head and Neck, p.113, 1990*

Multiple endocrine neoplasia syndrome – type 2b *Int J Oral Maxillofac Surg 21:110–114, 1992*

Neurofibromatosis – usually unilateral macroglossia *J Laryngol Otol 101:743–745, 1987; Oral Surg Oral Med Oral Pathol 58:493–498, 1984; J Dent Child 47:255–260, 1980*

Opitz trigonocephaly syndrome (C syndrome) – multiple frenula *Birth Defects 5:161–166, 1969*

Oral–facial–digital syndrome

Plummer–Vinson syndrome – lymphangiomatous macroglossia with upper airway obstruction and sleep apnea *Oto Head Neck Surg 2001, April p.477–478*

Robinow syndrome (fetal face syndrome) *Textbook of Neonatal Dermatology, p.480, 2001*

Sanfilippo type IIIb mucopolysaccharidosis *Bull Group Int Rech Sci Stomatol Odontol 35:5–12, 1992*

Thyroglossal duct cyst *J Pediatr Surg 31:1574–1576, 1996*

Triploidy syndrome *Textbook of Neonatal Dermatology, p.480, 2001*

Trisomy 4p syndrome *Textbook of Neonatal Dermatology, p.480, 2001*

Complete trisomy 22 – primitive low-set ears, bilateral preauricular pit, broad nasal bridge, antimongoloid palpebral fissures, macroglossia, enlarged sublingual glands, cleft palate, micrognathia, clinodactyly of fifth fingers, hypoplastic fingernails, hypoplastic genitalia, short lower limbs, bilateral sandal gap, deep plantar furrows *Pediatrics 108:E32, 2001*

Vascular malformations *Textbook of Neonatal Dermatology, p.480, 2001*

## ACQUIRED

### *AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION*

Angioedema *Oral Dis 3:39–42, 1997; Dermatol Clin 3:85–95, 1985*

Contact urticaria – peanut butter *Contact Dermatitis 9:66–68, 1983*

Pemphigus vegetans *AD 121:1328–1329, 1985*

Pemphigus vulgaris *AD 121:1328, 1985*

Scleroderma *Rheumatologia 6:301–306, 1968*

### *DRUGS*

ACE-inhibitor induced angioedema *J Forensic Sci 46:1239–1243, 2001*

Mirtazapine *Med Clin Barcelona 115:78, 2000*

### *EXOGENOUS AGENTS*

Chewing on house plant (dieffenbachia) leaves containing calcium oxalate *Oral Surg Oral Med Oral Pathol 78:631–633, 1994*

### *INFECTIONS AND INFESTATIONS*

Abscess *Br Dent J 24:376–382, 1986*

Actinomycosis

Bacterial glossitis

Candidiasis – chronic mucocutaneous candidiasis *Annu Rev Med 32:491–497, 1981*

Cellulitis/erysipelas *Br Med J 300:24, 1990*

Histoplasmosis

Infection – chronic inflammation of 'scrotal' tongue

Leishmaniasis – post-kala-azar dermal leishmaniasis – in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1370,1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Leprosy – multilobulated tongue *Int J Leprosy 64:325–330, 1992*

*Mycobacterium tuberculosis* – tuberculosis *Cutis 60:201–202, 1997*

Syphilis – secondary *Oral Surg Oral Med Oral Pathol 45:540–542, 1978;* tertiary (gumma) (interstitial glossitis) *Rook p.1252, 1998, Sixth Edition*

Wasp/bee stings of the tongue *Oto Head Neck Surg 122:778, 2000*

### *INFILTRATIVE DISEASES*

Amyloidosis – primary systemic – myeloma, plasmacytomas *Postgrad Med J 64:696–698, 1988; Oral Surg 63:586–591, 1987; Clin Exp Dermatol 4:517–536, 1979;* dialysis-related amyloidosis – nodular macroglossia with combined light chain and $\beta_2$-microglobulin deposition *J Nephrol 14:128–131, 2001; Kidney Int 52:832–838, 1997*

Juvenile xanthogranuloma, giant *Am J Otolaryngol 20:241–244, 1999*

### *INFLAMMATORY DISEASES*

Crohn's disease – cobblestoning, pyostomatitis vegetans

Median rhomboid glossitis – tongue nodule *AD 135:593–598, 1999*

Sarcoidosis *Clin Exp Dermatol 17:47–48, 1992*

### *METABOLIC DISEASES*

Acromegaly *JAAD 42:511–513, 2000*

Adult onset acid maltase deficiency *Medicine 74:131, 1995*

Gigantism

Hypothyroidism, myxedema *Virchows Archives A Pathol Anat Histol 373:353–360, 1977*

Vitamin $B_{12}$ deficiency (pernicious anemia, sprue) – enlarged red tongue *AD 122:896–899, 1986*

### *NEOPLASTIC DISEASES*

Alveolar rhabdomyosarcoma – neonatal lesion with massive macroglossia *Soc Ped Derm Annual Meeting, July 2005*

Ectomesenchymal chondromyxoid tumor of the anterior tongue *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 82:417–422, 1996*

Embryonal rhabdomyosarcoma *Ped Derm 22:218–221, 2005*

Epidermoid carcinoma

Fibroma

Granular cell myoblastoma *Rook p.2364, 1998, Sixth Edition*

Kaposi's sarcoma

Keratoacanthomas, eruptive *JAAD 29:299–304, 1993*

Leiomyoma *Rook p.3115, 1998, Sixth Edition*

Leukemias – leukemic macrocheilitis *JAAD 14:353–358, 1986*

Lipoma – facial infiltrating lipomatosis *Plast Reconstr Surg 108:1544, 1554, 2001;* symmetric lipomatosis of the tongue *J Cranio Maxillo Facial Surg 21:298–301, 1993*

Lymphomas *Human Pathol 14:375–377, 1983*

Metastasis – rectal carcinoma *J Laryngol Otol 103:322–323, 1989*

Nerve sheath myxoma (neurothekoma) of the tongue *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:74–77, 2000*

Neurilemmoma (schwannoma) – nodule *Rook p.2363, 1998, Sixth Edition*

Neurinoma (sublingual) *Neuroradiology 20:87–90, 1980*

Neurofibromas *Textbook of Neonatal Dermatology, p.480, 2001*

Osteoma (osseous choristoma) *Br J Oral Surg 25:79–82, 1987*

Pleomorphic adenoma *J Laryngol Otol 114:793–795, 2000*

Rhabdomyoma *Br J Oral Surg 23:284–291, 1985; Oral Surg 48:525–531, 1979*

Squamous cell carcinoma *Rook p.3074–3076, 1998, Sixth Edition;* with lymphedema due to obstruction of lymphatics *Ghatan p.94, 2002, Second Edition*

Waldenström's macroglobulinemia

#### *PARANEOPLASTIC DISEASES*

Generalized malignant acanthosis nigricans *AD 115:201–202, 1979*

#### *PRIMARY CUTANEOUS DISEASES*

Acanthosis nigricans *Oral Surg 56:372–374, 1983*

Madelung's disease (benign symmetrical lipomatosis) *JAAD 42:511–513, 2000; J Craniomaxillfacial Surg 21:298–301, 1993*

Malacoplakia *J Otolaryngol 14:179–182, 1985*

Partial lipodystrophy, complement abnormalities, vasculitis – macroglossia, polyarthralgia, mononeuritis, hypertrophy of subcutaneous tissue *Ann DV 114:1083–1091, 1987*

Scleredema of Buschke *Hautarzt 49:48–54, 1998; JAAD 11:128–134, 1984*

#### *SYNDROMES*

Blue rubber bleb nevus syndrome – sublingual angiomas *Arch Neurol 38:784–785, 1981*

Facial edema with eosinophilia

Lipoid proteinosis – thickened tongue with thick sublingual frenulum *BJD 151:413–423, 2004; JID 120:345–350, 2003; Hum Molec Genet 11:833–840, 2002; Int J Derm 39:203–204, 2000; JAAD 39:149–171, 1998; Cutis 56:220–224, 1995; JAAD 27:293–297, 1992*

Melkersson–Rosenthal syndrome

Multicentric reticulohistiocytosis *JAAD 20:530–532, 1989*

Winchester syndrome – annular and serpiginous thickenings of skin; arthropathy, gargoyle-like face, gingival hypertrophy, macroglossia, osteolysis (multilayered symmetric restrictive banding), generalized hypertrichosis, very short stature, thickening and stiffness of skin with annular and serpiginous thickenings of skin, multiple subcutaneous nodules *JAAD 50:S53–56, 2004*

#### *TOXINS*

Lead toxicity

#### *TRAUMA*

Physical trauma

#### *VASCULAR DISORDERS*

Giant cell arteritis *J Rheumatol 15:1026–1028, 1988*

Hemangioma

Lymphangioma (including cystic hygroma) *Rook p.3066, 1998, Sixth Edition; Otolaryngol Head Neck Surg 90:283, 1982*

Lymphatic malformation *BJD 148:1279–1282, 2003*

Lymphatic obstruction

Pyogenic granuloma *Br J Oral Surg 24:376–382, 1986*

Superior vena cava obstruction

Venous malformation

### RELATIVE MACROGLOSSIA

(When histologic findings do not provide a pathologic explanation for an apparently enlarged tongue)

#### *CONGENITAL*

Angelman syndrome *Brain Dev 16:249–252, 1994*

Down's syndrome

Congenital hypothyroidism (cretinism)

#### *ACQUIRED*

Congenital macroglossia, idiopathic

Edentulous patients

Ludwig's angina (cellulitis/erysipelas) *Ear Nose Throat Journal 80:217–218;222–223, 2001*

Myxedema

Syphilis, tertiary – interstitital glossitis

Following operative correction of mandibular prognathism

### SOLITARY TONGUE NODULES

***Cutis 75:277, 2005***

Angiosarcoma

Granular cell schwannoma

Intramuscular hemangioma

Lipomas

Liposarcomas

Malignant endovascular papillary angioendothelioma (Dabska tumor)

Rhabdomyomas

Thyroglossal duct cysts

## TONGUE, HYPERPIGMENTATION

***Ped Derm 9:123–125, 1992***

Acanthosis nigricans *AD 115:201–202, 1979*

Addison's disease *Cutis 76:97–99, 2005*

AIDS (HIV disease) *Tyring p.371, 2002; Oral Surg Oral Med Oral Pathol 67:301–307, 1989*

Albright's syndrome

Amalgam tattoo *AD 136:427–428, 2000*

Antimalarials – plaquenil

AZT (azidothymidine) therapy *Am J Med 86:469–470, 1989*

Betel quid chewing *Cutis 71:307–311, 2003*

Bismuth subsalicylate tablets (Pepto–Bismol) – black tongue *AD 137:968–969, 2001*

Blue rubber bleb nevus syndrome – blue lesions

Brown or black hairy tongue *AD 77:97–103, 1958*

Cancer chemotherapy *South Med J 72:1615–1616, 1979*

Candidiasis *Ghatan p.93, 2002, Second Edition*

Carney complex (LAMB, NAME syndrome) *JAAD 10:72–82, 1984*

Clofazimine – in lepromatous leprosy

Congenital lingual melanotic macules *AD 139:767–770, 2003; Textbook of Neonatal Dermatology, p.480, 2001*

Crack cocaine smoking – black tongue *AD 137:968–969, 2001*

Doxorubicin

Dyskeratosis congenita *AD 133:97–98, 101, 1997*

Fixed drug eruption *Ped Derm 12:51–52, 1995*

Fungiform papillae, pigmented *AD 140:1275, 2004; AD 135:593–598, 1999; Cutis 58:410–412, 1996*

Green hairy tongue

Golden tongue syndrome – *Ramichloridium schulzeri AD 121:892–894, 1985*

Hemochromatosis

Interferon and ribavirin therapy *BJD 149:390–394, 2003*

Lanoprazole – black tongue *AD 137:968–969, 2001*

Laugier–Hunziker syndrome *JAAD 49:S143–145, 2003; J Eur Acad DV 12:171–173, 1999*

Lead

Lichen sclerosus et atrophicus

Melanocytic nevi *AD 139:767–770, 2003; Cancer 25:812–823, 1970*

Melanoma *AD 139:767–770, 2003; Cancer 25:812–823, 1970*

Melanotic macules of the tongue *JAAD 44:1048–1049, 2001; Ped Derm 9:123–125, 1992*

Mercury

Methyldopa – black tongue *AD 137:968–969, 2001; AD 136:427–428, 2000*

Minocycline *AD 136:427–428, 2000; Arch Fam Med 9:687–688, 2000;* black tongue *AD 137:968–969, 2001*

Neurofibromatosis Type I

Papillae, prominent pigmented *AD 95:394–396, 1967*

Peutz–Jegher's syndrome *Ann Plast Surg 36:394–397, 1996*

Physiologic melanin pigmentation *Ped Derm 9:123–125, 1992*

Racial variant – tip of tongue with isolated groups of pigmented filiform papillae *Cutis 69:215–217, 2002*

Relapsing fever – mustard tongue

Silver

Tobacco – black tongue *AD 137:968–969, 2001*

Tricyclic antidepressants *AD 136:427–428, 2000*

Vitamin $B_2$ (riboflavin) deficiency – smooth magenta tongue *Ped Derm 16:95–102, 1999*

Vitamin $B_{12}$ deficiency *Cutis 71:127–130, 2003*

# TONGUE, MULTILOBULATED

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Pemphigus vegetans (cerebriform tongue) *BJD 104:587–591, 1981*

## INFECTIONS AND INFESTATIONS

Abscess

Botryomycosis *Oral Surg 24:503–509, 1967*

*Candida* – chronic multifocal oral candidiasis (hyperplastic candidiasis, nodular candidosis)

Herpes simplex in acute myelogenous leukemia *JAAD 20:1125–1127, 1989*

Histoplasmosis in AIDS *Cutis 55:104–106, 1995*

Hydatid cyst (*Taenia echinococcus*)

Leishmaniasis – post-kala-azar dermal leishmaniasis – tongue nodules *Rook p.1370,1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Leprosy *Rook p.1224, 1998, Sixth Edition*

Syphilis – gumma; interstitial glossitis *Rook p.1252, 1998, Sixth Edition*

Yaws – gumma

## INFILTRATIVE DISEASES

Amyloidosis – primary systemic *AD 126:235–240, 1990; Postgrad Med J 64:696–698, 1988; Clin Exp Dermatol 4:517–536, 1979*

Lipoid proteinosis

Plasma cell orificial mucositis *AD 122:1321–1324, 1986*

## INFLAMMATORY DISEASE

Pyostomatitis vegetans

Sarcoid *Clin Exp Dermatol 17:47–48, 1992*

## METABOLIC

Acromegaly

Hypothyroidism (cretinism)

Mucopolysaccaridosis

Pernicious anemia

## NEOPLASTIC

Christoma, lingual

Ectomesenchymal chondromyxoid tumor of the anterior tongue *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 82:417–422, 1996; J Oral Pathol Med 25:456–458, 1996*

Christoma, lingual

Epidermal nevus

Granular cell tumor (schwannoma)

Kaposi's sarcoma

Keratoacanthomas, eruptive *JAAD 29:299–304, 1993*

Leukemia *JAAD 14:353–358, 1986*

Lymphoma, including cutaneous T-cell lymphoma *JAAD 22:569–577, 1990*

Neurilemmoma

Squamous cell carcinoma *JAAD 12:515–521, 1985*

Verrucous carcinoma

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans *Syndromes of the Head and Neck, p.355, 1990*

Angiolymphoid hyperplasia *JAAD 11:333–339, 1984*

Crenated tongue

Darier's disease

Fissured tongue

Hypertrophy of circumvallate, foliate, or fungiform papillae

### TRAUMA

Tension, scalloped tongue *JAAD 15:1289, 1986*

### SYNDROMES

Blue rubber bleb nevus syndrome

Cowden's syndrome – scrotal tongue *JAAD 11:1127–1141, 1984*

Down's syndrome – scrotal tongue *Rook p.3123, 1998, Sixth Edition*

Epidermal nevus syndrome

Focal epithelial hyperplasia (Heck's disease) *BJD 96:375–380, 1977*

Gardner's syndrome – multiple fibrous tumors

Goltz's syndrome

LAMB syndrome – myxoma *JAAD 10:72–82, 1984*

Maffucci's syndrome – multiple hemangiomas *BJD 99 (Suppl 16):31–33, 1978; J Bone Jt Surg 55A:1465–1479, 1973*

Melkersson–Rosenthal syndrome – scrotal tongue; orofacial edema; edema of cheeks, forehead, eyelids, scalp *Oral Surg Oral Med Oral Pathol 75:220–224, 1993; Oral Surg Oral Med Oral Pathol 74:610–619, 1992; JAAD 21:1263–1270, 1989*

Multicentric reticulohistiocytosis *JAAD 20:530–532,535–536, 1989; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*

Multiple mucosal neuroma syndrome (MEN IIB) (Gorlin's syndrome) – skin-colored papules and nodules of lips, tongue, oral mucosa *AD 139:1647–1652, 2003; JAAD 36:296–300, 1997; Oral Surg 51:516–523, 1981; J Pediatr 86:77–83, 1975; Am J Med 31:163–166, 1961*

Neurofibromatosis *Syndromes of the Head and Neck, p.395, 1990*

Nevus sebaceous syndrome (Schimmelpenning–Feuerstein–Mims syndrome) – papillomas of tongue, gingival hyperplasia, thickened mucosa, anodontia, dysodontia *JAAD 52:S62–64, 2005; Ped Derm 13:22–24, 1996; Int J Oral Maxillofac Surg 12:437–443, 1983*

Oral–facial–digital syndrome type I (Papillon–Leage syndrome) – X-linked dominant; short upper lip, hypoplastic alanasi, hooked pug nose, hypertrophied labial frenulae, bifid or multilobed tongue with small tumors within clefts, clefting of hard and soft palate, teeth widely spaced, trident hand or brachydactyly, syndactyly, or polydactyly; hair dry and brittle, alopecic, numerous milia of face, ears, backs of hands, mental retardation *Ped Derm 9:52–56, 1992*

Oral–facial–digital syndrome type II – autosomal recessive; lobulated, bifid tongue; poly-, syn- and brachydactyly, cleft palate, broad bifid nasal tip *Clin Genet 2:261–266, 1971*

Oral–facial–digital syndrome type III – lobulated hamartomatous tongue, mental retardation, eye abnormalities, dental abnormalities, bifid uvula, skeletal anomalies *Clin Genet 2:248–254, 1971*

Pachyonychia congenita – scrotal tongue

Sjögren's syndrome – scrotal tongue

Werdnig–Hoffmann spinal muscular atrophy

### VASCULAR DISORDERS

Lymphangioma

## TONGUE, RED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis

Graft vs. host reaction

Scleroderma

### DRUG-INDUCED

Antibiotics

Anticholinergics

Chemotherapy

Drug rash

Interleukin-2 *JAMA 258:1624–1629, 1987*

### EXOGENOUS AGENTS

Mouthwash

Reverse smoking

### INFECTIONS AND INFESTATIONS

Candidiasis – acute atrophic oral candidiasis *Am J Med 30:28–33, 1984*

Herpes simplex – herpetic geometric glossitis

HIV infection – acute retroviral syndrome – glossitis

Scarlet fever – white or red strawberry tongue *JAAD 39:383–398, 1998*

Syphilis – secondary, tertiary (syphilitic glossitis) – red, smooth tongue with loss of papillae *Rook p.1252, 1998, Sixth Edition*

Toxic shock syndrome, either staphylococcal or streptococcal *JAAD 39:383–398, 1998*

### INFILTRATIVE DISEASES

Amyloidosis, primary systemic – red nodule *AD 126:235–240, 1990*

### INFLAMMATORY DISEASES

Acrodermatitis continua

Crohn's disease – glossitis *Rook p.3120, 1998, Sixth Edition*

Eruptive lingual papillitis – tongue papules composed of fungiform papillae of tip and side of tongue *BJD 150:299–303, 2004*

Erythema multiforme major (Stevens–Johnson syndrome)

Foliate papillitis *Rook p.3110, 1998, Sixth Edition*

Impetigo herpetiformis

Median rhomboid glossitis – possibly related to candidiasis *BJD 93:399–405, 1975*

### METABOLIC DISEASES

Acrodermatitis enteropathica

Celiac disease *Rook p.3120, 1998, Sixth Edition*

Deficiency states
- Folic acid deficiency – glossitis *JAAD 12:914–917, 1985*
- Iron deficiency anemia *QJM 34:145, 1965*
- Kwashiorkor *Cutis 51:445–446, 1993*

Plummer–Vinson syndrome *AD 105:720, 1972*
Protein deficiency – kwashiorkor *Cutis 67:321–327, 2001; Cutis 51:445–446, 1993*
Sprue
Tryptophan
Vitamin B complex deficiencies
Vitamin $B_1$ deficiency (thiamine) – beriberi; edema, burning red tongue, vesicles of oral mucosa *Ghatan p.294, 2002, Second Edition*
Vitamin $B_6$ *Ped Derm 16:95–102, 1999; Clinics in Derm 17:457–461, 1999*
Vitamin $B_{12}$ (pernicious anemia, sprue) – enlarged red tongue *Cutis 71:127–130, 2003; AD 122:896–899, 1986*
Niacin (pellagra) – glossitis and glossodynia
Nicotinic acid
Pantothenic acid
Pyridoxine
Riboflavin (vitamin $B_2$) – magenta glossitis *JAAD 21:1–30, 1989*
Thiamine
Zinc deficiency

Fucosidosis – autosomal recessive; angiokeratoma corporis diffusum with tongue lesions *Rook p.2639, 1998, Sixth Edition; J R Soc Med 87:707, 1994*

Liver disease

Malabsorption *Ghatan p.95, 2002, Second Edition*

Moeller's glossitis *Ghatan p.95, 2002, Second Edition*

Uremic glossitis *Ghatan p.177, 2002, Second Edition*

## NEOPLASTIC DISORDERS

Erythroplasia, oral – underside of tongue, floor of mouth, soft palate *J Oral Pathol 12:11–29, 1983*

Kaposi's sarcoma

## PARANEOPLASTIC DISORDERS

Hypertrichosis lanuginosa *AD 106:84, 1972*

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis continua of Hallopeau

Geographic tongue (migratory glossitis)
Atopic dermatitis *BJD 101:159–162, 1979*
Diabetes mellitus *Oral Surg Oral Med Oral Pathol 63:68–70, 1987*
Down's syndrome *Clin Genet 50:317–320, 1996*
Fetal hydantoin syndrome *Ped Derm 6:130–133, 1989*
Hereditary *Am J Hum Genet 24:124–133, 1972*
Lichen planus *J Oral Med 29:58–59, 1974*
Lithium carbonate *J Am Acad Child Adolesc Psychiatry 38:1069–1070, 1999; Int J Derm 31:368–369, 1992*
Oral contraceptives *Br Dent J 171:94–96, 1991*
Pustular bacterid of Andrews *Med Cutan Ibero Lat Am 3:453–458, 1975*
Pustular psoriasis *AD 107:240–244, 1973*
Reiter's syndrome *AD 107:240–244, 1973*

Lichen planus, including atrophic lichen planus

Plasma cell glossitis

## SYNDROMES

Brook's disease

Dyskeratosis congenita

Glucagonoma syndrome *JAAD 12:1032–1039, 1985*

Hartnup's disease – red and inflamed tongue

Hereditary mucoepithelial dysplasia *Ped Derm 11:133–138, 1994*

Ichthyosis follicularis with atrichia and photophobia (IFAP) – beefy red tongue; collodion membrane and erythema at birth; ichthyosis, spiny (keratotic) follicular papules (generalized follicular keratoses), non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis, photophobia; nail dystrophy, psychomotor delay, short stature; enamel dysplasia, red gingiva, angular stomatitis, atopy, lamellar scales, psoriasiform plaques, palmoplantar erythema *Curr Prob Derm 14:71–116, 2002; JAAD 46:S156–158, 2002; BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; Ped Derm 12:195, 1995;AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Kawasaki's disease – strawberry tongue; macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, pustular, erythema marginatum-like exanthems; non-suppurative conjunctivitis; cheilitis; edematous hands with lamellar desquamation; myocarditis and coronary artery thrombosis and aneurysms; arthralgia, arthritis *JAAD 39:383–398, 1998; Jpn J Allergol 16:178–222, 1967*

Progressive symmetric erythrokeratoderma

Recalcitrant erythematous desquamating (RED) syndrome – diffuse macular erythema, ocular and mucosal erythema, strawberry tongue, delayed desquamation in the setting of AIDS *JAAD 39:383–398, 1998*

Reiter's syndrome *Rook p.2767, 1998, Sixth Edition; Semin Arthritis Rheum 3:253–286, 1974*

Riley–Day syndrome – strawberry tongue *Rook p.3104, 1998, Sixth Edition*

Sjögren's syndrome – red, smooth, dry *Rook p.2572, 1998, Sixth Edition*

Xerostomia (i.e. Sjögren's)

## TOXINS

Vitamin A intoxication

## TRAUMA

Mouth breathing

## VASCULAR DISEASES

Hemangioma *Clin Nucl Med 11:113–114, 1986*

Hereditary hemorrhagic telangiectasia

Klippel–Trenaunay–Weber syndrome

Temporal arteritis – glossitis; red tongue with blisters, desquamation, or necrosis *BJD 76:299–308, 1964*

Vascular malformation

# TONGUE, SCROTAL

Bazex–Dupre–Christol syndrome – congenital hypotrichosis, follicular atrophoderma, basal cell nevi and basal cell carcinomas, facial milia, hypohidrosis, pinched nose with hypoplastic alae, atopy with comedones, keratosis pilaris, joint hypermobility, scrotal tongue, hyperpigmentation of the forehead *BJD 153:682–684, 2005; Dermatol Surg 26:152–154, 2000; Hautarzt 44:385–391, 1993*

Cowden's syndrome *JAAD 11:1127–1141, 1984*

Down's syndrome *Rook p.3123, 1998, Sixth Edition*

Tacrolimus, systemic

HOPP syndrome – hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, onychogryphosis, ventricular arrhythmias, periodontitis *BJD 150:1032–1033, 2004; BJD 147:575–581, 2002*

Melkersson–Rosenthal syndrome – scrotal tongue; orofacial edema; edema of cheeks, forehead, eyelids, scalp *Oral Surg Oral Med Oral Pathol 75:220–224, 1993; Oral Surg Oral Med Oral Pathol 74:610–619, 1992; JAAD 21:1263–1270, 1989*

Normal variant – 5% of general population *Proc Finn Dent Soc 81:104–110, 1985*

Pachyonychia congenita

Psoriasis

Rabson–Mendenhall syndrome – fissured tongue *Ped Derm 19:267–270, 2002*

Sjögren's syndrome

# TONGUE, ULCER

***JAAD 33:734–740, 1995***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous pemphigoid

Cicatricial pemphigoid (mucous membrane pemphigoid) – desquamative gingivitis *AD 138:370–379, 2002; JAAD 43:571–591, 2000; J Periodontol 71:1620–1629, 2000*

Dermatomyositis *Ryumachi 39:836–840, 1999*

Epidermolysis bullosa acquisita

Graft vs. host disease *Aust NZ J Med 16:239–240, 1986*

Lichenoid reactions with antibodies to desmoplakins I and II – ulcers of hard palate and tongue *JAAD 48:433–438, 2003*

Linear IgA disease

Lupus erythematosus – systemic lupus with antiphospholipid antibodies – tongue necrosis *J Rheumatol 15:1281–1283, 1988;* DLE, bullous LE

Pemphigus vulgaris *JAAD 38:860–861, 1998*

## DRUGS

Alendronate *J Oral Pathol Med 29:514–518, 2000*

Aspirin *J Am Dent Assoc 91:130, 1975*

Captopril *AD 118:959, 1982*

Ergotamine tartrate – tongue necrosis *Schweiz Med Wochenschr 19:1152–1156, 2000;* in temporal arteritis *AD 130:261–262, 1994*

Gold

Inhalers for respiratory disease *Br Dent J 182:350–352, 1997*

Intra-arterial chemotherapy – 5-fluorouracil and cisplatin; tongue necrosis *Otolaryngology 121:655–657, 1999*

Methotrexate

Nicorandil *BJD 151:939–940, 2004; Oral Surg Oral Med Oral Pathol Oral Radiol Endod 91:189–193, 2001*

Stomatitis medicamentosa

## EXOGENOUS AGENTS

Eugenol

## INFECTIONS AND INFESTATIONS

AIDS – giant aphthous ulcers

Aspergillosis *Mycoses 37:209–215, 1994*

*Candida*

Chancriform pyoderma *BJD 133:326–327, 1995*

Coccidioidomycosis

Cryptococcosis *J Oral Maxillofac Surg 50:759–760, 1992*

Cytomegalovirus *Tyring p.187, 2002; Otolaryngol Head Neck Surg 110:463–464, 1994;* CMV and HSV coinfected oral ulcers in HIV-positive patients *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 81:55–62, 1996*

Exanthem subitum – human herpesvirus 6 – uvulo-palatoglossal junctional ulcers *J Clin Virol 17:83–90, 2000; Med J Malaysia 54:32–36, 1999*

Geotrichosis (*Geotrichum candidum*) *Oral Surg 73:726–728, 1992*

Gonococcemia *Br J Ven Dis 45:228–231, 1969*

Hand, foot and mouth disease *Oral Surg Oral Med Oral Pathol 41:333, 1976*

Herpes simplex *Tyring p.86, 2002; NEJM 329:1859–1860, 1993;* in acute myelogenous leukemia *JAAD 20:1125–1127, 1989;* herpetic geometric glossitis

Herpes zoster *Tyring p.128, 2002; Rook p.3088–3089, 1998, Sixth Edition*

Histoplasmosis *J Laryngol Otol 107:58–61, 1993; Oral Surg Oral Med Oral Pathol 70:631–636, 1990; Singapore Med J 31:286–288, 1990; Br J Oral Surg 16:234–240, 1979*

HIV disease – major aphthae *Oral Surg Oral Med Oral Pathol 71:68, 1991*

Leishmaniasis

*Mycobacterium tuberculosis* – primary lingual TB *J Laryngol Otol 112:86–87, 1998;* tuberculosis cutis orificialis (acute tuberculous ulcer) – tongue ulcer *Rook p.1193, 1998, Sixth Edition; JAMA 235:2418, 1976;* tongue ulcer as first clinical sign of asymptomatic pulmonary TB *Gen Dent 48:458–461, 2000; J Infect 39:163–164, 1999; Cutis 60:201–202, 1997; Clin Inf Dis 19:200–202, 1994*

Necrotizing bacterial infection

Paracoccidioidomycosis *J Clin Inf Dis 23:1026–1032, 1996*

Parvovirus B19 *Ann DV 123:735–738, 1996*

Pyoderma gangrenosum *Br J Oral Maxillofac surg 23:247–250, 1985*

Streptococcal gingivostomatitis

Syphilis – primary – chancre *Rev Stomatol Chir Maxillofac 85:391–398, 1984*; secondary, tertiary *JAAD 49:749–751, 2003; Otolaryngol Head Neck Surg 119:399–402, 1998;* tertiary *Rook p.3091, 1998, Sixth Edition; Actas Dermatosifiliogr 69:145–148, 1978*

Varicella

Yaws

Zygomycosis *Lancet 336:282–284, 1991*

## INFILTRATIVE DISEASES

Amyloidosis

Langerhans cell histiocytosis

## INFLAMMATORY DISORDERS

Crohn's disease

Eosinophilic ulcer of the lip, tongue, or buccal mucosa *AD 137:815–820, 2001; Clin Exp Dermatol 22:154–156, 1997; Cutis 57:349–351, 1996; JAAD 33:734–740, 1995; Cutis 43:357–359, 1989*

Erythema multiforme, including Stevens–Johnson syndrome

Lethal midline granuloma

Lymphocytoma

Periadenitis mucosae necrotica recurrens (Sutton's disease) *AD 133:1161–1166, 1997*

Pyoderma gangrenosum *Br J Oral Maxillofac Surg 23:247–250, 1985*

Sarcoid *Rook p.2694, 1998, Sixth Edition*

Toxic epidermal necrolysis

## METABOLIC DISEASES

Calciphylaxis – tongue necrosis *J Oral Maxillofac Surg 55:193–196, 1997*

Glycogen storage disease

Neutropenia or agranulocytosis *J Periodontol 58:51–55, 1987*

Pellagra

## NEOPLASTIC DISEASES

Atypical histiocytic granuloma

Foramen magnum meningioma – oral ulcers *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:609–611, 2000*

Granular cell tumor

Keratoacanthoma – multiple eruptive keratoacanthomas of Grzybowski

Leukemia cutis

Lymphoma – $CD8^+$ cutaneous T-cell lymphoma *Am J Dermatopathol 17:287–291, 1995;* cutaneous T-cell lymphoma *Oral Surg Oral Med Oral Pathol 57:267, 1984*

Lymphomatoid papulosis *Oral Surg Oral Med Oral Pathol Oral Radiol Endod 90:195–204, 2000*

Metastases – small cell carcinoma; tongue necrosis *Otolaryngology 1995:782–784*

Monoclonal plasmacytic ulcerative stomatitis *Oral Surg Oral Med Oral Pathol 75:483–487, 1993*

Mucoepidermoid carcinoma

Squamous cell carcinoma *Rook p.3074–3076, 1998, Sixth Edition; JAAD 12:515, 1988*

## PARANEOPLASTIC DISEASES

Paraneoplastic pemphigus *AD 141:1285–1293, 2005*

## PRIMARY CUTANEOUS DISEASES

Aphthosis *Dent Update 19:353, 1992*

Hailey–Hailey disease

Hydroa vacciniforme *Ped Derm 21:555–557, 2004*

Lichen planus *JAAD 46:35–41, 2002; J Oral Maxillofac Surg 50:116–118, 1992*

Median rhomboid glossitis *BJD 93:399, 1975*

Necrotizing sialometaplasia

Pityriasis rosea *AD 121:14491451, 1985*

Submucous fibrosis of tongue

## PSYCHOCUTANEOUS DISORDERS

Factitial *JAAD 17:339–341, 1987*

## SYNDROMES

Behçet's disease *Tyring p.104, 2002*

Hypereosinophilic syndrome *AD 132:535–541, 1996; Ann Intern Med 121:648, 1994*

Hyper-IgM syndrome (hypogammaglobulinemia with hyper-IgM) – X-linked with mutation in CD40 ligand gene; low IgA and IgG; sarcoid-like granulomas; multiple papulonodules of face, buttocks, arms *Ped Derm 21:39–43, 2004; Bolognia p.845, 2003 Ped Derm 18:48–50, 2001*

Lesch–Nyan syndrome

Lipoid proteinosis *JAAD 39:149–171, 1998*

MAGIC syndrome *AJM 79:65–71, 1985*

Obstructive sleep apnea syndrome *Br J Oral Maxillofac Surg 30:263–267, 1992*

Reiter's syndrome *Rook p.2767–2768, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Xeroderma pigmentosum – squamous cell carcinoma *JAAD 12:515–521, 1985*

## TRAUMA

Chemical burn

Congenital insensitivity to pain (analgesia congenita) *Int J Paediatr Dent 6:117–122, 1996*

Decubital lingual ulcers in myoclonus *ASDC J Dent Child 65:474–477, 438, 1998*

Electrical

Embolization of cavernous hemangioma – tongue necrosis

Epilepsy

Intubation – pressure necrosis *Anesthetis 24:136–137, 1975*

Mechanical

Neonatal sublingual traumatic ulceration (Riga–Fede disease) – natal or neonatal teeth with tongue ulceration *Turk J Pediatr 41:113–116, 1999; Aust Dent J 42:225–227, 1997*

Phenol burn

Radiation glossitis

Self-application of rubber band *Br J Surg 62:956, 1975*

Surgery

Thermal

Tongue biting

Traumatic eosinophilic ulcer of the tongue

## VASCULAR DISORDERS

Arteriosclerosis – tongue necrosis *Oral Surg Oral Med Oral Pathol 89:316–318, 2000*

Necrotizing vasculitis in HIV *Schweiz Monatsschr Zahnmed 105:54–62, 1995*

Polyarteritis nodosa – tongue necrosis *Acta Pediatr 84:1333–1336, 1995*

Temporal arteritis (giant cell arteritis) – ulcer progressing to gangrene *BJD 151:721–722, 2004; Oral Surg 74:582–586, 1992; Acta Med Scand 220:379–380, 1986; JAAD 6:1081–1088, 1982; BJD 76:299–308, 1964*

Wegener's granulomatosis *Br J Clin Pract 46:268–269, 1992*

## TRANSIENT BLISTERS IN INFANTS

Congenital self-healing mechanobullous dermatosis

Perinatal trauma/iatrogenic injury *Textbook of Neonatal Dermatology, p.148, 2001*

Self-limited forms of epidermolysis bullosa (Bart's syndrome)

Sucking blisters

Transient bullous dermolysis of the newborn

Transient maternal autoimmune blistering dermatosis

## TRICHOMEGALY

***Arch Ophthalmol 115:557–558, 1997; Principles and Practice of Ophthalmol, p.1852, 1994; AD 123:1599–1601, 1987***

Acrodynia

AIDS *AIDS 17:1695–1696, 2003; J Eur Acad Dermatol Venereol 11:89–91, 1998; Arch Ophthalmol 115:557–558, 1997; JAAD 28:513, 1993; AD 123:1599–1601, 1987*

AIDS and alopecia areata *Dermatology 193:52–53, 1996*

Allergic diseases – children *Ped Derm 21:534–537, 2004*

Anorexia nervosa

Bimatoprost *JAAD 51:S77–78, 2004*

Cataract and spherocytosis *Am J Ophthalmol 73:333–335, 1972*

Coffin–Siris syndrome – autosomal recessive; hypertrichosis of eyelashes, eyebrows, and lumbosacral areas *JAAD 48:161–179, 2003*

Cone-rod congenital amaurosis associated with congenital hypertrichosis *J Med Genet 26:504–510, 1989*

Cornelia de Lange syndrome (Brachmann de Lange) – trichomegaly, synophrys, low hairline, low birth weight, mental deficiency, abnormal speech development, malformed upper limbs *Am J Med Genet 47:940–946, 1993; J Pediatr Ophthalmol Strabismus 27:94–102, 1990; Syndromes of the Head and Neck; Gorlin; 1990;p.300–304*

Cyclosporin A *Am J Ophthalmol 109:293–294, 1990*

Dermatomyositis *Dermatology 205:305, 2002*

Drug-induced – benoxaprofen, corticosteroids, cyclosporine *Ann Ophthalmol 24:465–469, 1992; Nephrol Dial Transplant 11:1159–1161, 1996;* diazoxide, interferon-$\alpha$ *Lancet 359, 1107, March, 2002; J Interferon Cytokine Res 20:633–634, 2000; Eye 13:241–246, 1999;* latanaprost *Cutis 67:109–110, 2001; Clin and Exp Ophthalmol 29:272–273, 2001;* minoxidil, penicillamine, phenytoin, psoralen, streptomycin, zidovudine

Familial trichomegaly *Arch Ophthalmol 115:1602–1603, 1997*

Gefitinib (epidermal growth factor receptor inhibitor) *BJD 151:1111–1112, 2004; Acta Oncol 42:345–346, 2003*

Hermansky–Pudlak syndrome *AD 135:774–780, 1999*

Hypertrichosis lanuginose, congenital *Rook p.2890—2891, 1998, Sixth Edition; J Genet Humaine 17:10–13, 1969*

Hypothyroidism

Interferon – interferon A *NEJM 311:1259, 1984;* interferon-$\alpha$ 2B *Lancet 359:1107, 2002*

Kabuki makeup syndrome *J Pediatr 105:849–850, 1984*

Liver disease, chronic

Leishmaniasis – Kala-azar (Pitaluga's sign) *Rook p.2994, 1998, Sixth Edition*

Lupus erythematosus, systemic *Clin Rheumatol 19:245–246, 2000*

Malnutrition

Metastatic adenocarcinoma *Clin Exp Dermatol 20:237–239, 1995*

Oliver–McFarlane syndrome – autosomal recessive; trichomegaly, pigmentatary degeneration of retina, mental and growth retardation, peripheral neuropathy, anterior pituitary deficiencies *Br J Ophthalmol 87:119–120, 2003; Can J Ophthalmol 28:191–193, 1993; Genet Couns 2:115–118, 1991; Am J Med Genet 34:199–201, 1989; Am J Ophthalmol 101:490–491, 1986; Am J Dis Child 121:344–345, 1971; Arch Ophthalmol 74:169–171, 1965*

Phenylketonuria *Rook p.2812, 2994, 1998, Sixth Edition*

Porphyria

Pregnancy

Pretibial myxedema coma

Vitreochorioretinal degeneration *Ann Ophthalmol 8:811–815, 1976*

## TROPICAL FEVER AND RASH

African trypanosomiasis

African tick bite fever (*Rickettsia africae*) – hemorrhagic pustule, purpuric papules; transmitted by *Amblyomma* ticks – high fever, arthralgia, myalgia, fatigue, rash in 2–3 days, with eschar, maculopapules, vesicles, and pustules *JAAD 48:S18–19, 2003*

Alphavirus/flavivirus/bunyavirus

American trypanosomiasis

Arenaviruses (hemorrhagic fevers) – Lassa fever (rats and mice) (West Africa), Junin virus (Argentine pampas), Machupo virus (Bolivian savannas), Guanarito virus (Venezuela), Sabia virus (Southeast Brazil), Whitewater virus (California, New Mexico), Tacaribe virus complex (mice) – swelling of face and neck, oral hemorrhagic bullae, red eyes *JAAD 49:979–1000, 2003*

Argentinian hemorrhagic fever *Tyring p.448, 2002*

Boutonneuse fever – *Rickettsia conorii*; diffuse morbilliform eruption; petechiae; palms and soles involved *JAAD 49:363–392, 2003*; Marseilles fever, South African tick fever, Kenya tick typhus, Israeli tick typhus, and Indian tick typhus

Brazilian purpuric fever – *Haemophilus influenzae* biogroup *aegyptius* strains *J Infect Dis 171:209–212, 1995; Pediatr Infect Dis J 8:239–241, 1989*

Brucellosis – morbilliform, scarlatiniform, disseminated papulonodular, bullous, hemorrhagic eruptions *Cutis 63:25–27, 1999; AD 117:40–42, 1981*

Bunyavirus hemorrhagic fever (Crimean Congo hemorrhagic fever, Rift Valley fever, Hantavirus) – ticks (*Hyalomma genus*) petechial eruption orally and on upper trunk *JAAD 49:979–1000, 2003; Rook p.1083, 1998, Sixth Edition*

Chikungunya fever – morbilliform exanthem of trunk and limbs Chikungunya fever *Tyring p.425,513, 2002*

Congo Crimean hemorrhagic fever (Bunyavirus) – purpura

Dengue fever (Flavivirus) – classic dengue fever; morbilliform or scarlatiniform eruption on day 3–4, then becomes petechial; joint and bone pain with severe backache *JAAD 46:430–433, 2002; Tyring p.477, 2002; Dermatol Clinics 17:29–40, 1999; Inf Dis Clin NA 8:107, 1994; Bull Soc Pathol Exot 86:7–11, 1993;*

exanthem with islands of sparing ('white islands in a sea of red') *Clin Inf Dis 36:1004–1005,1074–1075, 2003*; clinical differential diagnosis includes typhoid fever, leptospirosis, meningococcal disease, streptococcal disease, staph, rickettsial disease, malaria, arbovirus (chikungunya, o'nyon nyong fevers), Kawasaki's disease

Drug eruptions

Ebola viral hemorrhagic fever – morbilliform rash *MMWR 44:468–469, 1995*

Epidemic typhus (*Rickettsia prowazeki*) (body louse) – pink macules on sides of trunk, spreads centrifugally; flushed face with injected conjunctivae; then rash becomes deeper red, then purpuric; gangrene of finger, toes, genitalia, nose *JAAD 2:359–373, 1980;* transient red rash of trunk and face *Clin Inf Dis 32:979–982, 2001;* Brill–Zinsser disease – recrudescence of epidemic typhus

Filoviruses – Marburg and Ebola virus; transient morbilliform rashes, purpura, red eyes *JAAD 49:979–1000, 2003*

Hantavirus – infected rodent waste; flulike prodrome; nausea, vomiting, shock, extensive ecchymoses; oliguria, pulmonary edema, coagulopathy *AD 140:656, 2004*

Hemorrhagic fevers

HTLV-1 infection – infective dermatitis of scalp, eyelid margins, perinasal skin, retro-auricular areas, axillae, groin; generalized papular dermatitis *Lancet 336:1345–1347, 1990; BJD 79:229–236, 1967; BJD 78:93–100, 1966*

Infectious mononucleosis

Izumi fever

Kaposi's varicelliform eruption

Kenya tick typhus – R. conorii

Kyasanur Forest disease (Flavivirus)

Lassa fever (arenavirus) – morbilliform or petechial rash with conjunctivitis *J Infect Dis 155:445–455, 1985*

Leptospirosis

Leishmaniasis – disseminated leishmaniasis *JAAD 50:461–465, 2004;* post-kala-azar dermal leishmaniasis – papules of cheeks, chin, ears, extensor forearms, buttocks, lower legs; in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1419–1420, 1998, Sixth Edition; JAAD 34:257–272, 1996; E Afr Med J 63:365–371, 1986*

Leprosy – including erythema nodosum leprosum *AD 111:1575–1580, 1975*

Leptospirosis – morbilliform *J Clin Inf Dis 21:1–8, 1995;* truncal red morbilliform, urticarial, pretibial, purpuric desquamative exanthem *Tyring p.436, 2002;* pretibial fever or canicola fever – blotchy erythema of legs *Rook p.1162, 1998, Sixth Edition*

Malaria

Marburg virus (filovirus) – maculopapular–vesicular *Tyring p.423, 2002; S Afr Med J 60:751–753, 1981*

Marseilles fever – *Rickettsia conorii*

Mayaro – arbovirus; Brazil and Trinidad *Tyring p.399, 2002*

Measles

Mediterranean spotted fever – *Rickettsia conorii*; petechiae *JAAD 49:363–392, 2003*

Melioidosis

Meningococcemia

Monkeypox – exanthem indistinguishable from smallpox (papulovesiculopustular) *J Infect Dis 156:293–298, 1987*

Murine typhus – *Rickettsia typhi* and ELB agent – blanching macular or morbilliform rash *MMWR 52:1224–1226, 2003; J Clin Inf Dis 21:991, 1995*

*Mycobacterium tuberculosis* – lichen scrofulosorum *Ped Derm 17:373–376, 2000; AD 124:1421–1426, 1988; Clin Exp Dermatol 1:391–394, 1976*

North Asian tick-borne typhus – *Rickettsia siberica*

Omsk hemorrhagic fever (Flavivirus) *AD 140:656, 2004*

Onchocerciasis – acute papular onchodermatitis – non-specific papular rash *Rook p.1381, 1998, Sixth Edition; BJD 121:187–198, 1989*

ONN – arbovirus; morbilliform eruption, fever, arthritis *Tyring p.399, 2002*

Parvovirus B19

*Penicillium marneffei* – generalized papular eruption *Lancet 344:110–113, 1994; Mycoses 34:245–249, 1991*

Picornavirus *Skin and Allergy News 30:38,1999*

Plague (*Yersinia pestis*) – macular, red, petechial or purpuric eruption (black death) *West J Med 142:641–646, 1985*

Q fever – *Coxiella burnetii*; red macules, morbilliform, papular, urticarial, and purpuric eruptions *JAAD 49:363–392, 2003; Pediatr Inf Dis J 19:358, 2000*

Queensland tick typhus – *Rickettsia australis*

Rat bite fever

Roseola

Rubella

Scarlet fever

Schistosomiasis – schistosomal dermatitis – identical to swimmer's itch *Dermatol Clin 7:291–300, 1989; Schistosoma japonicum* – Katayama fever – purpura, arthralgia, systemic symptoms *Dermatol Clin 7:291–300, 1989*

Scrub typhus (*Rickettsia tsutsugamuchi*) (mites) – headache and conjunctivitis; eschar with black crust; generalized macular or morbilliform rash *Clin Inf Dis 18:624, 1994; JAAD 2:359–373, 1980*

Sepsis

Sindbis – arbovirus; fever, rash, arthritis; Europe, Asia, Africa, Australia *Tyring p.399, 2002*

Smallpox – morbilliform exanthem as initial cutaneous manifestation *Cutis 71:319–321, 2003*

South American Arenaviruses (Junin, Machupo, Sabia, Guanarito)

Stevens–Johnson syndrome

Stroke

Syphilis

Systemic lupus erythematosus

Tacaribe viruses – Argentinian, Bolivian and Venezuelan hemorrhagic fevers – erythema of face, neck, and thorax with petechiae *Lancet 338:1033–1036, 1991; JAMA 273:194–196, 1994*

Togavirus – morbilliform, maculopapular–petechial (Sindbis) *Rook p.998, 1998, Sixth Edition*; *BJD 135:320–323, 1996; BJD 80:67–74, 1968;* chickungunya *Trans R Soc Trop Med Hyg 49:28–32, 1955;* and O'nyong-nyong fever *Trans R Soc Med Hyg 55:361–373, 1961;* bunyavirus fevers with joint pains; Ross River virus – morbilliform eruption and polyarthritis in Australia and Fiji *Med J Aust 159:159–162, 1993;* Barmah Forest virus – similar to Ross River virus *Med J Aust 152:463–466, 1990*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980*

Trench fever – *Bartonella quintana*; body louse; truncal morbilliform *Bull WHO 35:155–164, 1996*

Toxic epidermal necrolysis

Trypanosomiasis – African; edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition; AD 131:1178, 1995;* American – cutaneous inoculation (inoculation chagoma); edema with exanthems *Rook p.1409–1410, 1998, Sixth Edition*

Typhoid and paratyphoid fevers

Typhus fevers – epidemic and murine

Varicella

Viral hemorrhagic fevers – including Argentine hemorrhagic fever, Bolivian hemorrhagic fever, Lassa fever, Venezuelan hemorrhagic fever, Kyasanur Forest disease, Omsk hemorrhagic fever, yellow fever

Viral insect-borne and hemorrhagic fevers *Dermatol Clinics 17:29–40, 1999*
- Togavirus
  - Sindbis fever
  - Chikungunya fever
  - O'nyong nyong fever
  - Ross river fever
  - Barmah forest fever
- Flavivirus
  - Dengue fever
  - West Nile fever
  - Kunjin fever
- Arena virus
  - Lassa fever
  - Junin fever
  - Machupo fever
- Filovirus
  - Marburg fever
  - Ebola fever
- Bunyavirus
  - Bwamba fever
  - Rift valley fever
  - Crimea/Congo fever
  - Hanta virus (hemorrhagic fever with renal syndrome (Hanta virus))

West Nile virus – *Culex salinarius*; punctuate (1–2-mm) red macular, papular, or morbilliform eruption of neck, trunk, arms, or legs in 20% of patients *JAAD 51:820–823, 2004; JAAD 49:979–1000, 2003; Ann Intern Med 137:173–179, 2002; Ann DV 128:656–658, 2001; Lancet 358:261–264, 2001*

# TUMORS, GIANT

## CONGENITAL LESIONS

Dermoid cyst *J Pediatr Orthop 6:486–488, 1986*

Encephalocoele

Fibrous hamartoma of infancy *AD 125:88–91, 1989*

Infantile myofibromatosis *Curr Prob Derm 14:41–70, 2002*

Meningocoele

## INFECTIONS AND INFESTATIONS

Condyloma acuminatum *Cutis 24:203–206,209, 1979*

Echinococcosis – dog tapeworm; hydatid cyst *Rook p.1401, 1998, Sixth Edition*

Leprosy – giant histoid tumor *Int J Lepr Other Mycobact Dis 60:274–276, 1992*

Lobomycosis

Molluscum contagiosum with cyst formation *Tyring p.64, 2002; Acta DV 76:247–248, 1996; Am J Dermatopathol 17:414–416, 1995; Int J Dermatol 33:266–267, 1994; JAAD 19:912–914, 1988*

Rhinosporidiosis – vascular nodules of nose, extending to pharynx or lips *Mycopathologica 73:79–82, 1981*

## INFILTRATIVE DISORDERS

Amyloidosis – primary systemic amyloid with large tumefactions *Rook p.2633, 1998, Sixth Edition*

Juvenile xanthogranuloma *AD 140:231–236, 2004; Ann DV 122:678–681, 1995; Ped Derm 11:227–230, 1994; AD 124:1723–1724, 1988*; *Arch Pathol Lab Med 110:911–915, 1986;* exophytic and endophytic *Ped Derm 7:185–188, 1990;* congenital giant xanthogranuloma *Ped Derm 21:121–123, 2004*

Langerhans cell histiocytosis *AD 127:1237–1238, 1991; AD 126:1617–1620, 1990*

Regressing atypical histiocytosis *AD 126:1609–1616, 1990*

Verruciform xanthoma – of gluteal crease *Ped Derm 21:432–439, 2004*

## INFLAMMATORY DISORDERS

Pseudomalignant granuloma *JAAD 3:292–298, 1980*

Sarcoid – giant nodular form *Rook p.2694, 1998, Sixth Edition;* tumoral sarcoidosis *Ann DV 122:783–785, 1995;* giant parotomegaly *Cutis 68:199–200, 2001*

Sinus histiocytosis with massive lymphadenopathy (Rosai–Dorfman disease) *JAAD 50:159–161, 2004*

## METABOLIC DISORDERS

Pretibial myxedema of shoulders *AD 122:85–88, 1986*

## NEOPLASTIC DISORDERS

Acrochordon

Adenoid cystic carcinoma *Cancer 43:1463–1473, 1979*

Alveolar soft part sarcoma – tumor of muscle or fascial planes *Clin Exp Dermatol 10:523–539, 1985*

Angiofibroma – in tuberous sclerosis *J Dermatol 24:132–134, 1997; AD 114:1843–1844, 1978*

Angiomyxoma *Cutis 21:673–674, 1978*

Apocrine cystadenoma *J Oral Maxillofac Surg 59:463–467, 2001*

Apocrine gland carcinoma *BJD 371–373, 2004; Am J Med 115:677–679, 2003*

Apocrine hidrocystoma *J Surg Oncol 27:146–151, 1984; AD 104:515–521, 1971*

Basal cell carcinoma *JAAD 52:149–151, 2005; Cutis 67:73–76, 2001; Plast Reconstr Surg 106:653–656, 2000; Ann Plast Surg 41:444–447, 1998; J Dermatol 24:317–321, 1997; Int J Dermatol 35:222–223, 1996; Cutis 58:289–292, 1996; Neuroradiology 38:575–577, 1996; JAAD 30:856–859, 1994; BJD 127:164–167, 1992; J Derm Surg Oncol 12:459–464, 1986; AD 113:316–319, 1977;* with cerebral invasion *Eur J Surg Oncol 27:510–511, 2001;* polypoid *Cutis 58:289–292, 1996;* linear *Int J Dermatol 33:284, 1994;* fatal giant basal cell carcinoma *J Derm Surg Oncol 13:556–557, 1987; AD 113:316–319, 1977;* 'horrifying basal cell carcinomas' *J Surg Oncol 5:431–463, 1973*

Blue nevus *J Eur Acad DV 13:144–146, 1999; JAAD 28:653–654, 1993;* cellular blue nevus *J Surg Oncol*

*74:278–281, 2000; Br J Plast Surg 51:410–411, 1998;* giant alopecic nodule (cellular blue nevus) *BJD 126:375–377, 1992*

Café au lait macule *Acta DV 79:496, 1999*

Cephalohematoma

Chondroid syringoma *J Cutan Med Surg 3:115–117, 1998*

Clear cell acanthoma (exophytic) *BJD 143:1114–1115, 2000; JAAD 21:313–315, 1989; JAAD 17:513–514, 1987*

Cutaneous horns *Ann Plast Surg 43:674, 1999; Ann Plast Surg 39:654–655, 1997; Cutis 77–78, 1982; JAMA 210:2285, 1969*

Cylindroma *NEJM 351:2530, 2004*

Dermal dendrocytoma of the face *AD 126:689–690, 1990*

Dermatofibroma *BJD 143:655–657, 2000; Cutis 58:282–285, 1996; JAAD 30:714–718, 1994;* combined dermatofibroma *BJD 143:655–657, 2000;* xanthomatous dermatofibroma *Dermatology 190:67–71, 1995*

Dermatomyofibroma – up to 8 cm; oval nodule or firm plaque of shoulders, axillae, upper arms, neck, or abdomen *Clin Exp Dermatol 21:307–309, 1996*

Dermatofibrosarcoma protuberans *JAAD 53:76–83, 2005*

Desmoid tumors – in Gardner's syndrome; subcutaneous mass in subumbilical paramedian region *Rook p.2368–2369, 1998, Sixth Edition;* arise in thoracotomy scar *Thoracic Cardiovasc Surg 40:300–302, 1992*

Eccrine acrospiroma *JAAD 23:663–668, 1990*

Eccrine spiradenoma *Int J Dermatol 37:221–223, 1998; Ann DV 104:485–487, 1977*

Embryonal rhabdomyosarcoma *Ped Derm 22:218–221, 2005*

Enchondroma of the forefinger *Hautarzt 36:168–169, 1985*

Epidermoid cyst – multiloculated epidermoid cyst *BJD 151:943–945, 2004; BJD 144:217–218, 2001;* of the skull *Plast Reconstr Surg 97:1246–1248, 1996*

Extramammary Paget's disease of the genital areas *Dermatology 202:249–251, 2001*

Fibrokeratoma – acquired digital fibrokeratoma *JAAD 48:S67–68, 2003;* acquired fibrokeratoma of the nail bed *Dermatology 190:169–171, 1995*

Fibrosarcoma, neonatal *Soc Ped Derm Annual Meeting, July 2005; JAAD 50:S23–25, 2004*

Giant cell fibroblastoma (variant of dermatofibrosarcoma protuberans) *Textbook of Neonatal Dermatology, p.439, 2001*

Giant pore and hair-shaft acanthoma *Hautarzt 34:209–216, 1983*

Hidradenocarcinoma *Pathol Int 48:818–823, 1998*

Histiocytic lymphoma (reticulum cell sarcoma) – gigantic tumor *G Ital Dermatol Venereol 115:143–145, 1980*

Hypertrophic scar – plantar giant nodule *BJD 145:1005–1007, 2001*

Kaposi's sarcoma *BJD 145:847–849, 2001; Cutis 68:50–52, 2001*

Keloid *Rook p.3020,3247, 1998, Sixth Edition;* keloid following BCG vaccination *Ped Derm 20:460, 2003*

Keratoacanthoma *Dermatology 200:317–319, 2000; Otolaryngol Head Neck Surg 93:112–116, 1985; Ann Plast Surg 3:172–176, 1979;* in epidermolysis bullosa, recessive dystrophic *Ped Derm 19:436–438, 2002;* keratoacanthoma centrifugum marginatum *Cutis 73:257–262, 2004; JAAD 48:282–285, 2003; JAAD 30:1–19, 1994; AD 111:1024–1026, 1975; Hautarzt 13:348–352, 1962*

Leukemia – HTLV-1 (acute T-cell leukemia) *JAAD 49:979–1000, 2003*

Lipomas *JAAD 28:266–268, 1993; Zentralbl Chir 91:1608–1611, 1966;* diffuse lipomatosis *AD 122:1298–1302, 1986*

Liposarcoma – diffuse nodular infiltration of leg or buttock *Rook p.2369, 1998, Sixth Edition; JAAD 38:815–819, 1998*

Lymphoma – cutaneous T-cell lymphoma *JAAD 122:135–136, 1986;* Woringer–Kolopp disease *AD 128:526–529, 1992;* granulomatous slack skin *BJD 142:353–357, 2000;* T-cell lymphoma presenting as giant ulcer *Clin Exp Dermatol 17:379–381, 1992;* HTLV-1 lymphoma *BJD 144:1244–1248, 2001;* $CD30^+$ T-cell lymphoma *JAAD 48:S28–30, 2003; BJD 146:1091–1095, 2002;* large cell B-cell lymphoma of the leg *JAAD 49:223–228, 2003;* B-cell lymphoblastic lymphoma *Ped Derm 21:525–533, 2004;* pyogenic lymphoma – primary cutaneous neutrophil-rich $CD30^+$ anaplastic large-cell lymphoma *BJD 148:580–586, 2003*

Malignant clear cell hidradenoma – giant axillary metastasis *Ann Plast Surg 45:102, 2000*

Malignant eccrine spiradenoma of the scalp *Derm Surg 25:45–48, 1999*

Malignant peripheral nerve sheath tumors (neurofibrosarcoma) *BJD 153:79–82, 2005; AD 137:908–913, 2001*

Malignant proliferating trichilemmal tumor *BJD 148:180–182, 2003*

Malignant sacrococcygeal teratoma *Am Surg 57:425–430, 1991*

Melanocytic nevi – congenital *Clin Exp Dermatol 25:7–11, 2000; J Pediatr 120:906–911, 1992;* congenital neuroid melanocytic nevus *AD 116:318–320, 1980;* giant cerebriform intradermal nevus *Ann Plast Surg 19:84–88, 1987;* giant congenital melanocytic nevi with proliferative nodules *AD 140:83–88, 2004;* congenital dermal melanocytic nevus *JAAD 49:732–735, 2003; AD 134:245–246, 1998; AD 127:1702–1704, 1991;* congenital lentiginous dermal nevus *Ann Plast Surg 43:546–550, 1999*

Melanoma *Curr Prob Derm 14:41–70, 2002; Eur J Surg Oncol 26:189–190, 2000;* metastatic melanoma *J Dermatol 21:442–446, 1994; Ann Plast Surg 27:583–585, 1991;* melanoma arising in a giant cerebriform nevus *AD 96:536–539, 1967;* amelanotic melanoma *AD 138:1245–1250, 2002*

Merkel cell carcinoma *Derm Surg 27:493–494, 2001; JAAD 24:827–831, 1991; Surv Ophthalmol 35:171–187, 1990; Cancer 57:178–182, 1986; AD 123:653–658, 1987;* exophytic Merkel cell carcinoma *Cutis 44:295–299, 1989*

Metastases – breast cancer *Rook p.3160, 1998, Sixth Edition;* others

Microcystic adnexal carcinoma *Derm Surg 27:678–680, 2001*

Mixed tumor of the face *J Dermatol 23:369–371, 1996*

Mucinous carcinoma of skin *JAAD 36:323–326, 1997;* scalp *Clin Exp Dermatol 18:375–377, 1993*

Mucocutaneous papillomatoses, giant *AD 99:499–502, 1969*

Neurofibrosarcoma

Nevus comedonicus *Przegl Dermatol 75:305–307, 1988 (Polish)*

Nevus lipomatosis superficialis *J Dermatol 27:16–19, 2000; J Dermatol 15:543–545, 1988; J Derm Surg Oncol 9:279–281, 1983*

Nevus sebaceus *Ann Chir Infant 11:243–253, 1970*

Nevus spilus *Acta DV 75:327, 1995; AD 125:1284–1285, 1989*

Osteoma – platelike cutaneous osteoma *JAAD 16:481–484, 1987*

Pilar cyst *Plast Reconstr Surg 92:1207–1208, 1993*

Pilomatrix carcinoma – multiple of head and neck *Otolaryngol Head Neck Surg 109:543–547, 1993; JAAD 23:985–988, 1990*

Pilomatrixoma *Australas J Dermatol 42:120–123, 2001; Arch Otolaryngol 102:753–755, 1976; Arch Surg 111:86–87, 1976;* multiple giant pilomatrixomas *J Dermatol 27:276–279, 2000;* pedunculated giant pilomatrixoma *Ann Plast Surg 41:337–338, 1998*

Plexiform fibrohistiocytic tumor of the soft tissues and bone *Cesk Patol 36:106–110, 2000; Ann Plast Surg 38:306–307, 1997; Am J Surg Pathol 21:235–241, 1997*

Porocarcinoma *BJD 152:1051–1055, 2005*

Porokeratosis *BJD 141:936–938, 1999; Dermatology 189:78–80, 1994*

Post-transplant lymphoproliferative disorder *JAAD 52:S123–124, 2005*

Proliferating trichilemmal tumor of the scalp *J Dermatol 27:687–688, 2000; Ann Plast Surg 43:574–575, 1999; Mund Kiefer Gesechtschir 2:216–219, 1998;* with malignant transformation *Ann Plast Surg 41:314–316, 1998*

Rhabdomyosarcoma *Textbook of Neonatal Dermatology, p.441, 2001; Acta Oncol 35:494–495, 1996; Hautkr 53:887–892, 1978;* congenital *Ped Derm 20:335–338, 2003*

Schwannoma *Dur J Dermatol 9:493–495, 1999*

Sebaceoma *J Dermatol 21:367–369, 1994*

Sebaceous gland carcinoma *BJD 149:441–442, 2003; AD 137:1367–1372, 2001; Nippon Ganka Gakkai Zasshi 104:740–745, 2000*

Seborrheic keratosis *Plast Reconstr Surg 99:1466–1467, 1997; J Dermatol 12:341–343, 1985*

Squamous cell carcinoma *Derm Surg 28:268–273, 2002; JAAD 23:1174–1175, 1990; JAAD 10:372–378, 1984;* vulvar *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.215, 1998;* in epidermolysis bullosa, recessive dystrophic *Ped Derm 19:436–438, 2002;* of foot *Caputo p.77, 2000*

Syringocystadenoma papilliferum in a giant comedone *Tokai J Exp Clin Med 11:47–50, 1986*

Syringoma of the vulva *BJD 141:374–375, 1999*

Trichoblastoma – scalp *Am J Dermatopathol 15:497–502, 1993*

Trichoepithelioma *Dermatology Online J 5:1, 1999; Am J Dermatopathol 14:155–160, 1992;* perianal *BJD 118:563–566, 1988; BJD 115:91–99, 1986; AD 120:797–798, 1984*

Undifferentiated sarcoma – giant pendulous cystic lesion of cheek *Soc Ped Derm Annual Meeting, July 2005*

Verrucous carcinoma – Buschke–Lowenstein tumor *Acta DV 79:253–254, 1999; Dermatol Monatsschr 175:247–250, 1989; Z Hautkr 58:1325–1327, 1983;* epithelioma cuniculatum – of the foot *NEJM 352:488, 2005;* of the hand *Ir J Med Sci 163:379–380, 1994;* oral florid papillomatosis *Cutis 21:207–211, 1978;* of the lip *BJD 151:727–729, 2004*

### PRIMARY CUTANEOUS DISEASES

Giant comedone *BJD 133:662–663, 1995*

Lipedema

### SYNDROMES

Birt–Hogg–Dube syndrome – giant disfiguring lipomas *JAAD 50:810–812, 2004*

Blue rubber bleb nevus syndrome (Bean syndrome) – giant subcutaneous vascular malformations; blue lesions of skin and mucous membranes *JAAD 50:S101–106, 2004; Cutis 62:97–98, 1998; Trans Pathol Soc 11:267, 1860*

Congenital self-healing reticulohistiocytosis *Ped Derm 6:28–32, 1989*

Goltz's syndrome (focal dermal hypoplasia) with giant papillomas *BJD 133:997–999, 1995*

Juvenile hyaline fibromatosis *Caputo p.55, 2000*

Maffucci's syndrome *Rook p.2295, 1998, Sixth Edition*

Neurofibromatosis – neurofibroma pendulans *Zentralbl Chir 110:1193–1195, 1985;* rugose and plexiform neurofibromas *JAAD 52:191–195, 2005; Ann Plast Surg 45:442–445, 2000;* elephantiasis neurofibromatosa – diffuse neurofibromatosis of nerve trunks with overgrowth of skin and subcutaneous tissues yielding a wrinkled and pendulous appearance *Rook p.380, 1998, Sixth Edition*

Olmsted syndrome – plantar squamous cell carcinoma *BJD 145:685–686, 2001*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Pediatrics 76:984–989, 1985; Am J Med Genet 27:87–97, 1987; Eur J Pediatr 140:5–12, 198; Arch Fr Pediatr 47:441–444, 1990 (French)*

Rubinstein–Taybi syndrome – large keloids *Cutis 57:346–348, 1996;* broad thumb *Ped Derm 11:21–25, 1994;* mental deficiency, small head, broad thumbs and great toes, beaked nose, malformed low-set ears, capillary nevus of forehead, hypertrichosis of back and eyebrows, cardiac defects *Am J Dis Child 105:588–608, 1963*

Xeroderma pigmentosum – squamous cell carcinoma *BJD 152:545–551, 2005*

### VASCULAR DISORDERS

Angiosarcoma *BJD 149:1273–1275, 2003; Caputo p.103, 2000*

Glomus tumor *JAAD 14:1083–1084, 1986; BJD 90:229–231, 1974;* plaque type; patch-like *JAAD 40:826–828, 1999*

Hemangiomas, giant *Textbook of Neonatal Dermatology, p.345, 2001;* life-threatening *AD 133:1567–1571, 1997;* arising in port wine stain *JAAD 31:675–676, 1994;* multiple giant hemangiomas with heart failure *Jpn Heart J 33:493–497, 1992;* with diffuse neonatal hemangiomatosis *J Dermatol 18:286–290, 1991; Clin Pediatr (Phila) 23:498–502, 1984;* of scalp *S Afr Med J 55:47–49, 1979*

Hemangiopericytoma, congenital *Ped Derm 10:267–270, 1993*

Kassabach–Merritt syndrome *Arch Dis Child 65:790–791, 1990*

Lymphatic malformation *Textbook of Neonatal Dermatology, p.328, 2001*; lymphangiomatosis – fluctuant swellings *Am J Surg Pathol 16:764–771, 1992*

Pyogenic granuloma *Rook p.2354–2355, 1998, Sixth Edition*

Retiform hemangioendothelioma – exophytic masses of scalp, arms, legs, and penis *JAAD 38:143–175, 1998*

Venous malformation – of scalp *Zentralbl Neurochir 59:274–277, 1998*

## ULCERS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – contact vulvitis *NEJM 347:1412–1418, 2002*

Anti-centromere antibodies – ulcers and gangrene of the extremities *Br J Rheumatol 36:889–893, 1997*

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Bowel-associated dermatitis arthritis syndrome (BADAS)

Common variable immunodeficiency (Gottron-like papules) – granulomas presenting as acral red papules and plaques with

central scaling, scarring, atrophy, ulceration *Cutis 52:221–222, 1993*

Chronic granulomatous disease – necrotic ulcers; bacterial abscesses, perianal abscesses *JAAD 36:899–907, 1997; AD 130:105–110, 1994; NEJM 317:687–694, 1987; AD 103:351–357, 1971*

Dermatitis herpetiformis

Dermatomyositis *Cutis 62:89–93, 1998; AD 126:633–637, 1990;* livedo reticularis and multiple ulcers *J Eur Acad DV 11:48–50, 1998;* calcinosis cutis with ulcers due to extrusion of calcium *Rook p.2560, 1998, Sixth Edition*

Graft vs. host disease, chronic – deep ulcers of the buttocks and legs *AD 138:924–934, 2002; Rook p.1920,2517, 1998, Sixth Edition; Arch Neurol 39:188–190, 1982*

Leukocyte adhesion deficiency (beta 2 integrin deficiency) (congenital deficiency of leukocyte-adherence glycoproteins (CD11a (LFA-1), CD11b, CD11c, CD18)) – necrotic cutaneous abscesses, cellulitis, skin ulcerations (pyoderma gangrenosum-like ulcer), psoriasiform dermatitis, ulcerative stomatitis; gingivitis, periodontitis, septicemia, ulcerative stomatitis, pharyngitis, otitis, pneumonia, peritonitis *BJD 139:1064–1067, 1998; J Pediatr 119:343–354, 1991; BJD 123:395–401, 1990; Annu Rev Med 38:175–194, 1987; J Infect Dis 152:668–689, 1985*

Lupus erythematosus, systemic – malleolar, foot ulcers in areas of livedo or vasculitis *Rook p.2474, 1998, Sixth Edition; J Rheumatol 6:204–209, 1979*; generalized discoid lupus erythematosus; vasculitis – punched-out ulcers *JAAD 48:311–340, 2003; Lupus 235–242, 1997;* chronic pyoderma gangrenosum in hydralazine-induced LE *NEJM 347:1412–1418, 2002; JAAD 10:379–384, 1984;* DLE; palmar ulcer in SLE *AD 135:845–850, 1999*; lupus profundus *Lupus 10:514–516, 2001*

Pemphigus vulgaris – bilateral foot ulcers *Clin Exp Dermatol 25:224–226, 2000*

Rheumatoid arthritis – rheumatoid vasculitis *Rheum Dis Clin North Am 16:445–461, 1990; JAAD 18:140–141, 1988; Semin Arthritis Rheum 14:280–286, 1985*; ulcers *JAAD 48:311–340, 2003;* ulceration of sacrum; ulcerated rheumatoid nodule *Br Med J iv:92–93, 1975;* neutrophilic dermatitis *Cutis 60:203–205, 1997*

Scleroderma, systemic *J Rheumatol 25:1540–1543, 1998; Semin Cutan Med Surg 17:48–54, 1998;* ulcers over knuckles *Rook p.2529, 1998, Sixth Edition;* ulcers overlying calcinosis cutis *Rook p.2530, 1998, Sixth Edition*

## CONGENITAL

Aplasia cutis congenita – without associated anomalies *Textbook of Neonatal Dermatology, p.129, 2001;* extensive scalp ulcer *AD 141:554–556, 2005*

Aplasia cutis congenita in surviving co-twins *Ped Derm 18:511–515, 2001*

Bart's syndrome – congenital localized absence of skin with epidermolysis bullosa *AD 93:293–304, 1966*

Congenital absence of skin *JAAD 2:203–206, 1980*

Epidermal necrosis, intrauterine *Textbook of Neonatal Dermatology, p.149, 2001; JAAD 38:712–715, 1998*

Noma neonatorum – deep ulcers with bone loss, mutilation of nose, lips, intraorally, anus, genitalia; Pseudomonas, malnutrition, immunodeficiency *Textbook of Neonatal Dermatology, p.149, 2001*

Porokeratosis – congenital linear porokeratosis *Ped Derm 12:318–322, 1995*

Occult spinal dysraphism – aplasia cutis congenita-like lesion *J Pediatr 96:687–689, 1980*

## DEGENERATIVE DISEASES

Digital mucous cyst

Hereditary sensory neuropathy – plantar ulcers *Int J Dermatol 23:664–668, 1984*

Hypesthesia following encephalitis

Neurotrophic ulcers (mal perforans) (Charcot foot); including those associated with neuropathies – on metatarsal heads and heels with underlying sinsus tract to joint or subfascial abscess *Rook p.2775, 1998, Sixth Edition*

Peripheral neuropathy – painless acral cutaneous ulcers with deformity *Rook p.2775, 1998, Sixth Edition*

Reflex sympathetic dystrophy *JAAD 35:843–845, 1996; AD 127:1541–1544, 1991*

Syringomyelia – painless ulcer *Ghatan p.26, 2002, Second Edition*

Trophic ulcers
- Acrodystrophic neuropathy of Bureau and Barriere
- Alcoholism
- Amantadine-induced peripheral neuropathy
- Autonomic trophic disorder of the cerebral hemispheres
- Beta thalassemia major and intermedia
- Carpal tunnel syndrome
- Cauda equina syndrome
- Charcot–Marie–Tooth syndrome, type 2A
- Chronic obliterating arteriopathies
- Compression syndrome
- Congenital acro-osteolysis
- Congenital dyserythropoietic anemia type II
- Cutaneous–mucous trophic disorder
- Diabetes mellitus
- Distal hyperirrigation syndrome
- Familial amyloid polyneuropathy type I
- Giaccai syndrome
- Gilbert's syndrome
- Hereditary sensory and autonomic neuropathies (HSAN), four types
- Hereditary spastic paraplegia with sensory neuropathy
- Klinefelter's syndrome
- Klippel–Trenaunay syndrome
- Leprosy
- Lipomeningocoele
- Multiple sclerosis
- Multiple symmetric lipomatosis
- Neuroacropathy
- Peripheral arterial occlusive disease (Fontaine stage III, IV)
- Peripheral neuropathy
- Poliomyelitis
- Post-external fixation in quadriplegia
- Post-femoropopliteal shunt
- Post-keratoplasty
- Post-retroperitoneoscopic lumbar sympathectomy
- Post-spinal anesthesia
- Post-surgery of trigeminal nerve
- Post-varicose vein surgery
- Reflex sympathetic dystrophy
- Rheumatoid arthritis
- Spina bifida
- Split cord malformation with meningomyelocele (complex spina bifida)
- Syringomyelia
- Tabes dorsalis
- Trigeminal trophic syndrome (Wallenberg's syndrome)
- Ulcerative-mutilating acropathy – inherited (Thavenard's syndrome) or acquired (Bureau–Barriere syndrome)
- Venous insufficiency
- Werner's syndrome with torpid trophic ulcera cruris

## DRUG-INDUCED

Coumarin necrosis – eschar and ulceration *JAAD 47:766–769, 2002*

Etretinate – ulcerated atrophic striae *Cutis 65:327–328, 2000*

Halogenoderma – iododerma *JAAD 36:1014–1016, 1997*

Heparin necrosis – eschar and ulceration *JAAD 47:766–769, 2002*

Hydralazine-induced SLE (pyoderma gangrenosum-like ulcers) *JAAD 10:379–384, 1984;* acute vasculitis after urography with iopamidol *BJD 129:82–85, 1993*

Hydroxyurea – ulcers of the lower legs and feet; atrophic, scaling, poikilodermatous patches with erosions on the backs of the hands, sides of the feet *NEJM 347:1412–1418, 2002; JAAD 45:321–322, 2001; AD 135:818–820, 1999; Leuk Lymphoma 35:109–118, 1999*

Ibuprofen vasculitis

Interferon-α – necrotic ulcerations at injection site *JAAD 46:611–616, 2002; J Eur Acad DV 13:141–143, 1999; JAAD 35:788–789, 1996;* interferon-β-1b injection sites *JAAD 37:553–558, 1997; JAAD 37:488–489, 1997; JAAD 34:365–367, 1996*

Lotrisone atrophy with ulceration and extrusion of fat

Methimazole, carbimazole – congenital skin defects *Ann Intern Med 106:60–61, 1987*

Methotrexate – ulcers in psoriatic plaques or normal skin *JAAD 11:59–65, 1984*

Pentazocine *AD 132:1365–1370, 1996; JAAD 2:47–55, 1980*

Vasculitis, drug-induced

## EXOGENOUS AGENTS

Bromoderma *NEJM 347:1412–1418, 2002*

Calcium – exogenous calcinosis cutis – ulcerated plaque *Ped Derm 15:27–30, 1998*

Caustics

Chemical burns
- Acids and alkalis
- Cement (lime) (calcium hydroxide) *Br Med J i:1250, 1978*
- Chromic acid
- Hydrofluoric acid
- Lime dust – necrosis with ulcers *Contact Dermatitis 1:59, 1981*
- Phosphorus
- Phenol

Chrome ulcers of skin and nasal mucosae – tanners, electroplaters *Rook p.770, 1998, Sixth Edition*

Sodium silicate – ulcerative contact dermatitis due to primary irritant contact dermatitis with contact urticaria *AD 118:518–520, 1982*

## INFECTIONS AND INFESTATIONS

Abscess – bacterial, fungal, parasitic

Actinomycosis

*Aeromonas hydrophila*

African histoplasmosis (*Histoplasma duboisii*) *BJD 82:435–444, 1970*

African trypanosomiasis *AD 131:1178, 1995*

AIDS – acute HIV infection; genital ulcers *AD 134:1279–1284, 1998*

*Alternaria alternata* (phaeohyphomycosis) *Cutis 56:145–150, 1995; Clin Exp Dermatol 18:156–158, 1993*; cellulitis with ulceration *JAAD 52:653–659, 2005; multiple ulcers BJD 145:484–486, 2001*

Amebiasis *NEJM 347:1412–1418, 2002;* foot ulcer, perianal ulcer; *Acanthamoeba Cutis 73:241–248, 2004; JAAD 42:351–354, 2000; J Clin Inf Dis 20:1207–1216, 1995; Entamoeba histolytica* in neonate *Textbook of Neonatal Dermatology, p.234, 2001*

Animal bite

Anthrax – eschar and ulceration; ulceroglandular disease *JAAD 47:766–769, 2002*

*Arcanobacterium haemolyticum* – trophic ulcer *Clin Inf Dis 18:835–836, 1994*

Aspergillosis *NEJM 347:1412–1418, 2002;* ulcers with satellite abscesses *Ped Derm 19:439–444, 2002;* eschar and ulceration *JAAD 47:766–769, 2002*; Aspergillus flavus, primary cutaneous – necrotic ulcer *AD 141:1035–1040, 2005;* primary cutaneous in neonate *Ped Derm 8:253–255, 1991; Clin Exp Dermatol 15:446–450, 1990*

Basidiobolomycosis *Ped Derm 8:325–328, 1991*

BCG vaccination site in Kawasaki's disease – ulcerated plaque *JAAD 37:303–304, 1997*

*Bilophila wadsworthia* – cellulitis *J Clin Inf Dis (Suppl 2):S88–93, 1997*

Botryomycosis *JAAD 24:393–396, 1991*

Boutonneuse spotted fever – *Rickettsia conorii*; black eschar (tache noir) *JAAD 49:363–392, 2003*

Brown recluse spider bite *NEJM 347:1412–1418, 2002*

Brucellosis (*Brucella melitensis*) *Med Clin* (*Barc*) *100:417–419, 1993*

*Calymmatobacterium granulomatis* (Donovanosis) – buttock ulcer *J Clin Inf Dis 25:24–32, 1997*

*Candida albicans Clin Exp Dermatol 14:295–297, 1989;* granulomatous panniculitis with multiple leg ulcers *JAAD 28:315–317, 1993*

Carbuncle *Rook p.1120, 1998, Sixth Edition*

Cat scratch disease – ulceroglandular disease *JAAD 47:766–769, 2002*

Chagas' disease

Chancriform pyoderma (*Staphylococcus aureus*) – ulcer with indurated base; eyelid, near mouth, genital *AD 87:736–739, 1963*

Chancroid – resembling granuloma inguinale; ulceroglandular disease *JAAD 47:766–769, 2002;* phagedenic chancroid

Chromomycosis – feet, legs, arms, face, and neck *AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

*Clostridium welchii Rook p.2188, 1998, Sixth Edition*

Clostridial gas gangrene – acute ulcer *Rook p.2265, 1998, Sixth Edition*

Coccidioidomycosis *JAAD 46:743–747, 2002*; *Rook p.1368, 1998, Sixth Edition;* primary cutaneous coccidioidomycosis *JAAD 49:944–949, 2003*

*Corynebacterium pseudodiphtheriticum* – hand ulcer *Clin Infect Dis 29:938–939, 1999*

*Corynebacterium pyogenes* – epidemic leg ulcers in Thailand *Int J Dermatol 21:407–409, 1987*

*Corynebacterium ulcerans* – ulcer mimicking diphtheria with gray membrane and sweet smell *Clin Inf Dis 33:1598–1600, 2001*

Cowpox – papule progresses to vesicle to hemorrhagic vesicle to umbilicated pustule, then eschar with ulcer *JAAD 44:1–14, 2001; BJD 133:598–607, 1994*

Cryptococcosis – punched out ulcers with rolled edge *NEJM 347:1412–1418, 2002; AD 124:429–434, 1988; AD 112:1734–1740, 1976; BJD 74:43–49, 1962; AD 77:210–215, 1958;* verrucous ulcer *Cutis 51:377–380, 1993;* herpetiform ulcers *JAAD 10:387–390, 1984;* mimicking pyoderma gangrenosum *JAAD 5:32–36, 1981*

*Curvularia lunata* – sternal wound infection with chest ulcer *J Clin Inf Dis 19:735–740, 1994; Arch Int Med 139:940–941, 1979*

Cytomegalovirus *Dermatology 200:189–195, 2000; JAAD 38:349–351, 1998; J Rheumatol 20:155–157, 1993; AD 127:396–398, 1991*

Dematiacious fungal infections in organ transplant recipients – all lesions on extremities

*Alternaria*
*Bipolaris hawaiiensis*
*Exophiala jeanselmei*, *E. spinifera*, *E. pisciphera*, *E. castellani*
*Exserohilum rostratum*
*Fonsacaea pedrosoi*
*Phialophora parasitica*

Diphtheria – superficial round ulcer with overhanging edge; gray adherent membrane; later edge thickens and becomes raised and rolled; umbilicus, post-auricular, groin, finger or toe web; heals with scarring; crusts around nose and mouth with faucial diphtheria *Schweiz Rundsch Med Prax 87:1188–1190, 1998; Postgrad Med J 72:619–620, 1996; Am J Epidemiol 102:179–184, 1975*

Dracunculosis – small papule or vesicle which ruptures; ulcer forms from which worm can be removed *Dermatol Clinic 7:323–330, 1989*

*Escherichia coli*

Ecthyma – streptococcal or staphylococcal; ulcer with thick hard crust *Rook p.1112, 1998, Sixth Edition;* eschar and ulceration *JAAD 47:766–769, 2002*

Ecthyma gangrenosum – *Pseudomonas aeruginosa*, *Candida*, *Aspergillus*, *Escherichia coli*, *Aeromonas hydrophila*

Filariasis – elephantiasis of the dorsum of the foot with ulceration *Caputo p.162, 2000*

*Fusarium solanae Rev Soc Bras Med Trop 30:323–328, 1997* (*Spanish*); *Sabouradis 17:219–223, 1979*

Glanders – *Pseudomonas mallei* – cellulitis which ulcerates with purulent foul-smelling discharge, regional lymphatics become abscesses; nasal and palatal necrosis and destruction; metastatic papules, pustules, bullae over joints and face, then ulcerate; deep abscesses with sinus tracts occur; polyarthritis, meningitis, pneumonia; eschar and ulceration; ulceroglandular *JAAD 47:766–769, 2002; Rook p.1146–1147, 1998, Sixth Edition*

Gram-negative web space infection

Granuloma inguinale – papule or nodule breaks down to form ulcer with overhanging edge; deep extension may occur; or serpiginous extension with vegetative hyperplasia; pubis, genitalia, perineum; extragenital lesions of nose and lips, or extremities *JAAD 11:433–437, 1984*

Herpes simplex *NEJM 347:1412–1418, 2002; Tyring p.86–87, 2002; AD 132:1157–1158, 1996; JAMA 241:592–594, 1979;* neonatal HSV – widespread erosions *Tyring p.89, 2002; J Pediatr 101:958–960, 1982;* congenital absence of skin *J Pediatr 101:958–960, 1982;* ulceroglandular disease *JAAD 47:766–769, 2002*

Herpes zoster – chronic ulcerating acyclovir-resistant varicella zoster *Scand J Infect Dis 27:623–625, 1995*

Histoplasmosis *AD 132:341–346, 1996; JAAD 29:311–313, 1993; Medicine 60:361–373, 1990; Cutis 43:535–538, 1989;* punched out ulcers *Arch Derm Syphilol 56:715–739, 1947*

Impetigo

Insect bites – eschar and ulceration *JAAD 47:766–769, 2002*

Kerion

Leishmaniasis *JAAD 51:S125–128, 2004; Clin Inf Dis 33:815,897–898, 2001; Clin Inf Dis 32:1304–1312, 2001; Trans R Soc Trop Med Hyg 81:606, 1987; Cutis 38:198–199, 1986;* mucocutaneous leishmaniasis *J Emerg Med 20:353–356, 2001; AD 134:193–198, 1998; J Clin Inf Dis 22:1–13, 1996;* kala-azar – *Leishmania donovani* – pedal edema; primary ulcer; hyperpigmented skin of face, hands, feet abdomen *Rook p.1419, 1998, Sixth Edition;* leishmaniasis recidivans – crusted ulcer *Clin Inf Dis 33:1076–1079, 2001;* eschar and ulceration *JAAD 47:766–769, 2002*

Leprosy (*Mycobacterium leprae*) – lepromatous leprosy *Int J Dermatol 29:156–157, 1990;* plantar ulcers due to involvement of common peroneal and posterior tibial nerve leading to foot drop *Indian J Lepr 71:437–450, 1999;* neurotrophic ulcers *Rook p.2265, 1998, Sixth Edition;* Lucio's phenomenon – generalized ulcers *AD 135:983–988, 1999; Rook p.1227, 1998, Sixth Edition;* eschar and ulceration *JAAD 47:766–769, 2002;* painless ulcers *JAAD 48:958–961, 2003;* immune reconstitution inflammatory syndrome (IRIS) in HIV disease – ulcerated plaque *AD 140:997–1000, 2004;* tender ulcerations of buttocks and legs *AD 116:201–204, 1980*

Lobomycosis

Lymphogranuloma venereum – ulceroglandular disease *JAAD 47:766–769, 2002*

Meleney's synergistic gangrene *Rook p.2265,2266, 1998, Sixth Edition*

Melioidosis – *Burkholderia pseudomallei*; septic arthritis, abscesses, ulcers *Clin Inf Dis 31:981–986, 2000;* ulceroglandular disease *JAAD 47:766–769, 2002;* ulcerative vegetative plaque *Cutis 72:310–312, 2003*

Meningococcemia – necrotic purpura with ulcerations *Pediatrics 60:104–106, 1977*

Milker's nodule – eschar and ulceration *JAAD 47:766–769, 2002*

Mosquito bite hypersensitivity syndrome in Epstein–Barr virus-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Mucormycosis *Clin Inf Dis 19:67–76, 1994; JAAD 21:1232–1234, 1989;* eschar and ulceration *JAAD 47:766–769, 2002*

Mycetoma

*Mycobacterium avium-intracellulare BJD 142:789–793, 2000; BJD 136:260–263, 1997; Clin Inf Dis 19:263–273, 1994; JAAD 19:492–495, 1988;* ecthyma-like ulcer *AD 126:1108–1110, 1990*

*Mycobacterium chelonae Clin Inf Dis 19:263–273, 1994; AD 129:1190–1191, 1193, 1993;* post-surgical wound infection *J Infect Dis 143:533–542, 1981*

*Mycobacterium fortuitum Clin Inf Dis 19:263–273, 1994;* post-surgical wound infection *J Infect Dis 143:533–542, 1981*

*Mycobacterium haemophilum* – necrotic ulcer *Clin Inf Dis 33–330–337, 2001; Rook p.1213, 1998, Sixth Edition; Clin Inf Dis 19:263–273, 1994; J Infection 23:303–306, 1991;* inguinal ulcer *AD 138:229–230, 2002*

*Mycobacterium kansasii JAAD 36:497–499, 1997; Clin Inf Dis 19:263–273, 1994;* swollen fingers with ulcers *JAAD 45:620–624, 2001*

*Mycobacterium marinum* – ecthyma-like ulcers *Clin Inf Dis 19:263–273, 1994;* ulcers mimicking M. ulcerans *Med J Austral ii:434–437, 1973*

*Mycobacterium scrofulaceum Clin Inf Dis 20:549–556, 1995; Clin Inf Dis 19:263–273, 1994*

*Mycobacterium tuberculosis NEJM 347:1412–1418, 2002; Ned Tidjschr Geneeskd 145:1523–1524, 2001;* tuberculous ulcer *JAAD 19:1067–1072, 1988;* chancre, primary inoculation; scrofuloderma (ulceroglandular disease) *JAAD 47:766–769, 2002; BJD 134:350–352, 1996;* miliary tuberculosis; large crops of vesicles, vesicles become necrotic to form ulcers *Practitioner 222:390–393, 1979; Am J Med 56:459–505, 1974; AD 99:64–69, 1969;* tuberculous gumma *Cutis 66:277–279, 2000;* malacoplakia of tuberculous origin – scalp ulcer *JAAD 18:577–579, 1988;* erythema induratum; papulonecrotic tuberculid *Ped Derm 15:450–455, 1998; Ped Derm 7:191–195, 1990;* ulcer of the nose *Ann DV 110:731–732, 1983;* phagedenic tuberculous ulcers *Int J Dermatol 9:283–289, 1970;* lupus vulgaris; starts as red–brown plaque; ulcerative and mutilating forms, vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* eschar and ulceration *JAAD 47:766–769, 2002*

*Mycobacterium ulcerans* (Buruli ulcer) *NEJM 348:1065–1066, 2003; Lancet 354:1013–1018, 1999; Med Trop (Mars) 57:83–90, 1997 (French); Med Trop (Mars) 55:363–373, 1995; Aust J Dermatol 26:67–73, 1985; Pathology 17:594–600, 1985*

Myiasis, erosive *AD 117:59–60, 1981*

Necrotizing fasciitis – painless ulcer *Ghatan p.26, 2002, Second Edition*

Nocardiosis *AD 130:243–248, 1994; Nocardia brasiliensis J Inf Dis 134:286–289, 1976*

North American blastomycosis *Clin Inf Dis 22 (suppl 2) S102–111, 1996;* ulceration of the lip *Rook p.3135, 1998, Sixth Edition*

Orf – eschar and ulceration *JAAD 47:766–769, 2002*

Osteomyelitis – leg ulcer overlying osteomyelitis *Rook p.2265, 1998, Sixth Edition*

Paracoccidioidomycosis – near mouth, anus, or genitalia *J Clin Inf Dis 23:1026–1032, 1996;* ulceration of the lip *Rook p.3135, 1998, Sixth Edition*

*Pasteurella multocida* (*P. haemolytica*, *P. pneumotropica* and *P. ureae*) – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *Medicine 63:133–144, 1984*

*Penicillium marneffei NEJM 347:1412–1418, 2002; Clin Inf Dis 18:246–247, 1994*

Perirectal abscess

Phaeohyphomycosis – inoculation phaeohyphomycosis *AD 137:815–820, 2001*

Plague – eschar and ulceration; ulceroglandular *JAAD 47:766–769, 2002*

Portuguese man-of-war stings

*Prevotella* species *J Clin Inf Dis (Suppl 2):S88–93, 1997*

Progressive symmetric gangrene (DIC)

Protothecosis *JAAD 32:758–764, 1995; AD 125:1249–1252, 1989;* red plaque with pustules and ulcers *BJD 146:688–693, 2002*

*Pseudomonas* – interdigital web space infection; periumbilical pustules with necrotic ulcers; extensive necrosis in neutropenic patients *JAAD 11:781–786, 1984; AD 97:312–318, 1968; Pseudomonas* sepsis – bullae which rupture to yield necrotic ulcers (ecthyma gangrenosum) – eschar and ulceration *JAAD 47:766–769, 2002; Ped Derm 4:18–20, 1987; Medicine 64:115–133, 1985*

Pyoderma

Pythiosis (*Pythium insidiosum*) (alga) – cellulitis, infarcts, ulcers *JAAD 52:1062–1068, 2005*

Rat bite fever – eschar and ulceration *JAAD 47:766–769, 2002*

Rickettsial pox – eschar and ulceration *JAAD 47:766–769, 2002*

*Scedosporium apiospermum* – ulcer of hand *JAAD 39:498–500, 1998*

Schistosomiasis *Derm Clinics 17:151–185, 1999*

*Scopulariopsis brevicaulis*

Scorpion stings *Rook p.2265, 1998, Sixth Edition*

Scrofuloderma *Ped Derm 18:328–331, 2001*

Scrub typhus – punched out ulcer with adherent crust, then morbilliform eruption *Clin Inf Dis 18:624, 1994; JAAD 2:359–373, 1980;* eschar and ulceration *JAAD 47:766–769, 2002*

*Serratia marcescens JAAD 25:565, 1991*

Snake bites *Rook p.2265, 1998, Sixth Edition*

Sparganosis – *Spirometra proliferum Derm Clinics 17:151–185, 1999*

Spiders – necrotic arachnidism – brown recluse spider, wolf spider, sac spider, jumping spider, fishing spider, hobo spider, green lynx spider *JAAD 44:561–573, 2001; Int Surg 46:24–28, 1966;* eschar and ulceration *JAAD 47:766–769, 2002*

Sporotrichosis – finger ulcer *Cutis 69:371–374, 2002;* mimicking pyoderma gangrenosum *NEJM 347:1412–1418, 2002; Derm Clinics 17:151–185, 1999; AD 122:691–694, 1986*

Stonefish sting

Staphylococcal adenitis – ulceroglandular disease *JAAD 47:766–769, 2002*

Streptococcal adenitis – ulceroglandular disease *JAAD 47:766–769, 2002*

*Streptococcus pneumoniae Clin Inf Dis 21:697–698, 1995;* necrotizing fasciitis *Acta Chir Belg 98:102–106, 1998; JAAD 20:774–781, 1989; Surgery 92:765–770, 1982;* group B streptococcal disease – foot ulcers, decubitus ulcers *Clin Inf Dis 33:556–561, 2001*

Subcutaneous phaeohyphomycosis – *Exophiala jeanselmei*; finger ulcer *BJD 150:597–598, 2004*

Syphilis – primary (chancre), secondary (noduloulcerative syphilis, lues maligna) *AD 113:1027–1028, 1030–1031, 1997; BJD 136:946–948, 1997; Cutis 45:119–122, 1990*; Jarisch–Herxheimer reaction – reactivation of primary chancre *Acta DV 76:91–92, 1996;* tertiary – gumma *Rook p.1251, 1998, Sixth Edition;* tabes dorsalis – painless neurotrophic ulcer of weight bearing regions of sole *Arch Neurol 42:606–613, 1985;* syphilitic aortic aneurysm eroding through the sternum *Dur M Cardiothorac Surg 10:922–924, 1996*

Tick bites – especially soft ticks *JAAD 49:363–392, 2003*

Tick typhus (Boutonneuse fever, Kenya tick typhus, African and Indian tick typhus) (ixodid ticks) – small ulcer at site of tick bite (tache noire) – black necrotic center with red halo; pink morbilliform eruption of forearms, then generalizes, involving face, palms, and soles; may be hemorrhagic; recovery uneventful *JAAD 2:359–373, 1980;* eschar and ulceration *JAAD 47:766–769, 2002*

*Trichophyton rubrum* in AIDS *JAAD 34:1090–1091, 1996*

Trichosporosis, neonatal – cellulitis evolving into necrotic ulcer *Textbook of Neonatal Dermatology, p.147, 2001*

Tropical phagedenic ulcer – *Corynebacterium pyogenes* – fusiform bacilli; eschar and ulceration *JAAD 47:766–769, 2002*

Tularemia – *Francisella tularensis* – punched-out painful ulcer with raised ragged edges and necrotic base with regional lymphadenopathy, lymphadenitis, or nodular lymphangitis (ulceroglandular disease) *JAAD 47:766–769, 2002; Clin Inf Dis 33:573–576, 2001; Cutis 63:49–51, 1999;* eschar and ulceration; scalp ulcer with lymphadenopathy *AD 140:1531–1536, 2004*

Typhoid fever *J Trop Med Hyg 97:298–299, 1994*

Ulcers with regional adenopathy – anthrax, ecthyma, *Pasteurella multocida* infection, sporotrichosis, cat scratch disease, plague, glanders, lymphogranuloma venereum, tularemia *JAAD 49:363–392, 2003*

Varicella – congenital varicella syndrome – linear and unilateral ulceration and scarring; congenital absence of skin; maternal varicella in the last trimester *J Infect Dis 7:77–78, 1983*

Veldt sore – desert sore

*Vibrio extorquens JAAD 9:262–8, 1983*

*Vibrio haemolyticum*

*Vibrio vulnificus* sepsis *JAAD 24:397–403, 1991; J Infect Dis 149:558–564, 1984*

Wound infection

Yaws *Rook p.2265, 1998, Sixth Edition; Clin Dermatol 8:157–165, 1990*

*Yersinia enterocolitica J Clin Inf Dis 21:223–224, 1995*

Zygomycosis *NEJM 347:1412–1418, 2002;* neonatal – cellulitis evolving into necrotic ulcer *Textbook of Neonatal Dermatology, p.147, 2001*

## INFILTRATIVE DISEASES

Amyloidosis – familial amyloid polyneuropathy – atrophic scars and poorly healed ulcers *BJD 152:250–257, 2005*

Eosinophilic granuloma

Langerhans cell histiocytosis *NEJM 347:1412–1418, 2002;* axillary, vulvar ulcers *AD 137:1241–1246, 2001;* extensive paravertebral skin ulcers *BJD 145:137–140, 2001*

Mucinosis, primary cutaneous

## INFLAMMATORY DISEASES

Crohn's disease – local extension, fissures, metastatic Crohn's disease – post-auricular ulcer *NEJM 347:1412–1418, 2002; JAAD 36:986–988, 1996*; *AD 129:1607–1612, 1993; AD 126:645–648, 1990; JAAD 10:33–38, 1984;* peristomal ulcers

Cytophagic histiocytic panniculitis *J Eur Acad DV 10:267–268, 1998; AD 121:910–913, 1985*

Dermatitis gangrenosum infantum – multiple necrotic ulcers complicating varicella, seborrheic dermatitis, etc *BJD 75:206–211, 1963*

Edematous scarring vasculitic panniculitis – hydroa vacciniforme-like lesions with vesicles, deep ulcers, varicelliform scars *JAAD 32:37–44, 1995*

Hidradenitis suppurativa

Inflammatory bowel disease – fissures

Kikuchi's histiocytic necrotizing lymphadenitis *JAAD 36:342–346, 1997*

Malacoplakia *JAAD 34:325–332, 1996*

Malignant pyoderma – head and neck variant of pyoderma gangrenosum *Eur J Dermatol 11:595–596, 2001; AD 122:295–302, 1986; JAAD 13:1021–1025, 1985*

Panniculitis

Pyoderma gangrenosum *NEJM 347:1412–1418, 2002; Dermatology 195:50–51, 1997; J Derm Surg Oncol 20:833–836, 1994; JAAD 18:559–568, 1988;* pyoderma gangrenosum with C7 deficiency *JAAD 27:356–359, 1992;* scalp ulcers and destruction of the calvarium *BJD 5:32–36, 1995;* peristomal pyoderma gangrenosum *BJD 143:1248–1260, 2000*; associations with Crohn's disease, ulcerative colitis, arthritis, HIV infection, sarcoid, hereditary hypogammaglobulinemia *JAAD 53:273–283, 2005*

Pyoderma sinifica pustulans (fox den disease)

Pyoderma vegetans – crusted hyperplastic plaques, mimic blastomycosis; ulceration mimicking pyoderma gangrenosum; crusted red plaques with pustules *JAAD 20:691–693, 1989; J Derm Surg Onc 12:271–273, 1986*

Sarcoidosis – ulcerative sarcoidosis *Dermatology 202:367–370, 2001; J Eur Acad Dermatol Venereol 12:78–79, 1999; AD 133:215–219, 1997; J Derm Surg Oncol 15:679–683, 1989; AD 123:1531–1534, 1987; Dermatologica 174:135–139, 1987*

Superficial granulomatous pyoderma

Toxic epidermal necrolysis *Rook p.2086, 1998, Sixth Edition; BJD 68:355–361, 1956*

## METABOLIC DISEASES

Acrodermatitis enteropathica

Calcinosis cutis

Calciphylaxis *J Dermatol 28:272–275, 2001; Am J Clin Pathol 113:280–287, 2000; JAAD 40:979–987, 1999; JAAD 33:53–58, 1995; JAAD 33:954–962, 1995; AD 131:63–8, 1995*

Chronic renal failure – prolonged wound healing *Rook p.2730, 1998, Sixth Edition*

Cryofibrinogenemia *Am J Med 116:332–337, 2004*

Cryoglobulinemia *JAAD 48:311–340, 2003;* type I or mixed cryoglobulinemia *NEJM 347:1412–1418, 2002*

Diabetes mellitus – small vessel disease, neurotrophic ulcers (mal perforans) – painless circular punched out ulcer in middle of a callus *Rook p.2675, 1998, Sixth Edition*; necrobiosis lipoidica diabeticorum *Int J Dermatol 28:195–197, 1989;* arteriosclerotic ulcers – ulcers at side or back of ankle, along heel *Rook p.2266, 1998, Sixth Edition*

Gaucher's disease

Gigantomastia of pregnancy – ulceration of breast *Br J Surg 74:585–586, 1987*

Gout

Hematologic diseases
- Dysproteinemia
  - Cryopathies
    - Cold agglutinins *Ghatan p.26, 2002, Second Edition*
    - Cryofibrinogenemia *JAAD 28:71–74, 1993; Lancet 338 (8763):347–348, 1991*
    - Cryoglobulinemia *JAAD 25:21–27, 1991*; mixed cryoglobulinemia with hepatitis C virus *Am J Med 96:124–132, 1994*
  - Macroglobulinemia
  - Red cell disease
    - Sickle cell anemia
    - Thalassemia
    - Spherocytosis
    - Polycythemia vera
  - White blood cell disease
    - Leukemia
  - Platelet disorders

Hemolytic anemia, congenital *Ghatan p.26, 2002, Second Edition*

Hyperparathyroidism and calcinosis *Arch Pathol Lab Med 114:484–484, 1990*

Marasmus – severe protein and caloric deprivation; skin ulcers due to wrinkled, loose, dry skin; extensive loss of subcutaneous fat *JAAD 21:1–30, 1989*

Necrobiosis lipoidica diabeticorum *NEJM 347:1412–1418, 2002; Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988; JAAD 17:351–354, 1987;* foot ulcers *BJD 143:668–669, 2000*

Osteoma cutis – ulcerating yellow–white plaques *BJD 146:1075–1080, 2002*

Porphyria – porphyria cutanea tarda *Tyring p.361, 2002;* congenital erythropoietic porphyria (Gunther's disease) *Semin Liver Dis 2:154–63, 1982*

Prolidase deficiency *BJD 121:405–409, 1989; Hautarzt 39:247–249, 1988*

## NEOPLASTIC DISEASES

Angioimmunoblastic lymphadenopathy with granulomatous vasculitis *JAAD 14:492–501, 1986*

Atrial myxoma *Cutis 62:275–280, 1998; JAAD 32:881–883, 1995; JAAD 21:1080–1084, 1989*

Basal cell carcinoma, including basal cell arising in venous ulcers *J Derm Surg Oncol 19:150–152, 1993*

Bowen's disease

Chordoma – sacral ulcers *JAAD 52:S105–108, 2005*

Elastofibroma dorsi *JAAD 21:1142–1144, 1989*

Essential thrombocythemia *JAAD 24:59–63, 1991*

Fibrosarcoma/spindle cell sarcoma – extensive local destruction *Rook p.2352, 1998, Sixth Edition*

Hemophagocytic syndrome *AD 128:193–200, 1992*

Keratoacanthoma

Leukemia – large granular lymphocytic leukemia – pyoderma gangrenosum-like ulcer *NEJM 347:1412–1418, 2002; JAAD 27:868–871, 1992; JAAD 27:553–559, 1992*

Lymphoma *JAAD 27:553–559, 1992; JAAD 11:121–128, 1984;* angiocentric T-cell lymphoma *NEJM 347:1412–1418, 2002; AD 132:1105–1110, 1996;* cutaneous T-cell lymphoma *JAAD 31:819–822, 1994;* pyoderma gangrenosum-like ulcers as manifestation of CTCL *J Eur Acad Dermatol Venereol 16:401–404, 2002; Hautarzt 53:114–117, 2002;* anaplastic large-cell T-cell lymphoma *NEJM 347:1412–1418, 2002;* mycosis fungoides bullosa *NEJM 347:1412–1418, 2002;* lymphomatoid granulomatosis *AD 127:1693–1698, 1991;* HTLV-1 adult T-cell lymphoma/leukemia *JAAD 46:S137–141, 2002;* primary cutaneous B-cell lymphoma – pyoderma gangrenosum-like lesion *BJD 151:250–252, 2004;* Hodgkin's disease – scalp ulcer *Cutis 39:247–248, 1987*

Malignant fibrous histiocytoma *JAAD 47:463–464, 2002; AD 121:529–531, 1985*

Melanocytic nevus, congenital – giant ulcer *JAAD 49:752–754, 2003; Textbook of Neonatal Dermatology, p.151, 2001*

Melanoma, including melanoma in Marjolin's ulcer *JAAD 32:1058–9, 1995*

Metastases – carcinoma of breast *Rook p.2709, 1998, Sixth Edition*

Mucinous eccrine carcinoma

Mucoepidermoid carcinoma – index finger *BJD 149:1091–1092, 2003*

Multiple myeloma – hyperkeratotic filiform follicular spicules and ulcers *JAAD 49:736–740, 2003*

Myelodysplastic syndrome *JAAD 33:187–191, 1995*

Plasmacytoma – extramedullary plasmacytoma *Transplantation 68:901–904, 1999*

Porocarcinoma *BJD 152:1051–1055, 2005*

Porokeratosis *Dermatology 196:256–259, 1998*

Post-transplant Epstein–Barr virus-associated lymphoproliferative disorder – ulcerated plaques *JAAD 51:778–780, 2004*

Proliferating pilar cyst

Squamous cell carcinoma *Derm Surg 28:268–273, 2002; Rook p.1689–1690, 1998, Sixth Edition;* Marjolin's ulcer – squamous cell carcinoma arising in a chronic ulcer; may present as induration and persistence of ulceration, elevated border at edge of ulcer, breakdown of burn scar with indurated base, nodule formation within burn scar *Rook p.953–954, 1998, Sixth Edition; Dictionnaire de Medicine. In:Adelon N* (*ed.*) *Paris:Bechet, 1828:31–50*

Transient myeloproliferative disorder associated with mosaicism for trisomy 21 – vesiculopustular rash *NEJM 348:2557–2566, 2003;* in trisomy 21 or normal patients; periorbital vesiculopustules, red papules, crusted papules, and ulcers; with periorbital edema *Ped Derm 21:551–554, 2004*

Trichoepitheliomas

Waldenström's macroglobulinemia *AD 134:1127–1131, 1998;* cryoglobulin-associated ulcers *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC

Bullous pyoderma gangrenosum *Int J Dermatol 40:327–329, 2001*

Glucagonoma syndrome – necrolytic migratory erythema

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997; JAAD 29:466–469, 1993; Medicine* (*Baltimore*) *65:376–388, 1986; BJD 113:339–343, 1985; JAAD 3:257–270, 1980*

Paraneoplastic vasculitis – ulcers of the buttocks *J Rheumatol 18:721–727, 1991; Medicine* (*Baltimore*) *67:220–230, 1988*

## PRIMARY CUTANEOUS DISEASES

Acne fulminans *JAAD 52:S118–120, 2005; AD 124:414–417, 1988*

Aplasia cutis congenita (ACC)

- Type 1 – ACC without associated anomalies *JAAD 13:429–433, 1985; AD 108:252–253, 1973*
- Type 2 – ACC with distal limb reduction abnormalities (Adams–Oliver syndrome) – autosomal dominant; persistent cutis marmorata; congenital heart disease in 8%; differentiate from ACC with split hand deformities *Birth Defects 18:123–128, 1982;* differentiate from ACC with postaxial polydactyly *Hum Genet 71:86–88, 1985; J Med Genet 24:493–496, 1987*
- Type 3 – ACC of scalp with epidermal nevi *Clin Res 33:130, 1985;* including bullous ACC *J Med Genet 30:962–963, 1993*
- Type 4 – ACC overlying developmental malformations – hair collar sign; surface is translucent or membranous *AD 125:1253–1256, 1989*; may overlie defects of the vertebrae and spinal cork *J Pediatr 96:687–689, 1980*
- Type 5 – ACC associated with fetus papyraceus – delivery of dead twin or triplet (death during second trimester) *AD 141:554–556, 2005*; ACC on trunk and extremities with linear or stellate configuration *JAAD 25:1983–1985, 1991*; fibrous constriction bands of extremities *Aust Paediatr J 18:294–296, 1982*
- Type 6 – ACC as presentation of junctional and dystrophic epidermolysis bullosa; ulcerations of feet and lower legs *AD 93:296–303, 1966*
- Type 7 – ACC caused by teratogens – methimazole or carbimazole *Ped Derm 3:327–330, 1986; Can Med Assoc 130:1264, 1984*
- Type 8 – ACC as sign of intrauterine infection – herpes simplex *JAAD 15:1148–1155, 1986;* varicella-zoster – linear ulcers or scars; zosteriform *NEJM 314:1542–1546, 1986*

Type 9 – ACC as feature of malformation syndromes
Trisomy 13 – ACC of scalp with holoprosencephaly, eye anomalies, cleft lip and/or palate, polydactyly, port wine stain of forehead *Am J Dis Child 112:502–517, 1966*
Deletion of short arm of chromosome 4 (4p- syndrome) – ACC of scalp with hypertelorism, beaked or broad nose, microcephaly, low-set ears, pre-auricular tags or pits, mental retardation *Am J Dis Child 122:421–425, 1971*
Oculocerebrocutaneous syndrome (Delleman–Oorthuys syndrome) – ACC of scalp, neck, lumbosacral area; orbital cysts, microphthalmia, skull defects, porencephaly, agenesis of corpus callosum, skin tags around eyes and nose *Am J Med Genet 40:290–293, 1991*
Johanson–Blizzard syndrome – autosomal recessive; growth retardation, microcephaly, ACC of scalp, sparse hair, hypoplastic ala nasi, CALMs, hypoplastic nipples and areolae, hypothyroidism, sensorineural deafness *Clin Genet 14:247–250, 1978*
Focal dermal hypoplasia
Facial focal dermal dysplasias
Autosomal dominant focal facial dermal dysplasia without other facial anomalies – oval symmetrical scarred areas on temples, cheeks, rim of fine lanugo hairs *BJD 84:410–416, 1971*
Autosomal recessive focal facial dermal dysplasia without other facial anomalies *JAAD 27:575–58, 1992*
Focal facial dermal dysplasia with other facial anomalies (Setleis syndrome) – leonine aged facies with absent eyelashes, eyebrows, puckered periorbital skin, scar-like defects of temples *AD 110:615–618, 1974*
Amniotic band syndrome
Congenital erosive and vesicular dermatosis with reticulate supple scarring
Lumpy scalp, odd ears, and rudimentary nipples *BJD 99:423–430, 1978*
ACC with nipple and breast hypoplasia, nail dysplasia, delayed dentition *Am J Med Genet 14:381–384, 1983*
ACC with tricho-odonto-onychodermal ectodermal dysplasia *BJD 105:371–382, 1981*
ACC with EEC *Minerva Pediatr 34:627–632, 1982* and AEC syndromes *Ped Derm 10:334–340, 1993*
ACC with intestinal lymphangiectasia *Am J Dis Child 139:509–513, 1985*
ACC with 46,XY gonadal dysgenesis, cleft lip and palate, ear deformity and pre-auricular pits *J Pediatr 97:586–590, 1980*
Dellemann syndrome (oculocerebrocutaneous syndrome) *J Med Genet 25:773–778, 1988*

Atopic dermatitis

Congenital erosive dermatosis with reticulated supple scarring – most infants premature; extensive symmetrical erosions with scattered vesicles; scarring with hypohidrosis, patchy alopecia, hypoplastic nails *AD 126:544–546, 1990*

Congenital localized abscence of skin in epidermolysis bullosa (Bart's syndrome) *AD 128:1087–1090, 1992*

Epidermolysis bullosa, multiple types

Erythema of Jacquet – erosive diaper dermatitis; shallow, round ulcers with raised edges *Rook p.470, 1998, Sixth Edition*

Febrile ulceronecrotic Mucha–Habermann disease (acute parapsoriasis) – painful hemorrhagic ulcers *BJD 152:794–799, 2005; JAAD 49:1142–1148, 2003; AD 100:200–206, 1969*

Lichen planus *AD 93:692–701, 1966*; ulcerative lichen planus of the soles *Acta DV 81:378–379, 2001; AD 127:405–410, 1991; Acta DV 66:366–367, 1986; AD 93:692–671, 1966*

Lichen sclerosus et atrophicus *BJD 144:387–392, 2001*

Lichen simplex chronicus

Reactive perforating collagenosis

## PSYCHOCUTANEOUS DISEASE

Factitial dermatitis *Ped Derm 21:205–211, 2004; NEJM 347:1412–1418, 2002; Klin Wochenschr 64:149–164, 1986; JAAD 11:1065–1069, 1984;* factitial panniculitis – ulcers of the thigh and buttocks *JAAD 2:47–55, 1980*

Neurotic excoriations

Self-mutilation

## SYNDROMES

Acro-osteolysis associated with spinal dysraphism – blister, ulcers of the foot, hyperhidrosis of the affected limb *Ped Derm 18:97–101, 2001*

Adams–Oliver syndrome – aplasia cutis congenita of scalp and transverse limb defects *Ped Derm 15:48–50, 1998*

Antiphospholipid antibody syndrome *NEJM 347:1412–1418, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; Semin Thromb Hemost 20:71–78, 1994; JAAD 15:211–219, 1986;* eschar and ulceration *JAAD 47:766–769, 2002*; IgA antiphospholipid antibodies *J Rheumatol 25:1730–1736, 1998;* ulcer resembling pyoderma gangrenosum *J La State Med Soc 147:357–361, 1995;* lupus anticoagulant – pyoderma gangrenosum-like *Dermatology 189:182–184, 1994*

Ataxia telangiectasia – ulcerated plaque of cutaneous granuloma of ataxia telangiectasia *AD 134:1145–1150, 1998*

Behçet's syndrome – extragenital ulcers *JAAD 36:689–696, 1997*

Carpal tunnel syndrome *Dermatology 201:165–167, 2000*

Charcot–Marie–Tooth syndrome – neurotrophic ulcer

Chediak–Higashi syndrome *Rook p.2742, 1998, Sixth Edition*

Congenital insensitivity to pain *Cutis 51:373–374, 1993*

Congenital sensory neuropathy with anhidrosis (self-multilation) *AD 124:564–566, 1988*

Ectodermal dysplasias

Ehlers–Danlos syndrome

Familial dysautonomia (Riley–Day syndrome)

Flynn–Aird syndrome – skin atrophy, ulceration, alopecia, and dental caries *J Neurol Sci 2:161–182, 1965*

Goltz's syndrome *Ghatan p.199, 2002, Second Edition*

Hereditary sensory and autonomic neuropathy type I-V (congenital insensitivity to pain) – ulcers with self-mutilation *Ped Derm 19:333–335, 2002*

Hereditary sensory radicular neuropathy

Hyper-IgM syndrome – diaper area ulcers *Ped Derm 18:48–50, 2001*

Hypereosinophilic syndrome, idiopathic *Blood 83:2759–2779, 1994;* digital ulcers *Semin Dermatol 14:122–128, 1995*

Johanson–Blizzard syndrome – aplasia cutis congenita of the scalp, sparse hair, deafness, absence of permanent tooth buds, hypoplastic ala nasi, dwarfism, microcephaly, mental retardation, hypotonia, pancreatic insufficiency with malabsorption, hypothyroidism, genital and rectal anomalies *Clin Genet 14:247–250, 1978; J Pediatr 79:982–987, 1971*

Lesch–Nyhan syndrome – X-linked recessive; hypoxanthineguanine phosphoribosyltransferase deficiency; self-mutilation; biting of lower lip *AD 94:194–195, 1966*

Lumpy scalp syndrome – autosomal dominant; scalp ulcers at birth heal as irregular scalp nodules; deformed pinnae, rudimentary nipples *Clin Exp Dermatol 15:240, 1989*

Marfan-like phenotype – deep skin ulcers *JAAD 35:814–818, 1996*

Neutrophilic dermatosis (pustular vasculitis of the dorsal hands) (variant of Sweet's syndrome) – ulcers *AD 138:361–365, 2002*

Oligodontia, keratitis, skin ulceration, and arthroosteolysis *Am J Med Genet 15:205–210, 1983*

Partial trisomy 2p – scalp defect *Rook p.2812, 1998, Sixth Edition*

Patau's syndrome (trisomy 13) – parieto-occipital scalp defects, abnormal helices, low-set ears, loose skin of posterior neck, simian crease of hand, hyperconvex narrow nails, polydactyly *Ped Derm 22:270–275, 2005; Rook p.3016, 1998, Sixth Edition*

POEMS syndrome *JAAD 37:887–920, 1997*

Prader–Willi syndrome – self-induced ulcers *Ann DV 124:390–392, 1997*

Pseudoacromegaly – autosomal recessive; skin ulcers, arthro-osteolysis, keratitis, oligodontia *Am J Med Genet 15:205–210, 1983*

Reflex sympathetic dystrophy *JAAD 44:1050, 2001*

Rowell's syndrome – lupus erythematosus and erythema multiforme-like syndrome – papules, annular targetoid lesions, vesicles, bullae, necrosis, ulceration, oral ulcers; perniotic lesions *JAAD 21:374–377, 1989*

SAPHO syndrome

Scalp–ear–nipple syndrome – autosomal dominant; aplasia cutis congenita of the scalp, irregularly shaped pinna, hypoplastic nipple, widely spaced teeth, partial syndactyly *Am J Med Genet 50:247–250, 1994*

Sneddon syndrome – cutaneous thrombosis, cerebrovascular thrombosis, and lupus anticoagulant *Int J Dermatol 29:45–49, 1990*

Trigeminal trophic syndrome (Wallenberg's syndrome) *JAAD 6:52–57, 1982*

Werner's syndrome *AD 133:1293–1295, 1997; Acta DV 50:237–239, 1970*

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, ectropion, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

## TRAUMA

Burns – actinic, thermal; electrical burns from enuresis blanket *Rook p.952, 1998, Sixth Edition;* galvanic burn

Chilblains – in elderly with peripheral arterial disease *Rook p.961, 1998, Sixth Edition;* with ulcers on fingers, toes, nose and ears in patients with monocytic leukemia *AD 121:1048, 1052, 1985*

Decubitus ulcers – overlying sacrum, greater trochanter, ischial tuberosity, calcaneal tuberosity, lateral malleolus, point of the shoulder *Rook p.897,2265, 1998, Sixth Edition*

Galvanic burn – battery and coins in pants pocket

Intravenous drug abuse *BJD 150:1–10, 2004; NEJM 347:1412–1418, 2002*

Laser burns *Rook p.953, 1998, Sixth Edition*

Physical injury

Perinatal scalp monitor – scalp ulcer *AD 135:697–703, 1999*

Prenatal amniography with accidental injection of contrast material *AD 135:697–703, 1999*

Pressure *Clin Inf Dis 35:1390–1396, 2002; Adv Wound Care 9:35–38, 1996; Prev Med 22:433–450, 1993;* pressure necrosis of scalp due to cardiac surgery

Radiation injury *JAAD 49:417–423, 2003; JAAD 42:453–458, 2000; JAAD 30:719–723, 1994;* radiation therapy *Head Neck Surg 6:836–841, 1984*

Spinal cord injury – decubitus ulcers *AD 83:379–385, 1961*

## VASCULAR

Acroangiodermatitis – ulceration of hand signifies arteriovenous shunt *Rook p.2238, 1998, Sixth Edition*

Arteriosclerosis – ischemic ulcers at pressure sites; linear fissure of heel *Rook p.2229, 2231, 1998, Sixth Edition*

Atrophie blanche

C2 deficiency vasculitis *Am J Gastroenterol 78:1–5, 1983*

Cholesterol emboli *BJD 146:511–517, 2002; Medicine 74:350–358, 1995; AD 122:1194–1198, 1986; Angiology 38:769–784, 1987*

Churg–Strauss syndrome *JAAD 47:209–216, 2002; JAAD 37:199–203, 1997*

Cutis marmorata telangiectatica congenita

Diffuse dermal angiomatosis – breast ulcer *JAAD 45:462–465, 2001*

Disseminated intravascular coagulation

Erythromelalgia – all types exacerbated by warmth; associated with thrombocythemia; may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130*, *1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000*

Hemangiomas – *Textbook of Neonatal Dermatology, p.150, 2001*

Hemangiosarcoma

Hypertensive ulcer

Klippel–Trenaunay–Weber syndrome *NEJM 347:1412–1418, 2002*

Leukocytoclastic vasculitis with secondary infection *NEJM 347:1412–1418, 2002*

Livedo reticularis *Rook p.964, 1998, Sixth Edition*

Livedoid vasculopathy *NEJM 347:1412–1418, 2002*

Malignant hemangioendothelioma *J Dermatol 22:253–261, 1995*

Polyarteritis nodosa *NEJM 347:1412–1418, 2002; JAAD 31:561–566, 1994;* punched out ulcers *JAAD 48:311–340, 2003*; in children *Ann Rheum Dis 54:134–136, 1995*

Purpura fulminans, neonatal – purpura or cellulitis-like areas evolving into necrotic bullae or ulcers *Textbook of Neonatal Dermatology, p.151, 2001*

Pustular vasculitis of hands *JAAD 32:192–198, 1995*

Raynaud's disease or phenomenon *Lancet 342 (8863):80–83, 1993*

Reactive angioendotheliomatosis – red purple-purpuric patches and plaques with necrotic ulcers; includes acroangiomatosis, diffuse dermal angiomatosis, intravascular histiocytosis, glomeruloid angioendotheliomatosis, angioperictomatosis (angiomatosis with luminal cryoprotein deposition), reactive angiomatosis-like reactive angioendotheliomatosis; associated with subacute bacterial endocarditis, hepatitis, cholesterol emboli, cryoglobulinemia, arteriovenous shunt, anti-phospholipid antibody syndrome, chronic lymphocytic leukemia, monoclonal gammopathy, chronic renal failure, rheumatoid arthritis, severe peripheral vascular disease, arteriovenous fistulae *JAAD 49:887–896, 2003; BJD 147:137–140, 2002*

Sclerosing lymphangitis of the penis (non-venereal sclerosing lymphangitis of the penis)

Sinus pericranii *JAAD 46:934–941, 2002*

Small vessel occlusive arterial disease *NEJM 347:1412–1418, 2002*

Subcutaneous calcification (post-phlebitic subcutaneous calcification) – chronic venous insufficiency; non-healing ulcers; fibrosis *Radiology 74:279–281, 1960*

Takayasu's arteritis – cutaneous necrotizing vasculitis *NEJM 347:1412–1418, 2002; Dermatology 200:139–143, 2000*

Thromboangiitis obliterans (Buerger's disease) *Rook p.2233, 1998, Sixth Edition; Am J Med Sci 136:567–580, 1908*

Thrombophlebitis with gangrene (venous gangrene)

Vasculitis – small *AD 120:484–489, 1984;* medium (polyarteritis nodosa) *JAAD 31:561–566, 1994;* and large vessel (temporal arteritis) – scalp ulcer *BJD 120:843–846, 1989; AD 126:1225–1230, 1990;* leukocytoclastic vasculitis *AD 134:309–315, 1998;* idiopathic hypersensitivity vasculitis *Int J Dermatol 34:786–789, 1995*

Venous gangrene

Venous stasis ulcers *NEJM 347:1412–1418, 2002*

Wegener's granulomatosis *JAAD 48:311–340, 2003; NEJM 347:1412–1418, 2002; JAAD 31:605–612, 1994; AD 130:861–867, 1994; Ann Intern Med 116:488–498, 1992; JAAD 10:341–346, 1984*

# ULCERS, LEG

***JAAD 25:965–987, 1991***

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *BJD 148:388–401, 2003*

Anti-centromere antibodies – ulcers and gangrene of the extremities *Br J Rheumatol 36:889–893, 1997*

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Bullous pemphigoid *Rook p.2265, 1998, Sixth Edition*

Dermatomyositis

Graft vs. host reaction, chronic *AD 134:602–612, 1998*

Immune complex disease

Lupus erythematosus, systemic – malleolar, foot ulcers in areas of livedo or vasculitis *Rook p.2474, 1998, Sixth Edition; J Rheumatol 6:204–209, 1979;* discoid *BJD 148:388–401, 2003*

Morphea, including pansclerotic morphea of childhood *JAAD 53:S115–119, 2005; Ped Derm 16:245–247, 1999*

Mixed connective tissue disease *Acta DV 61:225–231, 1981*

Pemphigus vulgaris

Polymyalgia rheumatica *BJD 148:388–401, 2003*

Rheumatoid arthritis *BJD 152:1062–1064, 2005; J Rheumatol 10:507–509, 1983; AD 92:489–494, 1965*
- Arteritis
- Felty's syndrome *Sem Arthr Rheum 21:129–142, 1991*
- Gravitational ulcers
- Lymphedema due to immobility with ulceration
- Associated with mononeuritis multiplex
- Pyoderma gangrenosum
- Pressure ulcers
- Rheumatoid vasculitis – ulcers of the lateral malleolus or pretibial area *JAAD 53:191–209, 2005*
- Vasculitis, necrotizing *BJD 147:905–913, 2002; Med J Aust 153:585–587, 1990*
- Rheumatoid nodules, ulcerated at pressure sites *Rook p.2267, 1998, Sixth Edition*
- Traumatic ulcers

Scleroderma – painful ulcers over bony prominences *Rook p.2527, 1998, Sixth Edition; AD 84:359–374, 1961*

Sjögren's syndrome

Still's disease *Rook p.2267, 1998, Sixth Edition*

## CONGENITAL LESIONS

Aplasia cutis congenita with epidermolysis bullosa

## DEGENERATIVE

Neuropathic ulcer (trophic ulcer)
- Charcot–Marie–Tooth syndrome with neurotrophic foot ulcer
- Decubitus
- Diabetes
- Hereditary sensory neuropathy *Clin Exp Derm 1:91–92, 1976*
- Leprosy
- Neuropathy
- Paraplegias
- Syringomyelia – trophic ulcer *Rook p.2265, 1998, Sixth Edition*
- Tabes dorsalis
- Trigeminal trophic syndrome *J Dermatol 18:613–615, 1991*

## DRUG-INDUCED

Corticosteroid induced leg ulcers – systemic, intralesional, topical *Rook p.2266, 1998, Sixth Edition; AD 92:52–53, 1965*

Coumarin necrosis *AD 122:1408, 1412, 1986*

Ergot *Ghatan p.74, 2002, Second Edition*

Granulocyte-colony stimulating factor *BJD 148:388–401, 2003*

Halogens *Ghatan p.74, 2002, Second Edition*

Heparin necrosis

Hydroxyurea – ulcers of the lower legs and feet; often over lateral malleoli; atrophic, scaling, poikilodermatous patches with erosions on the backs of the hands, sides of the feet *JAAD 45:321–322, 2001; AD 137:467–470, 2001; Leuk Lymphoma 35:109–118, 1999; AD 135:818–820, 1999; JAAD 39:372–374, 1998; JAAD 36:178–182, 1997; Cutis 52:217–219, 1993*

Levophed ischemic necrosis

Methotrexate *BJD 148:388–401, 2003*

Pentazocine abuse

Vasculitis, drug-induced – furosemide, captopril

## EXOGENOUS AGENTS

Contact dermatitis, irritant

Halogenoderma *BJD 148:388–401, 2003*

Silicone injection *Rook p.2422, 1998, Sixth Edition*

Tibial cement extrusion *J Arthroplasty 13:826–829, 1998*

## INFECTIONS AND INFESTATIONS

Acanthamebiasis in AIDS *AD 131:1291–1296, 1995*

Actinomycosis

Aeromonas hydrophila

Alternariosis *Clin Inf Dis 32:1178–1187, 2001*

Amebiasis *Bolognia p.1301, 2003*

Animal bites

Anthrax *BJD 148:388–401, 2003*

*Arcanobacterium haemolyticum J Clin Inf Dis 18:835–836, 1994*

Aspergillosis, primary cutaneous *JAAD 31:344–347, 1994*; resembling pyoderma gangrenosum *JAAD 29:656–658, 1993*

Bacillary angiomatosis *AD 131:963–964, 1995*

*Bacillus cereus JAAD 47:324–325, 2002*

Bacterial endocarditis *BJD 148:388–401, 2003*

BCG vaccination *BJD 148:388–401, 2003*

*Bipolaris spicifera AD 125:1383–1386, 1989*

Botryomycosis

Brucellosis *Rook p.2267, 1998, Sixth Edition*

*Candida albicans* – granulomatous panniculitis *JAAD 28:315–317, 1993; J Cut Pathol 16:183–193, 1989*

Cat scratch disease *Rook p.2267, 1998, Sixth Edition*

Chromomycosis – feet, legs, arms, face, and neck *AD 113:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Clostridial gas gangrene – acute ulcer *BJD 148:388–401, 2003; Rook p.2265, 1998, Sixth Edition*

Coccidioidomycosis *BJD 148:388–401, 2003*

*Corynebacterium pyogenes Int J Dermatol 21:407–409, 1987;* epidemic leg ulcers of children in Thailand *Southeast Asian J Trop Med Public Health 13:568–574, 1982*

*Corynebacterium ulcerans* – medial and lateral lower leg ulcers mimicking cutaneous diphtheria with gray membrane and sweet smell *Clin Inf Dis 33:1598–600, 2001*

Cryptococcosis *JAAD 5:32–36, 1981*

Cytomegalovirus *Tyring p.187, 2002*

Desert sore (Veldt sore) – acute leg ulcer *Rook p.2265, 1998, Sixth Edition*

Diphtheria (*Corynebacterium diphtheriae*) – in drug users *Clin Inf Dis 18:94–96, 1994*; cutaneous diphtheria *BJD 148:388–401, 2003*

Dracunculosis – bulla which ruptures leaving an ulcer *J Clin Inf Dis 25:749, 1997*

Ecthyma *Tyring p.322, 2002; Rook p.1158, 1998, Sixth Edition*

Ecthyma gangrenosum – *Pseudomonas*, *Escherichia coli*, *Aeromonas hydrophila BJD 148:388–401, 2003*

Epstein–Barr virus (infectious mononucleosis) – cold urticaria with cold agglutinins and leg ulcers *Acta DV 61:451–452, 1981*

Erysipelas *BJD 148:388–401, 2003*

Eumycetoma

Filariasis – secondary lymphedema

Furuncle

*Fusarium*, localized *JAAD 47:659–666, 2002*

Glanders *Rook p.2267, 1998, Sixth Edition*

Granulomatous panniculitis
- Actinomyces
- Atypical mycobacteria – *Mycobacterium chelonei AD 129:1189–1194, 1993*
- *Nocardia*

Herpes simplex, chronic in AIDS *BJD 148:388–401, 2003*

Histoplasmosis *BJD 148:388–401, 2003*

Hyalohyphomycosis – *Acremonium* species *BJD 150:789–790, 2004*

Insect bites *BJD 148:388–401, 2003*

Leishmaniasis *BJD 151:1165–1171, 2004; Rook p.1413, 1998, Sixth Edition; Trans R Soc Trop Med Hyg 81:606, 1987; Cutis 38:198–199, 1986*

Leprosy – lepromatous leprosy with ulcerated nodules of the legs and feet *Rook p.1225, 1998, Sixth Edition;* Lucio's phenomenon *JAAD 48:958–961, 2003; AD 135:983–988, 1999*

Lyme borreliosis (*Borrelia burgdorferi*) – acrodermatitis chronica atrophicans – red to blue nodules or plaques; sclerosis of lower legs with ulceration *BJD 121:263–269, 1989; Int J Derm 18:595–601, 1979*

Meleney's synergistic gangrene *Rook p.2266, 1998, Sixth Edition*

Melioidosis – pretibial ulcerative vegetative plaque *Cutis 72:310–312, 2003*

Meningococcemia *BJD 148:388–401, 2003*

Mosquito bite hypersensitivity syndrome in Epstein–Barr virus-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Mucormycosis resembling pyoderma gangrenosum *JAAD 29:462–465, 1993*

Mycetoma *BJD 148:388–401, 2003*

*Mycobacterium abscessus BJD 152:727–734, 2005*

*Mycobacterium avium* complex – traumatic inoculation leg ulcers, ulcerated nodules, panniculitis, folliculitis, or papules *BJD 130:785–790, 1994; JAAD 19:492–495, 1988*

*Mycobacterium chelonei Am Rev Resp Dis 119:107–159, 1979*

*Mycobacterium fortuitum*

*Mycobacterium haemophilum* – ulcerated plaque *Ann Intern Med 120:118–125, 1994*

*Mycobacterium intracellulare*

*Mycobacterium kansasii*

*Mycobacterium marinum*

*Mycobacterium scrofulaceum*

*Mycobacterium szulgai*

*Mycobacterium tuberculosis* – scrofuloderma, erythema induratum, lupus vulgaris, erythema induratum *JAAD 14:738–742, 1986;* tuberculous chancre *Clin Dermatol 8* (*3/4*)*:49–65, 1990;* papulonecrotic tuberculid *BJD 148:388–401, 2003*

*Mycobacteria ulcerans* (Buruli ulcer) *NEJM 348:1065–1066, 2003; Trans R Soc Trop Med Hyg 94:277–279, 2000; Med Trop* (*Mars*) *57:83–90, 1997* (*French*); *Clin Inf Dis 21:1186–1192, 1995; Med Trop* (*Mars*) *55:363–373, 1995; Aust J Dermatol 26:67–73, 1985; Pathology 17:594–600, 1985*

Necrotizing fasciitis *BJD 148:388–401, 2003*

*Nocardia*

North American blastomycosis – ulcers of the leg and foot

Osteomyelitis *J Derm Surg Oncol 10:384–388, 1984;* chronic ulcer of the heel with underlying osteomyelitis

*Pasteurella multocida* (also *P. haemolytica*, *P. pneumotropica* and *P. ureae*) – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *Medicine 63:133–144, 1984*

Phaegedenic ulcer *BJD 148:388–401, 2003*

Phaeohyphomycosis – Curvularia pallescens *JAAD 32:375–378, 1995*

Pinta *Ghatan p.74, 2002, Second Edition*

Protothecosis *AD 136:1263–1268, 2000*

Pseudomonas aeruginosa

Pyoderma *BJD 148:388–401, 2003*

Pyomyositis *Tyring p.322, 2002*

Rat bite fever

Rhizopus azygosporus *BJD 153:428–430, 2005*

Scorpion stings *Rook p.2265, 1998, Sixth Edition*

Septic emboli

*Serratia marcescens JAAD 49:S193–194, 2003*

*Shewanella* alga *Clin Inf Dis 22:1036–1039, 1996*

Snake bites *Rook p.2265, 1998, Sixth Edition*

Spider bites

Sporotrichosis *BJD 148:388–401, 2003; Ghatan p.74, 2002, Second Edition*

Streptococcal ulcers of the legs – serpiginous margins with granular base *AD 104:271–280, 1971*

Syphilis – secondary (malignant lues), tertiary (gumma) *Rook p.1251, 1998, Sixth Edition;* tabes dorsalis – trophic ulcer *Rook p.2265, 1998, Sixth Edition*; tertiary syphilis with chronic leg ulcers *Clin Dermatol 8* (*3/4*):*157–165, 1990*

Tinea corporis, pedis, Majocchi's granuloma *Rook p.2265, 1998, Sixth Edition*

Tropical phagedenic ulcers – mixed infection; mixed infection with *Fusobacterium ulcerans*, anaerobic cocci, *Bacteroides* species, *Borrelia vincenti* and other organisms; papule or bulla which breaks down to form ulcer with undermined border *BJD 148:388–401, 2003; Rook p.2266, 1998, Sixth Edition; Int J Dermatol 27:49–53, 1988; Trans R Soc Trop Med Hyg 82:185–189, 1988; BJD 116:31–37, 1987;* tropical ulcers – anaerobic (35%) and coliform (60%) organisms

*Trypanosoma brucei rhodiense J Clin Inf Dis 23:847–848, 1996*

Tularemia *Clin Inf Dis 20:174–175, 1995; Cutis 54:279–286, 1994*

*Vibrio extorquens*

*Vibrio vulnificus JAAD 46:S144–145, 2002*

Yaws – gumma *Clin Dermatol 8:157–165, 1990*

Zygomycosis *JAAD 30:904–908, 1994*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis *BJD 148:388–401, 2003*

## INFLAMMATORY DISEASES

Crohn's disease, metastatic – granulomatous ulcer *JAAD 41:476–479, 1999; JAAD 28:115–117, 1993*

Erythema multiforme *BJD 148:388–401, 2003*

Fibrosis from longstanding edema – ischemic ulcers *Rook p.2264, 1998, Sixth Edition*

Hidradenitis suppurativa

Pancreatic panniculitis (fat necrosis)

Panniculitis, including Weber–Christian disease, lupus profundus, $\alpha_1$-antitrypsin deficiency *AD 123:1655–1661, 1987*

Pyoderma gangrenosum *Dermatology 195:50–51, 1997; J Derm Surg Oncol 20:833–836, 1994; JAAD 18:559–568, 1988;* pyoderma gangrenosum with C7 deficiency *JAAD 27:356–359, 1992; AD 22:655–680, 1930;* bullous pyoderma gangrenosum

Sarcoid – ulcerative sarcoid – tender, 'punched out', and often bilateral *JAAD 53:917, 2005; AD 133:215–219, 1997; AD 123:1531–1534, 1987; AD 118:9331–933, 1982*

## METABOLIC

Acrodermatitis enteropathica – foot ulcers

Antiphospholipid deficiency *BJD 148:388–401, 2003*

Antithrombin III deficiency *BJD 148:388–401, 2003*

C3 deficiency *BJD 148:388–401, 2003*

Calcinosis – calcinosis cutis; calcinosis of muscles or subcutaneous tissue – overlying ulceration *Rook p.2267, 1998, Sixth Edition*

Calciphylaxis (vascular calcification cutaneous necrosis syndrome) *AD 140:1045–1048, 2004; BJD 143:1087–1090, 2000; JAAD 40:979–987, 1999; JAAD 33:53–58, 1995; JAAD 33:954–962, 1995*

Cold agglutinins *BJD 148:388–401, 2003*

Cryofibrinogenemia *Am J Med 116:332–337, 2004*

Cryoglobulinemia – type I *NEJM 347:1412–1418, 2002;* mixed – bilateral in 87% of patients *AD 139:391–393, 2003;* hemorrhagic crusted leg ulcer *Cutis 70:319–323, 2002*

Defective organization of the extracellular matrix of fibronectin *BJD 142:166–170, 2000*

Defective fibrinolysis *BJD 148:388–401, 2003*

Diabetes mellitus *Diabet Med 16:889–909, 1999; Diabetes 40:1305–1313, 1991;* necrobiosis lipoidica diabeticorum, ulcerative *Rook p.2267, 1998, Sixth Edition;* neuropathic and large vessel and microvascular foot ulcers (mal perforans)

Factor V Leiden deficiency *BJD 148:388–401, 2003;* factor V Leiden mutation and cryofibrinogenemia *JAAD 51:S122–124, 2004;* heterozygous factor V Leiden deficiency *BJD 143:1302–1305, 2000*

Factor XIII deficiency *BJD 148:388–401, 2003*

Gamma heavy chain disease

Gaucher's disease

Gout – subcutaneous tophus *AD 134:499–504, 1998 Am J Pathol 32:871–895, 1956*

Hematologic disease
- Dysproteinemias – cryoglobulinemia, cold agglutinins, macroglobulinemia, cryofibrinogenemia, myeloma, polyclonal dysproteinemia *BJD 148:388–401, 2003*
- Red blood cell disorders – sickle cell disease, hereditary spherocytosis *Ped Derm 20:427–428, 2003; Clin Exp Dermatol 16:28–30, 1991;* in atypical locations (backs of feet) *Dermatologica 181:56–59, 1990;* thalassemia, polycythemia vera, G-6PD deficiency, hereditary elliptocytosis, hereditary non-spherocytichemolytic anemia *BJD 148:388–401, 2003*
- White blood cell disease – leukemia, granulocytopenia *BJD 148:388–401, 2003*
- Platelet disorders – essential thrombocythemia *Hautarzt 35:259–262, 1984; Br J Surg 60 (5):377–380, 1973;* thrombotic thrombocytopenic purpura *BJD 148:388–401, 2003*
- Felty's syndrome *BJD 148:388–401, 2003; Ghatan p.74, 2002, Second Edition*
- Thrombotic angiopathy

Edema due to cardiac or renal failure

Extramedullary hematopoiesis *JAAD 4:592–596, 1981*

Gamma heavy chain disease

Gout *BJD 148:388–401, 2003*

Homocysteinemia *Ned Tijdschr Geneeskd 142:2706–2707, 1998* (*Dutch*)

Hyperoxaluria – livedo reticularis, ulcers, and peripheral gangrene *JAAD 49:725–728, 2003; AD 136:1272–1274, 2000*

Hyperparathyroidism *BJD 83:263–268, 1970*

Hyperviscosity – paraproteinemia, leukemia *BJD 148:388–401, 2003*

Malnutrition

Myxedema *BJD 148:388–401, 2003*

Necrobiosis lipoidica diabeticorum *JAAD 17:351–354, 1987*

Paget's disease of Bone – leg ulcer overlying focus of Paget's disease *AD 141:1050, 2005*

Pancreatic fat necrosis *BJD 148:388–401, 2003*

Paraproteinemia *Ghatan p.74, 2002, Second Edition*

Porphyria cutanea tarda *BJD 148:388–401, 2003*

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *BJD 144:635–636, 2001; Ped Derm 13:58–60, 1996; AD 127:124–125, 1991*

Protein C or S deficiency *BJD 148:388–401, 2003*

Scurvy – hemorrhagic leg ulcers *Ann DV 127:510–512, 2000; JAAD 41:895–906, 1999*

Sickle cell disease – chronic leg ulcers *Clin Sci (Lond) 98:667–672, 2000; J Trop Med Hyg 85:205–208, 1982*

Spherocytosis – thrombotic vasculitis *Rook p.2265, 1998, Sixth Edition*

Subcutaneous calcification (post-phlebitic subcutaneous calcification) – chronic venous insufficiency; non-healing ulcers; fibrosis *Radiology 74:279–281, 1960*

Subcutaneous fat necrosis

TAP 1 mutation *BJD 148:388–401, 2003*

## NEOPLASTIC

Atrial myxoma – leg ulcers, acral red papules with claudication *JAAD 32:881–883, 1995*; tender red fingertip papule *JAAD 21:1080–1084, 1989*

Basal cell carcinoma *JAAD 25:47–49, 1991;* complicating venous stasis ulcers *Rook p.2262, 1998, Sixth Edition; J Derm Surg Oncol 19:150–152, 1993*

Eccrine syringofibroadenoma – in a burn scar *BJD 143:591–594, 2000*

Epithelioid sarcoma *BJD 118:843–844, 1988*

Kaposi's sarcoma *Rook p.2265, 1998, Sixth Edition*

Leukemia – hairy cell leukemia, chronic myelogenous leukemia *South Med J 60:567–572, 1967*

Lymphoma – cutaneous T-cell lymphoma *Cutis 28:43–44, 1981;* gamma/delta T-cell lymphoma with hemophagocytic syndrome *Am J Dermatopathol 16:426–433, 1994*; angiocentric T-cell lymphoma *AD 132:1105–1110, 1996;* lymphomatoid granulomatosis *AD 117:196–202, 1981;* Hodgkin's disease *BJD 148:388–401, 2003; Br J Derm 80:555–560, 1968;* subcutaneous panniculitis-like T-cell lymphoma *BJD 148:516–525, 2003; JAAD 39:721–736, 1998;* cutaneous large B-cell lymphoma *BJD 146:144–147, 2002;* $CD30^+$ large cell T-cell lymphoma *BJD 149:542–553, 2003;* $CD56^+$ lymphoma *BJD 147:1017–1020, 2000*

Lymphoproliferative disorder of granular lymphocytes – ulcerated plaque *JAAD 30:339–344, 1994*

Marjolin's ulcer – squamous cell carcinoma arising in a chronic ulcer; may present as induration and persistence of ulceration, elevated border at edge of ulcer, breakdown of burn scar with indurated base, nodule formation within burn scar *Rook p.953–954, 1998, Sixth Edition; Cutis 56:168–170, 1995; Dictionnaire de Medicine. In:Adelon N* (*ed.*) *Paris:Bechet, 1828:31–50*

Melanoma *BJD 148:388–401, 2003*

Metastases *BJD 148:388–401, 2003*

Myelofibrosis – extramedullary hematopoiesis in myelofibrosis *JAAD 4:592–596, 1981*

Neoplastic obstruction with lymphedema

Osteoclastoma

Osteosarcoma

Polycythemia vera – thrombotic vasculitis *Rook p.2265, 1998, Sixth Edition*

Porocarcinoma *BJD 152:1051–1055, 2005*

Porokeratosis – congenital linear porokeratosis *Ped Derm 12:318–322, 1995*

Rhabdomyosarcoma *BJD 148:388–401, 2003*

Soft tissue sarcoma *BJD 148:388–401, 2003*

Squamous cell carcinoma *Rook p.1689–1690, 1998, Sixth Edition;* complicating venous stasis ulcers *South Med J 58:779–781, 1965*

Waldenström's macroglobulinemia *AD 134:1127–1131, 1998;* cryoglobulin-associated ulcers *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia *AD 133:97–102, 1997; JAAD 29:466–469, 1993; Medicine (Baltimore) 65:376–388, 1986; BJD 113:339–343, 1985; JAAD 3:257–270, 1980*

Pyoderma gangrenosum, bullous – associated with acute myelogenous leukemia

Sweet's syndrome, bullous – associated with myelodysplasias

Vasculitis – paraneoplastic vasculitis *J Rheumatol 18:721–727, 1991;* leukocytoclastic vasculitis; thrombotic vasculitis associated with plasma cell dyscrasias

## PRIMARY CUTANEOUS DISEASES

Acrodermatitis chronica atrophicans

Acute parapsoriasis (Mucha–Habermann disease)

Epidermolysis bullosa including pretibial epidermolysis bullosa *JAAD 22:346–350, 1990*

Erythema elevatum diutinum *BJD 148:388–401, 2003*

Fibrosis

Lichen planus – bullous *BJD 148:388–401, 2003;* erosive lichen planus of the soles

Lipedema *BJD 148:388–401, 2003*

Malakoplakia – ulcerated papule *JAAD 30:834–836, 1994*

Nummular dermatitis

Psoriasis *Rook p.2265, 1998, Sixth Edition*

Reactive perforating collagenosis

Verrucous hyperplasia of the stump

## PSYCHOCUTANEOUS DISEASE

Factitial dermatitis *Rook p.2265, 1998, Sixth Edition*

## SYNDROMES

Antiphospholipid antibody syndrome *NEJM 347:1412–1418, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989;* anti–cardiolipin syndrome

Behçet's syndrome *Arch Int Med 145:1913–1915, 1985*

Congenital indifference to pain

Defective expression of HLA class I and CD 1a molecules with marfanoid habitus *JAAD 35:814–818, 1996*

Ehlers–Danlos syndrome

Felty's syndrome – arthritis, leucopenia, splenomegaly, rheumatoid arthritis *JAAD 53:191–209, 2005*

Hereditary sensory neuropathy – primary

Kawasaki's disease *BJD 148:388–401, 2003*

Klinefelter's syndrome – leg ulcers with stasis ulcers, hyperpigmentation, or atrophie blanche *AD 131:230, 1995*

Neurofibromatosis – vasculopathy *JAAD 51:656–659, 2004*

Pachydermoperiostosis (Touraine–Solente–Gole syndrome) *Clin Rheumatol 14:705–707, 1995*

Reiter's syndrome – keratoderma blenorrhagicum

SAPHO syndrome

Sneddon's syndrome *BJD 148:388–401, 2003*

Stewart–Bluefarb syndrome *BJD 148:388–401, 2003*

Werner's syndrome *AD 133:1293–1295, 1997; Acta DV 50:237–239, 1970*

## TRAUMA

Amputation stump friction blisters with ulceration *Rook p.905, 1998, Sixth Edition*

Burns *Rook p.2265, 1998, Sixth Edition*

Chemical injury – corrosive agents, sclerotherapy *BJD 148:388–401, 2003; Rook p.2265, 1998, Sixth Edition*

Cold injury – perniosis (erythrocyanosis frigida); frostbite *BJD 148:388–401, 2003; Rook p.2265, 1998, Sixth Edition*

Coma bullae with ulcers

Decubitus – heels and ankles *Rook p.2265–2266, 1998, Sixth Edition*

Drug abuse – intravenous (IVDA); skin popping; delayed cutaneous ulcers at sites of prior drug abuse *BJD 150:1–10, 2004; JAAD 29:1052–1054, 1993*

Hematoma *BJD 148:388–401, 2003*

Nerve injury, traumatic – surgical injury to lateral femoral cutaneous nerve with bulla and subsequent ulceration of lateral lower leg *Rook p.2776, 1998, Sixth Edition; Dermatol Wochenschri 136:971–973, 1957*

Physical trauma – ulcers of shins and ankles *Rook p.2266, 1998, Sixth Edition*

Pressure – decubitus ulcer *BJD 148:388–401, 2003*

Radiation – ischemic ulcers *Rook p.2264, 1998, Sixth Edition*

Reflex sympathetic dystrophy – bulla and leg ulceration *JAAD 44:1050, 2001; JAAD 28:29–32, 1993*

Scar tissue – ischemic ulceration *Rook p.2264, 1998, Sixth Edition*

Sclerotherapy – extravasation of sclerosant *Rook p.2266, 1998, Sixth Edition*

Trench foot *BJD 148:388–401, 200*

## VASCULAR

Acroangiodermatitis – ulceration of lower leg signifies chronic venous insufficiency or paralysis *Rook p.2238, 1998, Sixth Edition*

Acro-osteopathia ulceromutilans (Bureau–Barriere syndrome) *BJD 148:388–401, 2003*

Angiosarcoma *Ghatan p.74, 2002, Second Edition*

Anterior tibial syndrome

Arterial thrombosis *BJD 148:388–401, 2003*

Arteriovenous fistulae and venous malformation (arteriovenous malformation) *BJD 148:388–401, 2003; Rook p.2265, 1998, Sixth Edition*

Atherosclerosis – punched out ischemic ulcers over pretibial areas or toes *BJD 148:388–401, 2003; Rook p.2264, 1998, Sixth Edition;* peripheral vascular disease with foot ulcerations

Atrophie blanche (livedo with ulceration) – ivory white plaque of sclerosis with telangiectasias and surrounding hyperpigmentation; venous insufficiency, thalassemia minor *Acta DV* (*Stockh*) *50:125–128, 1970;* cryoglobulinemia, systemic lupus erythematosus, scleroderma *Rook p.2249, 1998, Sixth Edition; JAAD 8:792–798, 1983; AD 119:963–969, 1983*

Buerger's disease (thromboangiitis obliterans) *BJD 148:388–401, 2003; AD 134:1019–1024, 1998; Cutis 51:180–182, 1993; Am J Med Sci 136:566–580, 1908*

Cholesterol emboli – foot ulcers *BJD 146:1107–1108, 2002; Semin Arth Rheum 18 (4):240–246, 1989*

Churg–Strauss disease *BJD 148:388–401, 2003*

Congenital absence of veins *Rook p.2265, 1998, Sixth Edition*

Congenital hypoplasia of venous valves *BJD 148:388–401, 2003*

Diffuse dermal angiomatosis with arteriosclerotic peripheral vascular disease *AD 138:456–458, 2002*

Disseminated intravascular coagulation *BJD 148:388–401, 2003*

Erythrocyanosis

Erythromelalgia *BJD 143:868–872, 2000;* associated with thrombocythemia – may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130*, *1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000;* all types exacerbated by warmth; may be associated with systemic lupus erythematosus, dermatomyositis, neuropathy, hypertension and vasculitis, calcium antagonists *BJD 143:868–872, 2000*

Fat embolism *BJD 148:388–401, 2003*

Fibromuscular dysplasia *BJD 148:388–401, 2003*

Giant cell arteritis (Takayasu's arteritis) *JAAD 17:998–1005, 1987*

Hemangioma *BJD 148:388–401, 2003*

Hemangiosarcoma in leg ulcer *AD 124:1080–1082, 1988*

Henoch–Schönlein purpura *BJD 148:388–401, 2003*

Hypertensive ulcer (Martorell's ulcer) – very painful ulcer of lower lateral leg (above lateral malleolus) with livedo at edges *BJD 148:388–401, 2003; Phlebology 3:139–142, 1988; Mayo Clin 21:337–346, 1946; J Cardiovasc Surg* (*Torino*) *19:599–600, 1978*

Klippel–Trenaunay–Weber syndrome *NEJM 347:1412–1418, 2002*

Lipodermatosclerosis

Livedo vasculitis with summer ulcerations (livedoid vasculopathy) *BJD 148:388–401, 2003; NEJM 347:1412–1418, 2002*

Lymphangiosarcoma *BJD 148:388–401, 2003*

Lymphedema *BJD 148:388–401, 2003*

Malignant angioendothelioma *Ghatan p.74, 2002, Second Edition*

Malignant atrophic papulosis (Degos disease) *Eur J Pediatr 149:457–458, 1990*

Mixed arterial and venous ulceration

Nodular vasculitis

Polyarteritis nodosa *NEJM 347:1412–1418, 2002; Ann Intern Med 89:66–676, 1978;* PAN associated with hepatitis B infection *Tyring p.535, 2002;* cutaneous PAN *BJD 136:706–713, 1997; AD 128:1223–1228, 1992*

Pseudo-Kaposi's sarcoma *BJD 148:388–401, 2003*

Purpura fulminans *BJD 148:388–401, 2003*

Scars

Sickle cell ulcers

Small vessel occlusive arterial disease *NEJM 347:1412–1418, 2002*

Stewart–Treves tumor (lymphangiosarcoma)

Superficial thrombophlebitis

Temporal arteritis *BJD 76:299–308, 1964*

Thrombophlebitis, ulcerated *BJD 148:388–401, 2003*

Varicose veins *Rook p.2265, 1998, Sixth Edition*

Vasculitis (small, medium, and large vessel) *AD 120:484–489, 1984*

Venous gangrene – foot ulcers

Venous stasis ulceration (chronic venous insufficiency) – medial lower leg and medial malleolus *NEJM 347:1412–1418, 2002; AD 133:1231–1234, 1997; Semin Dermatol 12:66–71, 1993;* with subcutaneous calcification *J Derm Surg Oncol 16:450–452, 1990;* venous stasis due to compression or obstruction of veins (pelvic tumors, lymphadenopathy, or pelvic vein thrombosis); dependency syndrome (immobility, arthritis, paralysis, orthopedic malformations); post-thrombotic venous ulcer *Rook p.2258,2265, 1998, Sixth Edition*

Wegener's granulomatosis *BJD 151:927–928, 2004; NEJM 347:1412–1418, 2002; JAAD 28:710–718, 1993*

# ULCERS OF THE LEG IN A YOUNG PATIENT

***JAAD 29:802–803, 807, 1993***

## AUTOIMMUNE DISEASES AND DISORDERS OF IMMUNE REGULATION

Anti-centromere antibodies – ulcers and gangrene of the extremities *Br J Rheumatol 36:889–893, 1997*

Antineutrophil cytoplasmic antibody syndrome – purpuric vasculitis, orogenital ulceration, fingertip necrosis, pyoderma gangrenosum-like ulcers *BJD 134:924–928, 1996*

Defective expression of HLA class I and CD 1a molecules with marfanoid habitus *JAAD 35:814–818, 1996*

Graft vs. host reaction, chronic *AD 134:602–612, 1998*

Morphea – pansclerotic morphea *JAAD 53:S115–119, 2005; Ped Derm 16:245–247, 1999*

Rheumatoid vasculitis *BJD 147:905–913, 2002*

Still's disease *Rook p.2267, 1998, Sixth Edition*

## CONGENITAL DISORDERS

Aplasia cutis congenita with epidermolysis bullosa

## DEGENERATIVE DISORDERS

Neuropathy

## DRUG-INDUCED

Calcium gluconate extravasation

Hydroxyurea *JAAD 49:339–341, 2003*

## EXOGENOUS AGENTS

Silicone injection *Rook p.2422, 1998, Sixth Edition*

## INFECTIONS AND INFESTATIONS

*Acanthamoeba J Clin Inf Dis 20:1207–1216, 1995; JAAD 42:351–354, 2000*

Anthrax

Bacillary angiomatosis in HIV disease *AD 131:963, 1995*

Bacillus cereus *JAAD 47:324–325, 2002*

Cat scratch disease *Rook p.2267, 1998, Sixth Edition*

*Corynebacterium diphtheriae in* drug users *Clin Inf Dis 18:94–96, 1994*

Cryptococcosis – mimicking pyoderma gangrenosum *JAAD 5:32–36, 1981*

Diphtheria

Ecthyma *Rook p.1158, 1998, Sixth Edition*

Ecthyma gangrenosum – Pseudomonas, Escherichia coli, Aeromonas hydrophila

Epstein–Barr virus (infectious mononucleosis) – cold urticaria with cold agglutinins and leg ulcers *Acta DV 61:451–452, 1981*

Herpes simplex in atopic dermatitis; in AIDS

Histoplasmosis

Leishmaniasis *Rook p.1413, 1998, Sixth Edition; Trans R Soc Trop Med Hyg 81:606, 1987; Cutis 38:198–199, 1986*

Melioidosis – pretibial ulcerative vegetative plaque *Cutis 72:310–312, 2003*

Mosquito bite hypersensitivity syndrome in EBV-associated natural killer cell leukemia/lymphoma – clear or hemorrhagic bullae with necrosis, ulceration and scar formation *JAAD 45:569–578, 2001*

Mycobacterium avium complex – traumatic inoculation leg ulcers, ulcerated nodules, panniculitis, folliculitis, or papules *BJD 130:785–790, 1994; JAAD 19:492–495, 1988*

Mycobacterium tuberculosis – scrofuloderma, lupus vulgaris *JAAD 14:738–742, 1986;* tuberculous chancre *Clin Dermatol 8(3/4):49–65, 1990*

Mycobacterium ulcerans (Buruli ulcer) *NEJM 348:1065–1066, 2003; Med Trop (Mars) 57:83–90, 1997 (French); Clin Inf Dis 21:1186–1192, 1995; Med Trop (Mars) 55:363–373, 1995; Aust J Dermatol 26:67–73, 1985; Pathology 17:594–600, 1985*

Mycobacteria, non-tuberculous, including *M. chelonae Am Rev Resp Dis 119:107–159, 1979; M. marinum, M. kansasii*

Necrotizing fasciitis

Nocardia

North American blastomycosis – primary infection *Ped Derm 20:128–130, 2003*

Pasteurella multocida (also P. haemolytica, pneumotropica, and ureae) – cellulitis with ulceration with hemorrhagic purulent discharge with sinus tracts *Medicine 63:133–144, 1984*

Rat bite fever

Scorpion stings *Rook p.2265, 1998, Sixth Edition*

Septic emboli

Snake bites *Rook p.2265, 1998, Sixth Edition*

Spider bites

Syphilis – secondary (malignant lues)

Tropical phagedenic ulcers – mixed infection; mixed infection with Fusobacterium ulcerans, anaerobic cocci, Bacteroides species and other organisms; papule or bulla which breaks down to form ulcer with undermined border *Rook p.2266, 1998,*

*Sixth Edition; Int J Dermatol 27:49–53, 1988; BJD 116:31–37, 1987; Trans R Soc Trop Med Hyg 82:185–189, 1988*

Tularemia *Clin Inf Dis 20:174–175, 1995; Cutis 54:279–286, 1994*

Yaws

### INFLAMMATORY DISORDERS

Pyoderma gangrenosum *Dermatology 195:50–51, 1997; J Derm Surg Oncol 20:833–836, 1994; JAAD 18:559–568, 1988;* pyoderma gangrenosum with C 7 deficiency *JAAD 27:356–359, 1992; AD 22:655–680, 1930*

### METABOLIC DISEASES

Antithrombin III deficiency

Calciphylaxis

Metastatic Crohn's disease – granulomatous ulcer *JAAD 41:476–479, 1999*

Cryofibrinogenemia

Cryoglobulinemia

Essential thrombocythemia *JAAD 24:59–63, 1991*

Factor XII deficiency – livedo with ulceration *BJD 143:897–899, 2000*

Gaucher's disease

Hemoglobinopathy (sickle cell anemia)

Homocysteinuria *JAAD 40:279–281, 1999; Ned Tijdschr Geneeskd 142:2706–2707, 1998 (Dutch)*

Porphyrin retention

Prolidase deficiency – autosomal recessive; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *BJD 147:1227–1236, 2002; Ped Derm 13:58–60, 1996; AD 127:124–125, 1991; AD 123:493–497, 1987*

Protein C deficiency – including IV catheter-induced thrombosis in protein S deficiency *JAAD 23:975–989, 1990*

Protein S deficiency

Red blood cell disorders – sickle cell disease, hereditary spherocytosis, thalassemia, polycythemia vera, hereditary elliptocytosis, hereditary nonspherocytic hemolytic anemia

Sickle cell ulcer *Hematol Oncol Clin North Am 10:1333–1344, 1996*

### NEOPLASTIC DISEASES

Kaposi's sarcoma *Rook p.2265, 1998, Sixth Edition*

Lymphoma – subcutaneous panniculitis-like T-cell lymphoma *BJD 148:516–525, 2003*

Melanoma

### PRIMARY CUTANEOUS DISEASES

Epidermolysis bullosa, including pretibial epidermolysis bullosa *JAAD 22:346–350, 1990*

Lichen planus, erosive

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis *Rook p.2265, 1998, Sixth Edition*

### SYNDROMES

Antiphospholipid antibody syndrome *NEJM 347:1412–1418, 2002; Semin Arthritis Rheum 31:127–132, 2001; JAAD 36:149–168, 1997; JAAD 36:970–982, 1997; BJD 120:419–429, 1989*

Behçet's syndrome *Arch Int Med 145:1913–1915, 1985*

Felty's syndrome – leg ulcers, granulocytopenia, rheumatoid arthritis, skin nodules, pigmentation, splenomegaly *Ghatan Second Edition, 2002, p.199; Semin Arthr Rheum 21(3):129–142, 1991*

Hereditary sensory neuropathy – primary

Klinefelter's syndrome – venous and arterial ulcers; leg ulcers with hyperpigmentation or atrophie blanche *AD 133:1051–1052, 1997; AD 131:230, 1995; Cutis 38:110–111, 1986*

Neurofibromatosis – vasculopathy *JAAD 51:656–659, 2004*

Phakomatosis pigmentovascularis IIb – with hypoplasia of the inferior vena cava, iliac and femoral veins with stasis leg ulcers *JAAD 49:S167–169, 2003*

Reflex sympathetic dystrophy – bulla and leg ulceration *JAAD 44:1050, 2001; JAAD 28:29–32, 1993*

Werner's syndrome *AD 133:1293–1295, 1997*

### TRAUMA

Burn

Chemical injury *Rook p.2265, 1998, Sixth Edition*

Chilblains

Intravenous drug abuse (IVDA) *BJD 150:1–10, 2004*

Pressure ulcer

### VASCULAR DISORDERS

Atrophie blanche

Erythromelalgia *BJD 143:868–872, 2000;* associated with thrombocythemia – may affect one finger or toe; ischemic necrosis *JAAD 22:107–111, 1990;* primary (idiopathic) – lower legs, no ischemia *JAAD 21:1128–1130, 1989;* secondary to peripheral vascular disease *JAAD 43:841–847, 2000; AD 136:330–336, 2000;* all types exacerbated by warmth; may be associated with systemic lupus erythematosus, dermatomyositis, neuropathy, hypertension and vasculitis, calcium antagonists *BJD 143:868–872, 2000*

Polyarteritis nodosa *Ann Intern Med 89:66–676, 1978;* cutaneous PAN *BJD 136:706–713, 1997; AD 128:1223–1228, 1992;* in children *Ann Rheum Dis 54:134–136, 1995*

Vasculitis

Venous gangrene

## UMBILICAL LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – medications *Rook p.3164, 1998, Sixth Edition;* nickel allergic contact dermatitis with periumbilical dermatitis in children *Ped Derm 19:106–109, 2002*

Bullous pemphigoid *Rook p.3165, 1998, Sixth Edition*

Cicatricial pemphigoid *Rook p.3165, 1998, Sixth Edition*

Herpes (pemphigoid) gestationis *JAAD 40:847–849, 1999; JAAD 17:539–556, 1987; Clin Exp Dermatol 7:65–73, 1982*

Linear IgA disease

Morphea

Pemphigoid vegetans *AD 115:446–448, 1979*

Pemphigus foliaceus *Cutis 63:271–274, 1999; Dermatologica 180:102–105, 1990*

Pemphigus vulgaris

## CONGENITAL LESIONS

***AD 90:160, 1964***

Associated anomalies of GU/GI tract

Associated fistulas

Choristia, periumbilical – intestinal mucosal cells; crusted, red perimbilical plaques *Ann DV 105:601–606, 1978*

Congenital band

Embryologic rests *AD 123:105–110, 1987*

Umbilical hernia – omphalocele *Postgrad Med 57:635–639, 1981;* herniation of umbilical cord *Rook p.3164, 1998, Sixth Edition*

Granulation tissue

Omphalomesenteric duct remnants – cutaneous remnants of the omphalomesenteric duct – completely patent duct – red nodule with a fistula with fecal discharge or intestinal prolapse *Am J Surg 88:829–834, 1954*; patent peripheral portion – red, polypoid nodule (ectopic gastrointestinal mucosa) (umbilical polyp); discharges mucus; resemble prolapsed urachal mucosa and talc granuloma; fistulae, cysts *Ped Derm 4:341–343, 1987; AD 90:463–470, 1964*

Patent urachal duct *AD 90:160–165, 1964*

Persistent vascular anomalies

Persistent vitelline duct and polyp – fecal or mucoid discharge *Dermatologica 150:111–115, 1975*

Prolapsed urachal mucosa

Umbilical granuloma – most common umbilical mass *Textbook of Neonatal Dermatology, p.95,132, 2001*

Urachal and vascular abnormalities (ectopic transitional epithelium of bladder) – urachal remnants with cyst, sinus, or fistula *Textbook of Neonatal Dermatology, p.132, 2001; Cutis 62:83–84, 1998;* complete patency of the urachus – urine emanating from umbilicus; nodule *Ped Clin N Am 6:1085–1116, 1959;* urachal cyst (partial patency of the urachus) – tender midline swellings between the umbilicus and symphysis pubis *Br J Urol 28:253–256, 1956;* urachal sinus

Yolk sac remnant – umbilico-ileal fistula

## EXOGENOUS AGENTS

Foreign body granuloma *AD 139:1497–1502, 2003;* secondary infection *Rook p.3164, 1998, Sixth Edition*

Irritant dermatitis

Talc granuloma – older individuals *BJD 83:151–156, 1970*

Umbilical ring

## INFECTIONS

Candidiasis – candidal intertrigo *Rook p.3164, 1998, Sixth Edition*; candidal sepsis

Cellulitis

Chigger mite bites *Ghatan p.101, 2002, Second Edition*

Clostridial cellulitis *AD 113:683–684, 1977*

Cysticercosis *J Trop Med Hyg 88:25–29, 1985*

Diphtheria – superficial round ulcer with overhanging edge; gray adherent membrane; later edge thickens and becomes raised and rolled; umbilicus, post-auricular, groin, finger or toe web; heals with scarring; crusts around nose and mouth with faucial diphtheria *Schweiz Rundsch Med Prax 87:1188–1190, 1998; Postgrad Med J 72:619–620, 1996; Am J Epidemiol 102:179–184, 1975*

Erythrasma

Herpes simplex

Herpes zoster

Impetigo

Lyme disease

Molluscum contagiosum

*Mycobacterium tuberculosis* – granuloma *Ghatan p.101, 2002, Second Edition*

Omphalitis – neonatal omphalitis and cellulitis; coagulase-negative staphylococcus *Textbook of Neonatal Dermatology, p.184, 190, 2001; Arch Derm 113:683, 1977*

Pediculosis pubis

*Pseudomonas Rook p.3164, 1998, Sixth Edition*

Rubella, congenital – hyperpigmentation of forehead, cheeks, umbilical area *J Pediatr 71:311–331, 1967*

Scabies – periumbilical papules *Rook p.1460–1461, 1998, Sixth Edition*

Schistosomiasis – ectopic cutaneous granuloma – periumbilical papules skin-colored papule, 2–3-mm; group to form mamillated plaques; nodules develop with overlying dark pigmentation, scale, and ulceration; periumbilical *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986; Ann DV 107:759–767, 1980; Br J Vener Dis 55:446–449, 1979*

*Staphylococcus aureus Rook p.3164, 1998, Sixth Edition*

Staphylococcal scalded skin syndrome

Strongyloidiasis – periumbilical thumb-print purpura *JAAD 256:1170–1171, 1986*

Tinea corporis

Urachal abscess *J Clin Ultrasound 19:203–208, 1991*

Verruca vulgaris *Genitourin Med 70:49–50, 1994*

## INFLAMMATORY DISEASES

Crohn's disease – metastatic *Clin Exp Dermatol 21:318–319, 1996*

Cullen's sign – periumbilical purpura; acute pancreatitis, ruptured ectopic pregnancy, perforated duodenal ulcer *Rook p.3165, 1998, Sixth Edition; Br Med J i:154, 1971*

Deep umbilicus – purulent umbilical drainage *JAAD 44:687–688, 2001*

Endometriomas (32% of all umbilical tumors, most common); cutaneous endometrioma *J Derm Surg 20:693–695, 1994; South Med J 70:147–152, 1977; AD 112:1435–1436, 1976; JAMA 191:167, 1965* Erythema multiforme

Funisitis – inflammation of the umbilical cord or stump; increased secretions and/or foul odor *Textbook of Neonatal Dermatology, p.184, 2001*

Pilonidal sinus of umbilicus (hair sinus) – pain, tenderness, and discharge in hirsute men *Cutis 62:83–84, 1998; J Fam Pract 29:205–209, 1989*

Hidradenitis suppurativa

Necrotizing fasciitis, retroperitoneal – periumbilical erythema *JAAD 53:527–528, 2005; Crit Care Med 29:1071–1073, 2001*

Omphalitis – periumbilical erythema *JAAD 53:527–528, 2005; Scand J Gastroenterol 39:1021–1024, 2004*

Pilonidal granulomata

## METABOLIC DISEASES

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A) – X-linked recessive; periumbilical rosette *NEJM 276:1163–1167, 1967;* fucosidosis ($\alpha_1$-fucosidase) *AD 107:754–757, 1973;* Kanzaki's disease ($\alpha$-*N*-acetylgalactosidase) *AD 129:460–465, 1993;* aspartylglycosaminuria (aspartylglycosaminidase) *Paediatr Acta 36:179–189, 1991;* umbilical hernia *Clin Genet 23:427–435, 1983* adult-onset GM1 gangliosidosis ($\beta$-galactosidase) *Clin Genet 17:21–26, 1980;* galactosialidosis (combined $\beta$-galactosidase and sialidase) *AD 120:1344–1346, 1984;* no enzyme deficiency) – telangiectasias or small angiokeratomas

Cirrhosis – ulceration of umbilical vein; umbilical hemorrhage *Postgrad Med 57:461–462, 1981*

Colonic mucosa implantation – umbilical nodule *BJD 90:108, 1974*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Cullen's sign

Mannosidosis – umbilical hernia *Johns Hopkins Med J 151:113–117, 1982*

Pruritic urticarial papules and plaques of pregnancy (PUPPP)

Stein–Leventhal syndrome (polycystic ovarian disease)

## NEOPLASTIC DISEASES

Basal cell carcinoma *Cutis 71:123–126, 2003*

Bowen's disease – plaque *Cutis 42:321–322, 1988*

Carcinoid tumor *AD 114:570–572, 1978*

Dermatofibroma

Desmoid tumor – subcutaneous mass in subumbilical paramedian region *Rook p.2368–2369, 1998, Sixth Edition*

Endosalpingosis – ectopic fallopian tube epithelium; umbilical nodule *BJD 151:924–925, 2004;* post-operative endosalpingosis *AD 116:909–912, 1980*

Epidermal inclusion cyst

Extropy of the bladder

Fibroepithelial papilloma

Fibrous umbilical polyp – fasciitis-like proliferation; early childhood; male predominance *Am J Surg Pathol 25:1438–1442, 2001*

Granular cell tumor *Ghatan p.102, 2002, Second Edition*

Keloid *AD 139:1497–1502, 2003*

Langerhans cell tumor, malignant – periumbilical red nodule *JAAD 49:527–529, 2003*

Leiomyosarcoma

Lipoma

Lymphoma – cutaneous T-cell lymphoma; Sister Mary Joseph nodule *Ann DV 127:732–734, 2000;* granulomatous slack skin syndrome (CTCL); retroperitoneal large B-cell lymphoma – periumbilical erythema *JAAD 53:527–528, 2005*

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition;* atypical nevus

Melanoma *AD 139:1497–1502, 2003*

Metastases – Sister Mary Joseph nodule; stomach *AD 111:1478–1479, 1975;* renal cell carcinoma *J Comput Assist Tomogr 22:756–757, 1998;* ovarian *JAAD 10:610–615, 1984;* pancreas *Cutis 31:555–558, 1983*; uterus *Br J Clin Pract 46:69–70, 1992;* leiomyosarcoma *AD 120:402–403, 1984;* peritoneal mesothelioma *Am J Dermatopathol 13:300–303, 1991*

Milia

Neurofibroma

Omphaloma *AD 123:105–110, 1987*

Paget's disease *BJD 128:448–450, 1993*

Polyp of the umbilicus *Ped Derm 4:341–343, 1987; J Pediatr Surg 14:741–744, 1979*

Porokeratosis – linear porokeratosis

Primary umbilical adenocarcinoma *Arch Pathol 99:95–99, 1975*

Seborrheic keratosis *AD 139:1497–1502, 2003*

Squamous cell carcinoma *AD 139:1497–1502, 2003; J Surg Oncol 47:67–69, 1991*

## PHOTODERMATOSES

Disseminated superficial actinic porokeratosis

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans

Atopic dermatitis

Cholesteatoma – umbilical nodule

Cutis laxa – umbilical hernia *Ped Derm 18:365–366, 2001*

Epidermolysis bullosa – absent navel syndrome *BJD 98:584, 1978*

Epidermolytic hyperkeratosis

Erythema annulare centrifugum

Fox–Fordyce disease *Rook p.2002, 1998, Sixth Edition*

Ichthyosis bullosa of Siemens

Intertrigo

Lichen nitidus

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition*

Mid-dermal elastolysis

Omphalith (omphalokeratolith) – the inspissated umbilical bolus *Rook p.3164, 1998, Sixth Edition; Cutis 40:144–146, 1987; AD 103:221, 1971*

Periumbilical (perforating) pseudoxanthoma elasticum *JAAD 39:338–344, 1998; JAAD 26:642–644, 1992; South Med J 84:788–789, 1991; AD 115:300–303, 1979*

Psoriasis

Pseudomyxoma peritonei – blue translucent umbilical lesion *AD 96:462–463, 1967*

Seborrheic dermatitis (intertrigo) *Rook p.3164, 1998, Sixth Edition*

Supraumbilical mid-abdominal raphe *Ped Derm 10:71–76, 1998*

Umbilicolith

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

## SYNDROMES

Aarskog syndrome – prominent umbilicus with protruding buttonlike central area surrounded by deep ovoid depression *J Pediatr 86:885–891, 1975*

Beare–Stevenson syndrome – cutis gyrata (furrowed skin), acanthosis nigricans, hypertelorism, swollen lips, swollen fingers, prominent eyes, ear anomalies, and umbilical hernia *Ped Derm 20:358–360, 2003*

Beckwith–Wiedemann syndrome – omphalocele or other umbilical anomalies *Syndromes of the Head and Neck, 1990:323–328*

Carpenter syndrome (acrocephalosyndactyly) – omphalocele *Am J Med Genet 28:311–324, 1987*

Coffin–Siris syndrome – webbed neck, bifid scrotum, umbilical and inguinal hernias *JAAD 46:161–183, 2002*

Congenital total lipodystrophy (Lawrence–Seip syndrome lipoatrophic diabetes; Berardinelli syndrome, Seip syndrome) – umbilical hernia*;* extreme muscularity and generalized loss of body fat from birth, acanthosis nigricans, acromegalic features, hyperinsulinemia (fasting and postprandial), early onset diabetes mellitus or glucose intolerance, hypertriglyceridemia/low HDL-C level, hirsutism, clitoromegaly *J Clin Endocrinol Metab 85:1776–1782, 2000; AD 91:326–334, 1965*

Cornelia de Lange syndrome – umbilical hernia *Syndromes of the Head and Neck, p.303, 1990*

DeBarsey syndrome – umbilical hernia *Ped Derm 18:365–366, 2001*

Dup (3q) syndrome – omphalocele *Birth Defects 14:191–217, 1978*

Dyskeratosis congenita

Ehlers–Danlos syndrome type IX – umbilical hernia *Ped Derm 18:365–366, 2001*

Elejalde syndrome (acrocephalopolydactylous dysplasia) – omphalocele *Birth Defects 13:53–67, 1977*

Goltz's syndrome

Hunter's syndrome – umbilical and inguinal hernias; reticulated 2–10-mm skin-colored papules over scapulae, chest, neck, arms; X-linked recessive; MPS type II; iduronate-2 sulfatase deficiency; lysosomal accumulation of heparin sulfate and dermatan sulfate; short stature, full lips, coarse facies, macroglossia, clear corneas (unlike Hurler's syndrome), progressive neurodegeneration, communicating hydrocephalus, valvular and ischemic heart disease, lower respiratory tract infections, adenotonsillar hypertrophy, otitis media, obstructive sleep apnea, diarrhea, hepatosplenomegaly, skeletal deformities (dysostosis multiplex), widely spaced teeth, dolichocephaly, deafness, retinal degeneration *Ped Derm 21:679–681, 2004*

I-cell disease (mucolipidosis II) – umbilical hernia *Helv Paediatr Acta 35:85–95, 1980*

Idaho syndrome – umbilical hernia; premature fusion of the sagittal suture, micrognathia, anomalous pulmonary venous return, anterior dislocation of the tibiae, contractures of PIP joints *J Neurosurg 47:886–898, 1977*

Lethal omphalocele and cleft palate *Hum Genet 64:99, 1983*

Marshall–Smith syndrome – omphalocele *Syndromes of the Head and Neck, p.340–342, 1990*

MC/MR syndrome with multiple circumferential skin creases – multiple congenital anomalies including high forehead, elongated face, bitemporal sparseness of hair, broad eyebrows, blepharophimosis, bilateral microphthalmia and microcornea, epicanthic folds, telecanthus, broad nasal bridge, puffy cheeks, microstomia, cleft palate, enamel hypoplasia, micrognathia, microtia with stenotic ear canals, posteriorly angulated ears, short stature, hypotonia, pectus excavatum, inguinal and umbilical hernias, scoliosis, hypoplastic scrotum, long fingers, overlapping toes, severe psychomotor retardation, resembles Michelin tire baby syndrome *Am J Med Genet 62:23–25, 1996*

Menke gene variant – umbilical hernia *Ped Derm 18:365–366, 2001*

Mucopolysaccharidoses (Hurler's, Hurler–Schei, Sanfilippo, Morquio, Maroteaux–Lamy, Sly syndromes) – umbilical hernias *Rook p.2624–2625, 1998, Sixth Edition*

Occipital horn syndrome – umbilical hernia *Ped Derm 18:365–366, 2001*

Olmsted syndrome – periumbilical fissured keratotic plaques

Pseudoxanthoma elasticum

Rieger syndrome (hypodontia and prmary mesodermal dysgenesis of the iris) – failure of periumbilical skin to involute; exomphalos *Br J Ophthalmol 67:529–534, 1983*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Simpson–Golabi–Behmel syndrome – pre- and post-natal overgrowth, large cystic kidneys, limb abnormalities, wide mouth, cleft palate, midline facial clefts, umbilical hernia, supernumerary nipples *Clin Genet 51:375–378, 1997*

Sjögren–Larsson syndrome – verrucous hyperkeratosis of flexures, neck, and periumbilical folds; mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo – deficiency of fatty aldehyde dehydrogenase *Chem Biol Interact 130–132:297–307, 2001; Am J Hum Genet 65:1547–1560, 1999; JAAD 35:678–684, 1996*

Stein–Leventhal syndrome – hypertrichosis of umbilicus

Trisomy 13 syndrome (Patau syndrome) – omphalocele *J Genet Hum 23:83–109, 1975*

### TRAUMA

Hernia *AD 139:1497–1502, 2003;* incarcerated hernias – umbilical nodules

Ileoumbilical fistula – after surgery for Crohn's disease *Dig Dis Sci 24:316–318, 1979*

Neonatal umbilical hemorrhage from slipped ligatures

### VASCULAR DISORDERS

Angiokeratoma

Cullen's sign

Granulation tissue, exuberant

Hemangioma

Henoch–Schönlein purpura

Pyogenic granuloma *Ped Derm 4:341–343, 1987*

Umbilical hemorrhage due to ulceration of the umbilical vein

Vasculitis

## UMBILICAL NODULES

***AD 128:1265–1270, 1992***

Basal cell carcinoma *AD 139:1497–1502, 2003*

Bowen's disease – plaque *Cutis 42:321–322, 1988*

Carcinoid tumor *AD 114:570–572, 1978*

Cholesteatoma

Colonic mucosa implantation *BJD 90:108, 1974*

Condyloma acuminata

Cutis laxa – umbilical hernia *Ped Derm 18:365–366, 2001*

DeBarsey syndrome – umbilical hernia *Ped Derm 18:365–366, 2001*

Dermatofibroma

Desmoid tumor

Ehlers–Danlos syndrome type IX – umbilical hernia *Ped Derm 18:365–366, 2001*

Embryologic rests *AD 123:105–110, 1987*

Endometriomas (32% of all umbilical tumors, most common); cutaneous endometrioma *AD 112:1435–1436, 1976; JAMA 191:167, 1965*

Endosalpingosis – ectopic fallopian tube epithelium; umbilical nodule *BJD 151:924–925, 2004;* post-operative endosalpingosis *AD 116:909–912, 1980*

Epidermal inclusion cyst

Exstropy of the bladder

Fibroepithelial papilloma

Fibrous umbilical polyp – fasciitis-like proliferation; early childhood; male predominance *Am J Surg Pathol 25:1438–1442, 2001*

Foreign body granuloma *AD 139:1497–1502, 2003*

Granular cell tumor *Ghatan p.102, 2002, Second Edition*

Hemangioma *Cutis 76:233–235, 2005;*

Hernia *AD 139:1497–1502, 2003*

Hidradenitis suppurativa

Incarcerated hernias

Keloid *AD 139:1497–1502, 2003*

Leiomyosarcoma

Lipoma

Melanocytic nevus *Rook p.1722–1723, 1998, Sixth Edition*

Melanoma *AD 139:1497–1502, 2003*

Malignant Langerhans cell tumor – periumbilical red nodule *JAAD 49:527–529, 2003*

Menke gene variant – umbilical hernia *Ped Derm 18:365–366, 2001*

Metastases – Sister Mary Joseph nodule *BJ Surg 76:728–729, 1989;* stomach *AD 111:1478–1479, 1975;* renal cell carcinoma *J Comput Assist Tomogr 22:756–757, 1998;* ovarian *JAAD 10:610–615, 1984;* pancreas *Cutis 31:555–558, 1983*; uterus *Br J Clin Pract 46:69–70, 1992;* leiomyosarcoma *AD 120:402–403, 1984;* peritoneal mesothelioma *Am J Dermatopathol 13:300–303, 1991; BJ Surg 76:728–729, 1989; JAAD 10:610–615, 1984;* acute promyelocytic leukemia *AD 140:1161–1166, 2004*

*Mycobacterium tuberculosis* – granuloma *Ghatan p.101, 2002, Second Edition*

Neurofibroma

Occipital horn syndrome – umbilical hernia *Ped Derm 18:365–366, 2001*

Omphalith (omphalokeratolith) – the inspissated umbilical bolus *AD 103:221, 1971; Cutis 40:144–146*

Omphalitis

Omphaloma *AD 123:105–110, 1987*

Omphalomesenteric duct remnants (vitelline duct remnant) – umbilical mucosal polyp (cherry red nodule); may vary from simple mucosal protrusion to moderate or complete prolapse of the duct and herniation fo the ileum to complete prolapse of the duct and prolapse of the ileum *Cutis 76:233–235, 2005; Textbook of Neonatal Dermatology, p.132, 2001; AD 126:1639–1644, 1990;* other omphalomesenteric duct remnants (deep cyst, Meckel's diverticulum or sinuses with ectopic gastrointestinal tissue) *Cutis 62:83–84, 1998*; remnant may persist as open umbilical enteric fistula or patent vitellointestinal duct connecting the lumen of the small intestine to the umbilicus *Cutis 76:233–235, 2005*

Patent urachal duct *AD 123:105–110, 1987*

Periumbilical choristia

Periumbilical perforating pseudoxanthoma elasticum *JAAD 39:338–344, 1998; AD 132:223–228, 1996; JAAD 26:642–644, 1992; AD 115:300–303, 1979*

Persistent vitelline duct and polyp *AD 123:105–110, 1987*

Pilonidal granulomata

Pilonidal sinus of umbilicus *Cutis 62:83–84, 1998*

Polyp of the umbilicus *Ped Derm 4:341–343, 1987*

Pyogenic granuloma *Cutis 76:233–235, 2005; Ped Derm 4:341–343, 1987*

Sarcoma, congenital *Cutis 76:233–235, 2005;*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm; group to form mamillated plaques; nodules develop with overlying dark pigmentation, scale, and ulceration; periumbilical *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

Seborrheic keratosis *AD 139:1497–1502, 2003*

Squamous cell carcinoma *AD 139:1497–1502, 2003*

Supraumbilical mid-abdominal raphe *Ped Derm 10:71–76, 1998*

Talc granuloma – older individuals *BJD 83:151–156, 1970*

Tanapox infection *NEJM 350:361–366, 2004*

Umbilical granuloma – most common umbilical mass *Textbook of Neonatal Dermatology, p.95,132, 2001*

Umbilical hair granuloma and/or sinus

Umbilical hernia, ligated *Cutis 76:233–235, 2005*

Umbilicolith

Urachal and vascular abnormalities (patent urachus) (ectopic transitional epithelium of bladder) – urachal remnants with cyst, sinus, or fistula *Textbook of Neonatal Dermatology, p.132, 2001; Cutis 62:83–84, 1998*

Verrucous carcinoma *AD 141:779–784, 2005*

Yolk sac remnant – umbilico-ileal fistula

Malignant tumors (8.4% of all tumors) *SA Med Jnl Sept 1980, p.457; Cancer 18:907, 1965*

53% Adenocarcinoma

23% Sarcomas

18% Melanomas

3% Squamous cell carcinoma

3% Basal cell carcinoma

Carcinoid *Mt Sinai J Med 44:257, 1977*

# UMBILICATED LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bowel-associated dermatitis arthritis syndrome – umbilicated pustules *BJD 142:373–374, 2000*

Linear IgA disease

Lupus erythematosus – discoid lupus erythematosus – umbilicated papular eruption of the back with acneform hypertrophic follicular scars *BJD 87:642–649, 1972*

Palisaded neutrophilic and granulomatous dermatitis of collagen vascular diseases (rheumatoid arthritis); cutaneous extravascular necrotizing granuloma; Churg–Strauss granuloma, rheumatoid papule *JAAD 47:251–257, 2002; JAAD 34:753–759, 1996; AD 130:1278–1283, 1994*

## CONGENITAL LESIONS

Dermoid cyst and sinus – central dimple *JAAD 46:934–941, 2002*

## DRUG-INDUCED

Transepidermal elimination of collagen after steroid injections *AD 120:539–540, 1984*

## EXOGENOUS AGENTS

Caustic drilling fluid in petrochemical industry (acquired perforating disease in oil field workers) – papules with central umbilication due to perforation of calcium *JAAD 14:605–611, 1986*

Calcium-containing EEG paste – papules with central umbilication due to perforation of calcium *Neurology 15:477–480, 1965*

Hydrocarbon (tar) keratosis – flat-topped papules of face and hands; keratoacanthoma-like lesions on scrotum *JAAD 35:223–242, 1996*

Suture material, transepidermal elimination *AD 120:539–540, 1984*

## INFECTIONS AND INFESTATIONS

African histoplasmosis (*Histoplasma duboisii*) – umbilicated papules *BJD 82:435–444, 1970*

*Alternaria alternata* – molluscum contagiosum-like lesions *AD 121:901, 1985*

Aspergillosis – primary cutaneous *AD 128:1229–1232, 1992;* perforating aspergillosis *JAAD 15:1305–1307, 1986;* molluscum contagiosum-like lesions

BCG vaccination, disseminated – umbilicated facial papules *Ped Derm 18:205–209, 2001; Ped Derm 14:365–368, 1997; Ped Derm 13:451–454, 1996*

*Cladosporium carrioni* – molluscum contagiosum-like lesions

Cowpox – umbilicated pustule; hemorrhagic pustule *JAAD 44:1–14, 2001*

Cryptococcosis – molluscum contagiosum-like lesions *AD 132:545–548, 1996; JAAD 26:122–124, 1992; JAAD 13:845–852, 1985; AD 121:901–902, 1985;* keratoacanthoma-like *Tyring p.340, 2002*

Draining sinus tract

Eczema herpeticum (Kaposi's varicelliform eruption) *Cutis 75:33–36, 2005*

Fire ant stings (*Solenopsis invicta*) – clusters of vesicles evolve into umbilicated pustules on red swollen base; crusting, heal with scars; urticaria *Ann Allergy Asthma Immunol 77:87–95, 1996; Allergy 50:535–544, 1995*

*Fusarium* sepsis

Herpes simplex infection, including eczema herpeticum

Herpes zoster, including eczema herpeticum

Histoplasmosis with transepidermal elimination – molluscum contagiosum-like lesions *JAAD 13:842–844, 1985*

Insect bites

Leishmaniasis

Leprosy – histoid leprosy *Int J Lepr Other Mycobact Dis 65:101–102, 1997; Int J Dermatol 34:295–296, 1995;* lepromatous leprosy

Milker's nodule

Molluscum contagiosum *Tyring p.62–63, 2002*

Monkeypox – exanthem indistinguishable from smallpox – papulovesiculopustular; vesicles, umbilicated pustules, crusts *CDC Health Advisory, June 7,2003; JAAD 44:1–14, 2001; J Infect Dis 156:293–298, 1987*

Mycetoma – eumycetoma *AD 141:793–794, 2005*

*Mycobacterium tuberculosis* – congenital tuberculosis – red papule with central necrosis *AD 117:460–464, 1981;* molluscum contagiosum-like lesions; miliary tuberculosis *JAAD 50:S110–113, 2004; Clin Inf Dis 23:706–710, 1996;* papulonecrotic tuberculid *Indian J Dermatol Venereol Leprol 50:267–268, 1984;* miliary

Orf – reddish-blue papule becomes hemorrhagic umbilicated pustule or bulla surrounded by gray–white or violaceous rim which is surrounded by a rim of erythema *Tyring p.54, 2002; AD 126:356–358, 1990*; large lesions may resemble pyogenic granulomas or lymphoma; rarely widespread papulovesicular or bullous lesions occur *Int J Dermatol 19:340–341, 1980*

*Paecilomyces lilacinus* – resemble molluscum contagiosum *JAAD 39:401–409, 1998*

*Penicillium marneffei* – molluscum contagiosum-like lesions *Tyring p.345, 2002; NEJM 344:1763, 2001; JAAD 37:450–472, 1997; Clin Inf Dis 18:246–247, 1994; JAAD 31:843–846, 1994*

Perforating folliculitis

Plague (*Yersinia pestis*) – umbilicated vesicles and pustules *J Infect Dis 129:S78–84, 1974*

*Pneumocystis carinii* (molluscum contagiosum-like lesions) *AD 127:1699–1701, 1991*

Scabies-associated acquired perforating dermatosis *JAAD 51:665–667, 2004*

Smallpox

Smallpox vaccination site *Clin Inf Dis 37:241–250, 2003;* generalized vaccinia – umbilicated vesicopustules *Clin Inf Dis 37:251–271, 2003*

Sporotrichosis – molluscum contagiosum-like lesions

Syphilis – extragenital chancre (KA-like) *JAAD 13:582–584, 1985*

Tanapox – umbilicated papule *NEJM 350:361–366, 2004; JAAD 44:1–14, 2001*

Trombiculosis – fowl mite bites

Tungiasis – *Tunga penetrans JAAD 20:941–944, 1989*

Vaccinia – umbilicated vesicle (Jennerian vesicle) *JAAD 44:1–14, 2001*

Varicella *The Clinical Management of Itching; Parthenon Publishing, 2000; p.xi; Rook p.1017–1018, 1998, Sixth Edition*

Warts

## INFILTRATIVE LESIONS

Langerhans cell histiocytosis – masquerading as molluscum contagiosum *JAAD 45:S233–234, 2001; JAAD 13:481–496, 1985*

## INFLAMMATORY

Necrotizing infundibular crystalline folliculitis – follicular papules with waxy keratotic plugs *BJD 145:165–168, 2001*

Pyoderma gangrenosum-like lesions, polyarthritis, and lung cysts with ANCA to azurocidin – umbilicated necrotic lesions *Clin Exp Immunol 103:397–402, 1996*

Sarcoid *JAAD 44:725–743, 2001*

## METABOLIC

Calcinosis cutis – transepidermal elimination of dystrophic or metastatic calcinosis cutis *AD 134:97–102, 1998;* subepidermal calcified nodule *JAAD 49:900–901, 2003*

Chronic renal disease – acquired perforating dermatosis of chronic renal disease Acquired perforating disease *Rook p.2730, 1998, Sixth Edition; Int J Derm 32:874–876, 1993; Int J Dermatol 31:117–118, 1992; AD 125:1074–1078, 1989*

Phrynoderma – hyperkeratotic, umbilicated follicular papules *JAAD 41:322–324, 1999*

Xanthomas, eruptive *AD 137:85–90, 2001*

## NEOPLASTIC

Acantholytic acanthoma *AD 131:211–216, 1995*

Basal cell carcinoma

Dermatofibroma

Desmoplastic trichoepithelloma

Eccrine poroma *BJD 146:523, 2002*

Epstein–Barr virus associated lymphoproliferative lesions *BJD 151:372–380, 2004*

Eruptive keratoacanthomas of Grzybowski *AD 112:835–836, 1976*

Eruptive vellus hair cysts *AD 131:341–346, 1995*

Fibrofolliculomas *JAAD 17:493–496, 1987*

Follicular tumors *JAAD 15:1123–1127, 1986*

Generalized eruptive histiocytoma *BJD 144:435–437, 2001*

Giant sebaceous hyperplasia *AD 122:1101–1102, 1986*

Hidradenoma papilliferum *JAAD 41:115–118, 1999*

Histiocytoma

Keratoacanthoma *AD 120:736–740, 1984*

Leiomyosarcoma *Sem Cut Med Surg 21:159–165, 2002; JAAD 38:137–142, 1998; J D Surg Oncol 9:283–287, 1983*

Lichen planus-like keratosis

Lymphoma – $CD30^+$ anaplastic large cell lymphoma *JAAD 49:1049–1058, 2003;* HTLV-1 granulomatous T-cell lymphoma – umbilicated red–orange papulonodules *JAAD 44:525–529, 2001*

Lymphomatoid papulosis

Melanoma – amelanotic desmoplastic neurotropic melanoma – umbilicated papule of nose *AD 139:1209–1214, 2003*

Metastases – adenocarcinoma of the lung *Bolognia p.1954, 2003;* squamous cell carcinoma

Nevus lipomatosis superficialis *BJD 153:209-210, 2005*

Palisaded encapsulated neuroma (red papule) *AD 130:369–374, 1994*

Pilar cyst

Pilar sheath acanthoma – umbilicated skin-colored papule with central keratinous plug of moustache area *AD 114:1495–1497, 1978*

Porokeratotic eccrine ostial and dermal duct nevus – resemble nevus comedonicus; linear keratotic papules with central plugged pit; may be verrucous; filiform; anhidrotic or hyperhidrotic; most common on palms and soles *AD 138:1309–1314, 2002; JAAD 43:364–367, 2000; JAAD 24:300–301, 1991; Cutis 46:495–497, 1990*

Rhabdomyomatous mesenchymal harmartoma (striated muscle hamartoma) (congenital) – asssociated with Dellemann's syndrome – multiple skin tag-like lesions of infancy *Ped Derm 15:274–276, 1998*

Sebaceous adenoma

Sebaceous hyperplasia

Spitz nevus *AD 134:1627–1632, 1998*

Squamous cell carcinoma

Syringocystadenoma papilliferum – umbilicated nodule of trunk (shoulders, axillae, genitalia) *AD 71:361–372, 1955;* linear syringocystadenoma papilliferum *AD 121:1197–1202, 1985; AD 112:835–836, 1976*

Syringoma

Trichoblastoma – umbilicated scalp nodule with central follicular plug *BJD 144:1090–1092, 2001*

Trichofolliculoma – tuft of white hair issuing from central pore

Verrucous acanthoma

Verrucous perforating collagenoma *Dermatologica 152:65–66, 1976*

Waldenström's IgM storage papules (macroglobulinosis) – skin-colored translucent papules on extensor extremities, buttocks, trunk; may be hemorrhagic, crusted, or umbilicated *JAAD 45:S202–206, 2001; AD 128:377–380, 1992*

Warty dyskeratoma *Ghatan p.341, 2002, Second Edition*

## PHOTODERMATOSES

Hydroa vacciniforme – red macules progress to tender papules, hemorrhagic vesicles or bullae, umbilication and crusting; pock-like scars *JAAD 42:208–213, 2000; Dermatology 189:428–429, 1994; JAAD 25:892–895, 1991; JAAD 25:401–403, 1991; BJD 118:101–108, 1988; AD 118:588–591, 1982;* familial *BJD 140:124–126, 1999; AD 114:1193–1196, 1978; AD 103:223–224, 1971;* late onset *BJD 144:874–877, 2001*

## PRIMARY CUTANEOUS DISEASES

Acne necrotica miliaris *Rook p.1122, 1998, Sixth Edition*

Acne necrotica varioliformis *AD 132:1365–1370, 1996; JAAD 16:1007–1014, 1987*

Acrokeratoelastoidosis of Costa – umbilicated hyperkeratotic papules of palms and soles *AD 140:479–484, 2004; Ped Derm 19:320–322, 2002; JAAD 22:468–476, 1990; Acta DV 60:149–153, 1980; Dermatologica 107:164–168, 1953*

Darier's disease – umbilicated white papules on oral mucosa *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992*

Degenerative collagenous plaques of the hands – linear crateriform papules; may coalesce to form a band *JAAD 47:448–451, 2002; AD 82:362–366, 1960*

Elastosis perforans serpiginosa *J Dermatol 20:329–340, 1993; Hautarzt 43:640–644, 1992; JAAD 10:561–581, 1984; AD 97:381–393, 1968*

Erythema of Jacquet – erosive diaper dermatitis with umbilicated papules *Ped Derm 15:46–47, 1998*

Focal acral hyperkeratosis (acrokeratoelastoidosis without elastorrhexis) – autosomal dominant; crateriform papules of the sides of the hands and feet *JAAD 47:448–451, 2002; AD 120:263–264, 1984; BJD 109:97–103, 1983*

Fox–Fordyce disease *JAAD 48:453–455, 2003*

Granuloma annulare – in HIV disease *JAAD:S184–186, 2003;* umbilicated papular granuloma annulare *AD 140:877–882, 2004; Int J Dermatol 36:207–209, 1997; AD 128:1375–1378,*

*1992;* perforating granuloma annulare *Int J Dermatol 36:340–348, 1997; AD 103:65–67, 1971*

Kyrle's disease (hyperkeratosis follicularis et parafollicularis in cutem penetrans) *Int J Dermatol 36:340–348, 1997; J Derm 20:329–340, 1993; JAAD 16:117–123, 1987; AD 103:65–67, 1971*

Lichen sclerosus et atrophicus – personal observation

Muir–Torre syndrome – autosomal dominant; sebaceous adenomas, sebaceous carcinomas, keratoacanthomas *Cutis 75:149–155, 2005*; Curr *Prob Derm 14:41–70, 2002; BJD 136:913–917, 1997; JAAD 33:90–104, 1995; JAAD 10:803–817, 1984; AD 98:549–551, 1968; Br J Surg 54:191–195, 1967*

Papular elastorrhexis *Dermatology 205:198–200, 2002; Clin Exp Dermatol 27:454–457, 2002; JAAD 19:409–414, 1988; AD 123:433–434, 1987*

Perforating folliculitis *JAAD 40:300–302, 1999; Am J Dermatopathol 20:147–154, 1998; AD 97:394–399, 1968*

Periumbilical pseudoxanthoma elasticum *AD 132:223–228, 1996*

Pityriasis rosea, vesicular

Prurigo nodularis

Reactive perforating collagenosis – early childhood, precipitated by trauma; skin-colored umbilicated papules; heal with hypopigmentation or scar *BJD 140:521–524, 1999; Int J Dermatol 36:340–348, 1997; AD 121:1554–1555, 1557–1558, 1985; AD 103:65–67, 1971*

### SYNDROMES

Birt Hogg–Dube syndrome – fibrofolliculomas – skin-colored papule with central keratinous plug *AD 135:1195–1202, 1999*

Dyskeratosis benigna intraepithelialis mucosae et cutis hereditaria – conjunctivitis, umbilicated keratotic nodules of scrotum, buttocks, trunk; palmoplantar verruca-like lesions, leukoplakia of buccal mucosa, hypertrophic gingivitis, tooth loss *J Cutan Pathol 5:105–115, 1978*

Muir–Torre syndrome – keratoacanthomas, sebaceous neoplasms

Sweet's syndrome

### VASCULAR

Churg–Strauss disease – umbilicated nodules of elbows *BJD 150:598–600, 2004;* umbilicated nodules with central necrosis of elbows and knees *BJD 127:199–204, 1992*

Degos' disease – umbilicated papules *Ann DV 79:410–417, 1954*

Wegener's granulomatosis *JAAD 31:605–612, 1994;* palisaded neutrophilic and granulomatous dermatitis – tender umbilicated papules *Cutis 70:37–38, 2002*

## UNILATERAL FOOT EDEMA

Freiberg's infarction

Plantar fasciitis *Am J Roentgenol 173:699–701, 1999*

Plantar neuroma

Synovial sarcoma *Clin Orthop 364:220–226, 1999*

Tenosynovitis

Venous thrombosis – swelling and pain of calf; edema of ankle *BMJ 320:1453–1456, 2000*

## URTICARIA AND URTICARIA-LIKE LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – contact urticaria – foods, food additives, drugs, animal saliva or dander, pollen, caterpillars, rubber gloves, algae, lichens *Rook p.2134, 1998, Sixth Edition;* nickel – generalized urticaria after transfusions *Lancet ii:741–742, 1960;* chronic urticaria due to surgical metal skin clips *NEJM 329:1583–1584, 1993;* implanted alloys *Br Med J 4:36, 1967*; apple – perioral urticarial dermatitis *JAAD 53:736–737, 2005*

Anaphylactoid reactions – aspirin, radiocontrast media, alcohol, foods *Rook p.2119, 1998, Sixth Edition*

Autoimmune estrogen dermatitis *JAAD 32:25–31, 1995*

Autoimmune progesterone dermatitis – premenstrual urticaria *BJD 133:792–794, 1995; Semin Dermatol 8:26–29, 1989; BJD 121 (suppl 34):64, 1989*

Bruton's agammaglobulinemia *Rook p.2750, 1998, Sixth Edition*

Bullous pemphigoid, urticarial phase *JAAD 29:293–299, 1993*

C1 esterase deficiency *Rook p.2750, 1998, Sixth Edition*

C3 deficiency *Rook p.2750, 1998, Sixth Edition*

Dermatitis herpetiformis – chronic urticaria *Ped Derm 21:564–567, 2004;* urticaria-like lesions *Rook p.1890, Sixth Edition*

Dermatomyositis *J R Soc Med 77:137–138, 1984*

Epidermolysis bullosa acquisita – urticaria-like lesions

Herpes (pemphigoid) gestationis – urticaria-like lesions *JAAD 40:847–849, 1999; Rook p.1878–1879, 1998, Sixth Edition; JAAD 17:539–536, 1987*

Linear IgA disease – urticaria-like lesions *Rook p.1882, 1998, Sixth Edition*

Lupus erythematosis, systemic – urticaria-like lesions *JID 75:495–499, 1980; BJD 99:455–457, 1978; AD 114:879–883, 1978;* urticaria *BJD 135:355–362, 1996;* hypocomplementemic vasculitis with urticarial lesions *J Rheumatol 14:854–855, 1987;* lupus vasculitis *JAAD 48:311–340, 2003;* urticarial vasculitis progressing to SLE *AD 124:1088–1090, 1988*

Mixed connective tissue disease *J Dermatol 11:195–197, 1984*

Rheumatoid arthritis – Still's disease-like lesions *Q J Med 49:377–387, 1956;* palisaded neutrophilic granulomatous dermatitis of rheumatoid arthritis (rheumatoid neutrophilic dermatosis) – urticarial plaques on backs of hands and arms, back of neck, trunk, over joints *JAAD 48:311–340, 2003; JAAD 47:251–257, 2002; AD 133:757–760, 1997; AD 125:1105–1108, 1989*

Serum sickness *Dermatol Clin 3:107–117, 1985; NEJM 311:1407–1413, 1984*

Sjögren's syndrome – annular erythema *JAAD 48:311–340, 2003; Rook p.2121, 1998, Sixth Edition; JAAD 20:596–601, 1989*

Still's disease – salmon-pink urticaria-like lesions *JAAD 50:813–814, 2004*

Urticaria – acute; idiopathic, foods, drugs, hymenoptera stings, plasma expanders, blood products, anesthetic agents *The Clinical Management of Itching; Parthenon; p.103, 2000; Rook p.2116–2117, 1998, Sixth Edition;* chronic – subclinical foci of infection, parasites

Urticaria, fever, and eosinophilia

Urticaria with preceding vomiting *Semin Dermatol 6:286–291, 1987*

Urticaria, asthma, anaphylaxis *Rook p.2118, 1998, Sixth Edition; Semin Dermatol 6:286–291, 1987*

## DRUG-INDUCED

ACE inhibitors – lisinopril *AD 133:972–975, 1997*

Foscarnet – urticarial rash with or without exanthem – eosinophilic pustular folliculitis due to foscarnet *JAAD 44:546–547, 2001*

Corticosteroids, inhaled (budesonide) *Clin Exp Allergy 23:232–233, 1993*

Interleukin 2 *JAAD 28:66–70, 1993*

Iododerma *JAAD 36:1014–1016, 1997*

Multiple drugs

Prostaglandin $E_1$ – neonatal urticaria *Ped Derm17:58–61, 2000*

Radiocontrast dye

## EXOGENOUS AGENTS

Ammonium persulfate – hairdressers; contact urticaria

Animal dander *Ghatan p.112, 2002, Second Edition*

Aquagenic pruritus

Aquagenic urticaria – familial or sporadic *JAAD 47:611–613, 2002; JAAD 15:623–627, 1986; Dermatologica 158:468–470, 1979*

Blood products

Chlorhexidine

Contact urticaria – plants – fruits, vegetables, wheat bran, potato, eggs, beef, chicken, fish, pears, peanut butter, kiwi, apple, plum, pear birch pollen, alcohol, nickel, NCR paper, formalin, teak, fur, silk, horse saliva, rubber, ammonium persulfate, cinnamaldehyde, benzoic acid, guinea pig saliva and fur, streptomycin, vinyl pyridine, balsam of Peru, pig gut, cow and pig blood *Rook p.799, 1998, Sixth Edition*; nettles *Rook p.790, 1998, Sixth Edition;* DEET-containing insect repellant *Contact Dermatitis 35:186–187, 1996;* chlorinated pool water *Contact Dermatitis 3:279, 1977;* rubber *JAAD 25:831–839, 1991;* spices, cornstarch *J Derm Surg Oncol 13:224, 1987;* globe artichoke *J Allergy Clin Immunol 97:710–711, 1996;* litchi fruit *Contact Dermatitis 33:67, 1995;* kiwi fruit *Contact Dermatitis 22:244. 1990;* watermelon *Contact Dermatitis 28:185–186, 1993;* shiitake mushrooms *JAAD 24:64–66, 1991;* rice *BJD 132:836–837, 1995;* buckwheat flour *Ann Allergy 63:149–152, 1989;* mold on salami casing *Contact Dermatitis 32:120–121, 1995;* nickel *Contact Dermatitis 17:187, 1987;* beef *Contact Dermatitis 27:188–189, 1992;* cow's milk *Allergy 42:151–153, 1987;* pork, fish *Contact Dermatitis 17:182, 1987;* dog saliva *Contact Dermatitis 26:133, 1992;* tobacco *Contact Dermatitis 16:225–226, 1987;* locusts *BJD 118:707–708, 1988;* mouse hair *Contact Dermatitis 28:200, 1993;* Red Sea coral – contact dermatitis *Int J Derm 30:271–273, 1991*

Drug abuse – local urticaria from leakage of heroin or methadone *Rook p.926, 1998, Sixth Edition*

Ethanol *BJD 132:464–467, 1995*

Dermatographism – follicular, delayed *Ann Allergy 21:248–255, 1963;* cholinergic, cold-precipitated, exercise-induced, red, yellow, white; familial *Am J Med Genet 39:201–203, 1991*

Food – eggs, cheese, fruits, fish, milk, nuts, seafood; including food additives (dyes, tartrazine)

Food, exercise, food and exercise, idiopathic anaphylaxis

Hedgehog hives *AD 135:561–563, 1999*

Histamine releasing agents

Implants – metal orthopedic pins *Br Med J iv:36, 1967*; dental prostheses *Contact Dermatitis 21:204–205, 1989*; dental amalgams *NY State J Med 43:1648–1652, 1943*

Inhalants – grass pollens, molds, animal danders, house dust, tobacco smoke, foods *Rook p.2121, 1998, Sixth Edition*

Intrauterine device – copper-containing *Int J Derm 15:594–595, 1976*

Latex – urticaria *Am J Contact Dermatitis 4:4–21, 1993; Contact Dermatitis 17:270–275, 1987; BJD 101:597–598, 1979;* anaphylaxis *Allergy 42:46–50, 1987;* cross-reactivity to bananas, lychee nuts, chestnuts, avocado *Clin Exp Allergy 26:416–423, 1996*

Mold spores *Ghatan p.112, 2002, Second Edition*

Plant irritant contact dermatitis – urticarial dermatitis; buttercup, spurge, manzanillo tree, milfoil, mayweed *Rook p.791, 1998, Sixth Edition*

Platinum – refiners; contact urticaria *Rook p.2134, 1998, Sixth Edition*

Postcoital urticaria – penicillin allergy, seminal fluid allergy *JAMA 254:531, 1985*

*Rhus* – ingestion of *Rhus* as folk medicine remedy *BJD 142:937–942, 2000*

Seminal vulvitis – widespread urticaria *Am J Obstet Gynecol 126:442–444, 1976*

Zinc fumes *Am J Industr Med 12:331–337, 1987*

## INFECTIONS AND INFESTATIONS

Acripito itch – papulourticarial rash (*Hylesia* moths) *JAAD 13:743–747, 1985*

Adenovirus *Ghatan p.112, 2002, Second Edition*

AIDS (HIV) – acute infection *AD 127:1383–1391, 1991;* in children *JAAD 18:1089–1102, 1988*

Amebiasis

Ancylostomiasis – papular or papulovesicular rash; feet; generalized urticaria; late changes resemble kwashiorkor *Dermatol Clin 7:275–290, 1989*

*Arcanobacterium haemolyticum* – annular urticarial lesions *JAAD 48:298–299, 2003; J Clin Inf Dis 21:177–181, 1995*

Ascariasis *The Clinical Management of Itching; Parthenon; p.53, 2000*

Bee and wasp stings *NEJM 133:523–527, 1994*

*Campylobacter jejuni Lancet i:954, 1984*

Candidiasis – chronic urticaria *BJD 84:227–237, 1971*

Cat scratch disease *JAAD 41:833–836, 1999; JAAD 31:535–536, 1994*

Caterpillar dermatitis – urticarial papules surmounted by vesicles, urticaria, eyelid edema, bruising in children; conjunctivitis *Rook p.1450, 1998, Sixth Edition*; *Megalopyge* caterpillars – burning pain, spreading erythema, edema, lymphangitis *JAMA 175:1155–1158, 1961*

Cholecystitis, chronic *AD 115:638, 1979*

Coccidioidomycosis – urticarial toxic erythema *Dermatol Clin 7:227–239, 1989*

Coelenterate envenomation, delayed reaction *JAAD 22:599–601, 1990*

Coxsackle A9 and B *Tyring p.458, 2002; Rook p.998, 1998, Sixth Edition*

Creeping eruption – urticarial migratory lesions

Cystitis

Cytomegalovirus *Dermatology 200:189–195, 2000*

Dental abscess *Ghatan p.112, 2002, Second Edition; The Clinical Management of Itching; Parthenon; p.105, 2000*

Dirofilaria *Cutis 72:269–272, 2003*

Dracunculosis – *Dracunculus medinensis* – initially fever, pruritus, urticaria, edema *Int J Zoonoses 12:147–149, 1985*

Echinococcosis – dog tapeworm *Rook p.1401, 1998, Sixth Edition;* cystic ecchinococcosis of the liver with acute generalized exanthematous pustulosis and urticaria *BJD 148:1245–1249, 2003*

Enterobiasis (*Enterobius vermicularis*) – anal and perineal pruritus with localized urticaria *Rook p.1390, 1998, Sixth Edition; AD 84:1026–1029, 1961*

Enterovirus infection *Ghatan p.112, 2002, Second Edition*

Epstein–Barr virus (infectious mononucleosis) – presenting with acute urticaria *Ann Allergy 27:182–187, 1969;* cold urticaria with cold agglutinins and leg ulcers *Acta DV 61:451–452, 1981*

*Eschereria coli* sepsis – rose spots

Filariasis – may present with acute urticaria *Dermatol Clin 7:313–321, 1989*

Fire ant stings (*Solenopsis invicta*) – clusters of vesicles evolve into umbilicated pustules on red swollen base; crusting, heal with scars; urticaria *Ann Allergy Asthma Immunol 77:87–95, 1996; Allergy 50:535–544, 1995*

Fire corals – urticarial lesions followed by vesiculobullous rash, chronic granulomatous and lichenoid lesions *Contact Dermatitis 29:285–286, 1993; Int J Dermatol 30:271–273, 1991*

Gianotti–Crosti syndrome (papular acrodermatitis of childhood) – urticaria-like lesions

Giardiasis *Am J Dis Child 137:761–763, 1983*

Gnathostomiasis – including urticarial migratory lesions *JAAD 11:738–740, 1984; AD 120:508–510, 1984*

*Helicobacter pylori* – chronic urticaria *JAAD 34:685–686, 1996*

Hepatitis B *JAAD 8:539–548, 1983*

Hepatitis C *Cutis 61:90–92, 1998; AD 131:1185–1193, 1995*

Herpes simplex – urticaria-like appearance

Herpes zoster – urticaria-like appearance

Infectious mononucleosis (Epstein–Barr virus) – urticarial exanthem; urticaria and cold urticaria *Tyring p.149, 2002; Ghatan p.112, 2002, Second Edition; Rook p.998,1024, 1998, Sixth Edition*

Influenza *Ghatan p.112, 2002, Second Edition*

Insect bites – urticaria-like lesions *The Clinical Management of Itching; Parthenon; p.60, 2000;* tropical rat mite (O. baconi) *Cutis 42:414–416, 1988*

Jellyfish sting – acquired cold urticaria *Contact Dermatitis 29:273, 1993*

Larva currens

Lepidopterism

Loiasis

Lyme disease – generalized urticaria, urticarial vasculitis *JAAD 22:1114–1116, 1990*

Malaria – *Plasmodium vivax Postgrad Med J 65:266–267, 1989*

Melioidosis, pulmonary *AD 99:80–81, 1969*

Meningococcemia – urticaria-like lesions *Pediatrics 60:104–106, 1977*

*Necator americanus The Clinical Management of Itching; Parthenon; p.53, 2000*

Octopus bite – blue-ringed octopus *J Emerg Med 10:71–77, 1992*

Onchocerciasis, acute – urticaria-like papules *AD 133:381–386, 1997;* acute urticaria in Zaire *Rook p.1383, 1998, Sixth Edition*

Portuguese man-of-war stings *J Emerg Med 10:71–77, 1992*

*Pseudomonas* – swimming pool or hot tub folliculitis; macules, papules, pustules, urticarial lesions *JAMA 239:2362–2364, 1978; JAMA 235:2205–2206, 1976*

Q fever – *Coxiella burnetii*; urticarial lesions *JAAD 49:363–392, 2003*

Rat bite fever

Rheumatic fever – urticarial eruption *Ped Derm 16:288–291, 1999*

Rose spots – typhoid fever, *Escherichia coli* sepsis

Roundworm

Scabies *Cutis 33:277–279, 1984*

Scarlet fever – erythema marginatum – urticaria-like lesions

Schistosomiasis (*Schistosoma japonicum*) – Katayama fever – purpura, arthralgia, systemic symptoms; fever, edema, urticarial eruption, headache, arthralgias, abdominal pain, hypereosinophilia occurring 4–6 weeks after infection. *The Clinical Management of Itching; Parthenon; p.53, 2000; BJD 135:110–112, 1996; Dermatol Clin 7:291–300, 1989*

Seabather's eruption – Cnidaria larvae (*Linuche unguiculata* (thimble jellyfish)); *Edwardsiella lineata* (sea anemone) *Rook p.1476, 1998, Sixth Edition*

Sinusitis, chronic *Ghatan p.112, 2002, Second Edition*

Sparganosis – linear migratory erythema with or without pustules; urticaria-like lesions

Streptococcal pharyngitis *Rook p.2119, 1998, Sixth Edition;* group B *Ghatan p.112, 2002, Second Edition*

*Strongyloides* – urticaria *Br Med J ii:572–574, 1979;* larva currens *AD 124:1826–1830, 1988*

Tarantula hairs

Tooth abscess

Toxocariasis (urticarial migratory lesions) (*Toxocara canis*, *T. cati*, *T. leonensis*) visceral larva migrans *Dermatologica 144:129–143, 1972*

Trichinosis – periorbital edema, conjunctivitis; transient morbilliform eruption, splinter hemorrhages *Can J Public Health 88:52–56, 1997; Postgrad Med 97:137–139, 143–144, 1995; South Med J 81:1056–1058, 1988*

Trypanosomiasis, African; edema of face, hands, feet with transient red macular, morbilliform, petechial or urticarial dermatitis; circinate, annular of trunk *Rook p.1407–1408, 1998, Sixth Edition*

Viral syndrome

Yellow jacket sting

## INFILTRATIVE DISORDERS

Langerhans cell histiocytosis, urticating Langerhans cell histiocytosis (Hashimoto–Pritzker disease) *Ped Derm 18:41–44, 2001; JAAD 14:867–873, 1986*

Lichen myxedematosus (4th variant) – urticaria-like lesions *Int J Derm 26:91–95, 1987;* papular mucinosis *AD Syphilol 199:71–91, 1954*

Juvenile xanthogranuloma – Darier's sign *J Dermatol 10:283–285, 1983*

Mastocytosis – urticaria pigmentosa *The Clinical Management of Itching; Parthenon; p.107, 2000*; Darier's sign *Rook p.2341–2344, 1998, Sixth Edition; Acta DV (Stockh) 42:433–439, 1962;* mastocytosis, systemic – Darier's sign

Scleromyxedema – urticarial papules *JAAD 38:289–294, 1998*

Xanthomas – diffuse normolipemic plane xanthomas – urticaria-like lesions *JAAD 35:829–832, 1996*

## INFLAMMATORY DISEASES

Eosinophilic myositis/perimyositis *JAAD 37:385–391, 1997;* eosinophilic cellulitis-like lesions associated with eosinophilic myositis – urticaria-like lesions *AD 133:203–206, 1997*

Eosinophilic pustular folliculitis *Dermatology Times p.39, Aug 1997*

Erythema multiforme – urticaria-like lesions *The Clinical Management of Itching; Parthenon; p.107, 2000*

Inflammatory bowel disease *Ghatan p.140, 2002, Second Edition*

Interstitial granulomatous dermatitis with plaques (also called linear rheumatoid nodule, railway track dermatitis, linear granuloma annulare, palisaded neutrophilic granulomatous dermatitis) – urticarial lesions *JAAD 47:251–257, 2002*

Kikuchi's disease (histiocytic necrotizing lymphadenitis) – red papules of face, back, arms; red plaques; erythema and acneform lesions of face; morbilliform, urticarial, and rubella-like exanthems; red or ulcerated pharynx; cervical adenopathy; associations with SLE, lymphoma, tuberculous adenitis, viral lymphadenitis, infectious mononucleosis, and drug eruptions *BJD 146:167–168, 2002; BJD 144:885–889, 2001; Ped Derm 18:403–405, 2001; Am J Surg Pathol 14:872–876, 1990*

Neutrophilic eccrine hidradenitis – urticarial papules resembling insect bites *JAAD 52:963–966, 2005; JAAD 35:819–822, 1996*

Pruritic linear urticarial rash, fever, and systemic inflammatory disease of adolescents – urticaria, linear lesions, periorbital edema and erythema, and arthralgia *Ped Derm 21:580–588, 2004*

## METABOLIC DISEASES

Adrenergic urticaria *Acta DV 70:82–84, 1990; Lancet 2:1031–1033, 1985*

Celiac disease *Int J Dermatol 378:15–19, 1998*

Cholinergic dermatographism – red line with punctate wheals *BJD 115:371–177, 1986*

Cholinergic erythema *BJD 109:343–348, 1983*

Cholinergic urticaria *AD 123:462–467, 1987*

Cryoglobulinemia – urticaria *JAAD 48:311–340, 2003;* cold urticaria *JAAD 13:636–644, 1985*

Diabetes

Hyperparathyroidism *Lancet 1:1476, 1984*

Hyperthyroidism *JAMA 254:2253–2254, 1985; J Allergy Clin Immunol 48:73–81, 1971;* Graves' disease *JAAD 48:641–659, 2003*

Hypothyroidism

Menstrual urticaria and anaphylaxis *Allergy 42:477–479, 1987*

Paroxysmal cold hemoglobinuria – cold urticaria *NEJM 297:538–542, 1977*

Porphyria – porphyria cutanea tarda presenting as solar urticaria *BJD 141:590–591, 1999;* erythropoietic protoporphyria – urticaria-like plaques; solar urticaria *Eur J Pediatr 159:719–725, 2000; J Inherit Metab Dis 20:258–269, 1997; BJD 131:751–766, 1994; Curr Probl Dermatol 20:123–134, 1991; Am J Med 60:8–22, 1976*

Pregnancy *Ghatan p.25, 2002, Second Edition*

Pruritic urticarial papules and plaques of pregnancy *JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Renal disease *The Clinical Management of Itching; Parthenon; p.37, 2000; Semin Dermatol 14:297–301, 1995*

## NEOPLASTIC DISORDERS

Angioimmunoblastic lymphadenopathy (T-cell lymphoma) *JAAD 46:325–357, 2002*

Essential thrombocythemia *JAAD 24:59–63, 1991*

Ganglioneuroblastoma – urticaria to water, light, and cold *Clin Exp Dermatol 14:25–28, 1989*

Leukemia cutis – acute basophilic leukemia *Ann DV 114:169–173, 1987;* urticaria-like lesions *AD 121:1497–1502, 1990*; acute lymphoblastic leukemia with eosinophilia *JAAD 51:S79–83, 2004; Ped Derm 20:502–505, 2003;* acute lymphocytic leukemia in children *AD 126:1497–1502, 1990*; juvenile chronic myelogenous leukemia with figurate lesions *JAAD 9:423–427, 1983;* eosinophilic leukemia; chronic lymphocytic leukemia – urticaria in 3% *Dermatologica 96:350–356, 1948*; acute lymphoblastic leukemia with Darier's sign *JAAD 34:375–378, 1996;* acute myeloblastic leukemia with Philadelphia chromosome – painful urticaria *Clin Lab Haematol 8:161–162, 1986*

Lymphoma, including Hodgkin's disease *Ghatan p.170, 2002, Second Edition*

Polycythemia vera

Waldenström's macroglobulinemia *JAAD 45:S202–206, 2001; AD 134:1127–1131, 1998; Dermatologica 181:41–43, 1990;* cryoglobulin-associated cold urticaria *JAAD 45:S202–206, 2001*

## PARANEOPLASTIC DISEASES

Internal malignancy (urticaria and myelodysplasia) – chronic lymphocytic leukemia, hairy cell leukemia, lymphoma, solid tumor *Cutis 61:147–148, 1998;* carcinoma of lung *Cutis 69:49–50, 2002*

Paraneoplastic vasculitis – leukocytoclastic vasculitis with urticarial lesions *J Rheumatol 18:721–727, 1991; Medicine 67:220–230, 1988*

## PHOTODERMATITIS

Fixed solar urticaria *JAAD 29:161–165, 1993*

Solar urticaria *Am J Contact Dermat 11:89–94, 2000; BJD 142:32–38, 2000; Int J Dermatol 38:411–418, 1999; AD 134:71–74, 1998; JAAD 21:237–240, 1989; AD 124:80–83, 1988;* in an infant *BJD 136:105–107, 1997*

## PRIMARY CUTANEOUS DISEASES

Alopecia mucinosa – urticaria-like *Dermatologica 170:133–135, 1985*

Anetoderma of Jadassohn – initial stages may be urticarial *AD 120:1032–1039, 1984*

Chronic urticaria *JAAD 46:645–657, 2002*

Cutis laxa, acquired – after urticaria and angioedema *AD 103:661–669, 1971;* acquired cutis laxa *Ped Derm 2:282–288, 1985;* palmar urticaria in acral localized acquired cutis laxa *JAAD 21:33–40, 1989*

Eosinophilic cellulitis *JAAD 14:32–38, 1986*

Erythema annulare centrifugum – urticaria-like lesions

Erythrokeratoderma variabilis – urticaria-like lesions

Exercise-induced urticaria and/or anaphylaxis *J Allergy Clin Immunol 68:432–437, 1981*

Follicular mucinosis – urticaria-like *Dermatologica 170:133–135, 1985; Ann DV 107:491–495, 1980*

Ichthyosis congenita type IV – erythrodermic infant with follicular hyperkeratosis and positive Darier's sign mimicking diffuse cutaneous mastocytosis *BJD 136:377–379, 1997*

Mid-dermal elastolysis – preceding urticaria *JAAD 51:165–185, 2004*

Neutrophilic urticaria *Acta Derm Vener* (*Stockh*) *68:129–133, 1988*

## PSYCHOCUTANEOUS DISORDERS

Factitial dermatitis – fixed urticaria *Rook p.2800–2802, 1998, Sixth Edition; JAAD 1:391–407, 1979*

Psychological factors – stress *Cutis 43:340, 1989*

## SYNDROMES

AHA syndrome (arthritis or arthralgia, hives, angioedema) *Rheumatol Int 7:277–279, 1987*

Chediak–Higashi syndrome *Rook p.2742, 1998, Sixth Edition*

CINCA syndrome (chronic infantile neurologic cutaneous articular syndrome) – urticarial-like lesions *Ped Derm 22:222–226, 2005; Eur J Pediatr 156:624–626, 1997*; chronic urticaria *AD 136:431–433, 2000; J Pediatr 99:79–83, 1981*

Familial cold autoinflammatory syndrome (cold urticaria) *BJD 150:1029–1031, 2004*

Familial cold urticaria – autosomal dominant
- Systemic atypical
- Cold-dependent dermatographism
- Cold erythema
- Cold-induced cholinergic urticaria *J Allergy Clin Immunol 68:438–441, 1981*
- Delayed cold urticaria
- Localized cold-reflex urticaria *J Allergy Clin Immunol 85:52–54, 1990*
- Leukocytoclastic vasculitis
- Infections – mononucleosis, syphilis
- Cold agglutinins
- Cold hemolysins
- Cold fibrinogens
- Cryoglobulins

Familial Mediterranean fever – autosomal recessive; urticaria-like lesions *AD 134:929–931, 1998*

Gleich's syndrome (episodic angioedema with eosinophilia) – angioedema, urticaria, fever, periodic weight gain, eosinophilia, increased IgM *AD 141:633–638, 2005; JAAD 20:21–27, 1989; NEJM 310:1621–1626, 1984*

Hereditary angioneurotic edema – transitory prodromal nonpruritic urticarial eruption *JAAD 53:373–388, 2005*

Hypereosinophilic syndrome, idiopathic *BJD 144:639, 2001; AD 132:583–585, 1996; Blood 83:2759–2779, 1994; AD 114:531–535, 1978;* urticaria and/or angioedema *Med Clin (Barc) 106:304–306, 1996; AD 132:535–541, 1996; Sem Derm 14:122–128, 1995*

Hyper-IgD syndrome – periodic fever, red macules or papules, urticaria, annular erythema, red nodules, arthralgias, abdominal pain, lymphadenopathy; combinations of fever, arthritis and rash, annular erythema and pustules *AD 136:1487–1494, 2000; Ann DV 123:314–321, 1996; AD 130:59–65, 1994*

Hyper-IgE syndrome (Job's syndrome) (Buckley's syndrome) – contact urticaria; dermatitis of scalp, axillae, and groin; recurrent bacterial infections of skin with cold abscesses, infections of nasal sinuses and respiratory tract *Curr Prob Derm 10:41–92, 1998; Medicine 62:195–208, 1983*

IPEX syndrome – X-linked; immune dysregulation, polyendocrinopathy, enteropathy; mutation of FOXP3; nummular dermatitis, urticaria, scaly psoriasiform plaques of trunk and extrexities, penile rash, alopecia universalis, bullae *AD 140:466–472, 2004*

Kawasaki's disease – macular, morbilliform, urticarial, scarlatiniform, erythema multiforme-like, pustular, erythema marginatum-like exanthems *JAAD 39:383–398, 1998*

Muckle–Wells syndrome – autosomal dominant; macular erythema, urticaria (cold air urticaria), deafness, extremity pain, nephropathy, amyloidosis *BJD 151:99–104, 2004; JAAD 39:290–291, 1998*

NOMID – neonatal onset multisystem inflammatory disease – generalized evanescent urticarial macules and papules *Ped Derm 22:222–226, 2005; Textbook of Neonatal Dermatology, p.302, 2001*

Periodic diseases with cyclic edema/periodic edema – may include hereditary angioedema, familial Mediterranean fever, capillary leak syndrome and autoimmune progesterone urticaria *Int J Dermatol 18:824–827, 1979*

Relapsing polychondritis *Clin Exp Rheumatol 20:89–91, 2002*

Schnitzler's syndrome – chronic urticaria, intermittent fever, and IgM monoclonal gammopathy (macroglobulinemia), high ESR, leukocytosis, arthralgia, arthritis, with bone pain (osteosclerotic), palpable lymphadenopathy, hepatosplenomegaly *BJD 142:954–959, 2000; JAAD 30:316–318, 1994; AD 130:1193–1198, 1994; JAAD 20:855–857, 1989; JAAD 20:206–211, 1989*

Sweet's syndrome

Systemic capillary leak syndrome (Clarkson syndrome) *Bolognia p.296, 2004*

Tumor necrosis factor (TNF) receptor 1-associated periodic fever syndromes (TRAPS) (same as familial Hibernian fever, autosomal dominant periodic fever with amyloidosis, and benign autosomal dominant familial periodic fever) – erythematous patches, tender red plaques, fever, annular, serpiginous, polycyclic, reticulated, and migratory patches and plaques (migrating from proximal to distal), urticaria-like lesions, lesions resolving with ecchymoses, conjunctivitis, periorbital edema, myalgia, arthralgia, abdominal pain, headache; Irish and Scottish predominance; mutation in TNFRSF1A – gene encoding 55 kDa TNF receptor *Medicine 81:349–368, 2002; Netherlands Journal of Medicine 59:118–125, 2001; AD 136:1487–1494, 2000*

Wells' syndrome (eosinophilic cellulitis) – red plaques resembling urticaria or cellulitis *JAAD 18:105–114, 1988*

## TOXINS

Eosinophilia myalgia syndrome (L-tryptophan related) – morphea, urticaria, papular lesions; arthralgia *BJD 127:138–146, 1992; Int J Dermatol 31:223–228, 1992; Mayo Clin Proc 66:457–463, 1991; Ann Intern Med 112:758–762, 1990*

Mustard gas exposure *AD 128:775–780, 1992; JAAD 32:765–766, 1995, JAAD 39:187–190, 1998*

Scombroid fish poisoning – urticaria-like lesions *Br Med J 281:71–72, 1980*

Toxic oil syndrome *JAAD 18:313–324, 1988*

## TRAUMA

Acquired cold-contact urticaria – painful erythema *JAMA 180:639–642, 1962*

Chemical burn – inducing bullous pemphigoid *JAAD 38:337–340, 1998*

Cold urticaria *J Allergy Clin Immunol 85:965–981, 1990; Semin Dermatol 6:292–301, 1987;* familial (autosomal dominant) *AD 129:343–346, 1993;* immediate cold-contact urticaria *JAAD 13:636–644, 1985;* delayed cold-contact urticaria *Proc R Soc Med 58:622–623, 1965;* localized cold contact urticaria *J Allergy Clin Immunol 86:272–273, 1990;*

cold-induced cholinergic urticaria (systemic chilling) *J Allergy Clin Immunol 68:438–441, 1981;* reflex cold urticaria *J Allergy Clin Immunol 85:52–54, 1990*

Dermatographism *Rook p.2128, 1998, Sixth Edition; Clin Exp Dermatol 14:25–28, 1989;* delayed dermatographism *Ann Allergy 21:248–255, 1963*

Heat urticaria *Management of Itching; Parthenon; p.103, 2000;* immediate heat urticaria *JAMA 83:3–8, 1924;* localized heat urticaria *BJD 147:994–997, 2002; BJD 90:289–292, 1974;* familial localized heat urticaria *Acta DV 51:279–283, 1971*

Pressure urticaria, including delayed pressure urticaria *JAAD 29:954–958, 1993*

Red dermatographism – repeated rubbing produces punctate wheals *BJD 104:285–288, 1981*

Vibratory angioedema – familial or acquired *J Allergy Clin Immunol 50:175–182, 1972; BJD 120:93–99, 1989; Am J Med Genet 9:307–315, 1981*

Vibration urticaria *The Clinical Management of Itching; Parthenon; p.104, 2000*

### VASCULAR

Acute hemorrhagic edema of infancy – purpura in cockade pattern of face, cheeks, eyelids, and ears; may form reticulate pattern; edema of penis and scrotum *JAAD 23:347–350, 1990;* necrotic lesions of the ears, urticarial lesions; oral petechiae *JAAD 23:347–350, 1990; Ann Pediatr 22:599–606, 1975;* edema of limbs and face *Cutis 68:127–129, 2001*

Churg–Strauss syndrome *JAAD 47:209–216, 2002; JID 17:349–359, 1951*

Cutaneous necrotizing eosinophilic vasculitis – urticaria, angioedema *AD 130:1159–1166, 1994*

Degos' disease – urticaria-like lesions *Ann DV 79:410–417, 1954*

Henoch–Schönlein purpura – 30% of patients with urticarial lesions admixed with purpura *BJD 82:211–215, 1970*

Leukocytoclastic vasculitis – urticaria-like lesions *Rook p.2178, 1998, Sixth Edition*

Polyarteritis nodosa *Ann Intern Med 89:66–676, 1978*

Recurrent cutaneous eosinophilic vasculitis – urticarial plaques *BJD 149:901–902, 2003*

Urticarial vasculitis, including urticarial vasculitis associated with hypocomplementemia, mixed cryoglobulins, hepatitis B or C infection, IgA multiple myeloma, infectious mononucleosis, monoclonal IgM gammopathy (Schnitzler's syndrome), fluoxetine ingestion, cimetidine, diltiazem, cold, and solar urticaria, metastatic testicular teratoma, serum sickness, Sjögren's syndrome, systemic lupus erythematous *Clin Rev Allergy Immunol 23:201–216, 2002; JAAD 38:899–905, 1998; Medicine 74:24–41, 1995; JAAD 26:441–448, 1992*

Vasculitis, including necrotizing vasculitis *Ghatan p.25, 2002, Second Edition*

Wegener's granulomatosis *Rook p.2219, 1998, Sixth Edition*

## UVULA, ENLARGED

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Angioedema (Quincke's disease) *NEJM 349:867, 2003; Auris Nasus Larynx 27:261–264, 2000*

DiGeorge's syndrome – bifid uvula *Rook p.3121, 1998, Sixth Edition*

### CONGENITAL ANOMALIES

Bifid uvula

### INFECTIONS AND INFESTATIONS

*Candida*

Epiglottitis with uvulitis *Auris Nasus Larynx 27:261–264, 2000*

*Hemophilus influenzae* uvulitis

Histoplasmosis

Infectious mononucleosis

Infectious uvulitis *Auris Nasus Larynx 27:261–264, 2000*

Leishmaniasis

Leprosy

*Mycobacterium tuberculosis* – lupus vulgaris

North American blastomycosis

Paracoccidioidomycosis

Roseola infantum – red papules on uvula and soft palate – Nagayama's spots *Pediatrics 93:104–108, 1994*

Streptococcal uvulitis

Syphilis

Warts – intraoral warts

### INFILTRATIVE DISEASES

Amyloidosis

Langerhans cell histiocytosis

### INFLAMMATORY DISEASES

Crohn's disease

Sarcoid

### NEOPLASTIC DISEASE

Kaposi's sarcoma

Leukemic infiltrates – acute myelomonocytic leukemia (AMML)

Lymphoma – cutaneous T-cell lymphoma

Papilloma *Auris Nasus Larynx 27:261–264, 2000*

Salivary gland carcinoma

Squamous cell carcinoma *Auris Nasus Larynx 27:261–264, 2000*

### PRIMARY CUTANEOUS DISEASES

Simple elongation of the uvula *Auris Nasus Larynx 27:261–264, 2000*

### SYNDROMES

Beare–Stevenson cutis gyrata syndrome – bifid uvula *Ped Derm 20:358–360, 2003*

Cowden's disease

Hereditary angioneurotic edema *JAAD 45:968–969, 2001*

Lipoid proteinosis (Urbach–Wiethe disease) *Int J Derm 39:203–204, 2000; JAAD 27:293–297, 1992*

Multiple endocrine neoplasia syndrome type II

Neurofibromatosis

### TRAUMA

Self-inflicted (to induce vomiting)

Solid object in mouth

Surgical trauma (adenoidectomy, tonsillectomy)

### VASCULAR

Hemangioma

Lymphangioma

Sturge–Weber syndrome

## VASCULITIS, DISEASE ASSOCIATIONS

***JAAD 28:856–853, 1993***

Castleman's disease *JAAD 26:105–109, 1992*

Chronic necrotizing venulitis

Churg–Strauss disease

Cryoglobulinemia

Cystic fibrosis

Drug

Henoch–Schonlein purpura

GM-CSF – at site of GM-CSF injection sites *AD 126:1243–1244, 1990*

Gonoccemia in HIV *JAAD 29:276–278, 1993*

Hyper-IgD *AD 126:1621–1624, 1990*

Hyperglobulinemic purpura

Infection
- Bacterial
- Escherichia coli
- Mycobacterium tuberculosis
- Staphylococcus aureus
- Streptococcus pyogenes
- Viral
- Echovirus
- Hepatitis virus
- HIV

Inflammatory bowel disease – associated with adult celiac disease *JAAD 19:973–978, 1988*

Lupus erythematosus, systemic

Lymphoma – T-cell lymphoma *JAAD 19:973–978, 1988*

Malignancy

Metastic hypopharyngeal carcinoma mimicking vasculitis *Cutis 49:187–188, 1992*

Multiple myeloma *AD 127:69–74, 1991*

Polyarteritis nodosa

Radiocontrast media *JAAD 10:25–29, 1984*

Recurrent LCV in cystic fibrosis *Ped Derm 4:108–111, 1987*

Rheumatoid arthritis

Sjören's syndrome

SLE

Vasculitis – chronic leukocytoclastic vasculitis in HIV in children *JAAD 22:1223–1231, 1990*

Wegener's granulomatosis *JAAD 26:579–584, 1992*

## VASCULITIS, GRANULOMATOUS

Allergic granulomatosis of Churg and Strauss

Chronic granulomatous disease *JAAD 36:899–907, 1997*

Cogan's syndrome

Crohn's disease *Cutis 30:645–655, 1982*

Erythema induratum

Giant cell arteritis (large vessel granulomatous vasculitis)

Leprosy

Lethal midline granuloma

Lymphomatoid granulomatosis

Nodular vasculitis

Polyarteritis nodosa

Syphilis

Takayasu's disease

Temporal arteritis

Tuberculosis

Wegener's granulomatosis *JAAD 26:579–584, 1992*

## VASCULITIS, LEUKOCYTOCLASTIC

Hypersensitivity vasculitis
- Amphetamine abuse
- Drugs *Rook p.3390–3391, 1998, Sixth Edition*
  - Additives
  - Allopurinol
  - Aminosalicylic acid
  - Amiodarone
  - Amphetamine
  - Ampicillin
  - Arsenic
  - Aspirin
  - BCG vaccination
  - Captopril
  - Carbamazepine
  - Cimetidine
  - Ciprofloxacin
  - Coumadin
  - Didanosine
  - Enalapril
  - Erythromycin
  - Ethacrynic acid
  - Fluoroquinolone antibiotics
  - Fluoxetine ingestion – urticarial vasculitis *JAAD 38:899–905, 1998*
  - Furosemide
  - GM-CSF injection sites *AD 126:1243–1244, 1990*
  - Griseofulvin
  - Guanethidine
  - Hydralazine
  - Hydroxyurea *JAAD 36:178–182, 1997*
  - Iodides
  - Levamisole
  - Maprotiline
  - Mefloquine
  - Methotrexate
  - Nicotine patch
  - Non-steroidal anti-inflammatory drugs *Ghatan p.142, 2002, Second Edition*
  - Penicillin
  - Phenacetin
  - Phenothiazines

- Phenylbutazone
- Phenytoin
- Piperazine
- Procainamide
- Propylthiouracil
- Quinidine
- Radiocontrast media *JAAD 10:25–29, 1984*
- Streptomycin
- Sulfonamides
- Sulfonylureas *Ghatan p.142, 2002, Second Edition*
- Tetracyclines
- Thiazides *Lancet ii:982–983, 1965*
- Trazodone
- Trimethadione
- Vaccination
- Vancomycin
- Vitamin $B_6$
- Zidovudine

Drug additives – tartrazine, sodium benzoate, 4-hydroxybenzoic acid *JAAD 30:854, 1994*
Granulocyte colony-stimulating factor *JAAD 31:213–215, 1994*
Serum sickness
Staphylococcal protein A column immunoadsorption therapy *AD 131:707, 1995*

Infection
- Acute respiratory infection
- Cystic fibrosis *J Ped 95:197, 1979*
- Cytomegalovirus *Ghatan p.142, 2002, Second Edition*
- Dental abscess *Acta DV (Stockh) 32:274–277, 1952*
- Echovirus
- Epstein–Barr virus *Ghatan p.142, 2002, Second Edition*
- *Escherichia coli*
- Gonococcemia *JAAD 29:276–278, 1993*
- Hepatitis B
- Hepatitis C – cryoglobulinemia – thrombotic and/or leukocytoclastic vasculitis *AD 131:1119–1123, 1995*
- Herpes simplex virus, disseminated *Am J Dermatopathol 6:561–565, 1984; Arch Pathol Lab Med 106:64–67, 1982*
- HIV – chronic leukocytoclastic vasculitis in HIV in children *JAAD 22:1223–1231, 1990*
- Leprosy – erythema nodosum leprosum *Rook p.169, 1998, Sixth Edition*
- *Mycobacterium tuberculosis*
- Post-streptococcal glomerulonephritis *Medicine 49:433–463, 1970*
- *Staphylococcus aureus*
- Subacute bacterial endocarditis – *Streptococcus viridans*

Paraproteinemia
- Cryoglobulinemia, essential
- Hyper-IgD *AD 126:1621–1624, 1990*
- Macroglobulinemia; urticarial vasculitis with monoclonal IgM gammopathy (Schnitzler's syndrome) *JAAD 38:899–905, 1998*
- Mixed cryoglobulinemia; urticarial vasculitis with mixed cryoglobulinemia *JAAD 38:899–905, 1998*
  - Causes of mixed cryoglobulinemia
    - Infections – hepatitis B, syphilis, borreliosis, subacute bacterial endocarditis, leprosy, kala-azar
    - Autoimmune diseases – lupus erythematosus, rheumatoid arthritis, Sjögren's syndrome, vasculitis
    - Lymphoproliferative diseases – multiple myeloma, lymphoma, Waldenström's macroglobulinemia
    - Liver disease
    - Sarcoid
- Multiple myeloma *AD 127:69–74, 1991*
- Waldenström's hyperglobulinemic purpura
- Waldenström's macroglobulinemia *AD 134:1127–1131, 1998*

Respiratory
- Cystic fibrosis *Ped Derm 4:108–111, 1987*
- Serous otitis media

Rheumatic diseases
- Antinuclear antibody (ANA)-negative lupus; urticarial vasculitis with systemic lupus erythematosus *JAAD 38:899–905, 1998*
- Anti-neutrophil cytoplasmic antibody (ANCA)-positive disease
- Behçet's disease
- Churg–Strauss syndrome *JAAD 37:199–203, 1997*
- Dermatomyositis
- Goodpasture's syndrome
- Microscopic polyangiitis (arteritis nodosum)
- Mixed connective tissue disease
- Polyarteritis nodosa
- Rheumatic fever
- Rheumatoid arthritis
- Schnitzler's syndrome
- Sjögren's syndrome
- Systemic lupus erythematosus
- Urticarial vasculitis
- Wegener's granulomatosis *JAAD 26:579–584, 1992*

Other
- Atrophie blanche
- Behçet's disease – necrotizing vasculitis *JAAD 41:540–545, 1999; JAAD 40:1–18, 1999; NEJM 341:1284–1290, 1999; JAAD 36:689–696, 1997*
- Bowel-associated dermatitis–arthritis syndrome
- Castleman's disease *JAAD 26:105–109, 1992*
- Chronic necrotizing venulitis
- Cogan's syndrome
- Cutaneous polyarteritis nodosa
- Erythema elevatum diutinum
- Granuloma faciale
- Henoch–Schönlein purpura
- Hypereosinophilic syndrome
- Inflammatory bowel disease
- Malignancy – lymphoreticular malignancies *Rook p.2176, 1998, Sixth Edition;* metastatic testicular teratoma with urticarial vasculitis *JAAD 38:899–905, 1998;* metastatic hypopharyngeal carcinoma mimicking vasculitis *Cutis 49:187–188, 1992;* myeloma *AD 127:69–74, 1991*
- Paraneoplastic – T-cell lymphoma *JAAD 19:973–978, 1988;* ovarian, leukemias, lung, prostate, colon, renal, breast, squamous cell carcinoma *JAAD 40:287–289, 1999;* myeloma *Ghatan p.143, 2002, Second Edition*
- POEMS syndrome (Takatsuki syndrome, Crowe–Fukase syndrome) – osteosclerotic bone lesions, peripheral polyneuropathy, hypothyroidism, and hypogonadism *Cutis 61:329–334, 1998; JAAD 40:808–812, 1999; JAAD 21:1061–1068, 1989*
- Relapsing polychondritis
- Urticarial vasculitis

# VASCULITIS, THROMBOTIC

Antiphospholipid antibody syndrome with or without associated collagen vascular disease

Atrophie blanche en plaque

Behçet's disease *JAAD 21:576, 1989*

Cold agglutinin disease *JAAD 19:356, 1987*

Cryofibrinogenemia *JAAD 24:342, 1991*

Cryoglobulinemia

Coumarin necrosis

Disseminated intravascular coagulation, including purpura fulminans

Embolic lesion

Hemolytic uremic syndrome

Heparin necrosis *AD 132:341–346, 1996*

Hepatitis C – cryoglobulinemia – thrombotic and/or leukocytoclastic vasculitis *AD 131:1119–1123, 1995*

Ischemic ulcers of hematologic origin
- Hereditary spherocytosis
- Hemolytic anemia
- Sickle cell SS
- Polycythemia vera

Livedoid vasculitis

Lupus anticoagulant *JAAD 19:117, 1988*

Paroxysmal nocturnal hemoglobulinuria

Protein C deficiency

Protein S deficiency

Purpura fulminans

Sickle-cell disease

Sneddon–Wilkinson disease

Thrombocythemia *JAAD 24:59, 1991*

Thrombotic thrombocytopenic purpura

Waldenström's hyperglobulinemic purpura

# VASCULITIS, TYPES

***AD 130:899–906, 1994***

Direct infections of vessels
- Bacterial vasculitis (neisserial)
- Fungal (mucor)
- Mycobacterial (tuberculosis)
- Rickettsial vasculitis (Rocky Mountain spotted fever)
- Spirochetal
- Viral

Immunologic injury
- ANCA-associated or ANCA-mediated
  - Churg–Strauss disease
  - Some drug-induced (thiouracil)
  - Microscopic polyarteritis nodosa
  - Wegener's granulomatosis
- Cell-mediated
- Direct antibody attack – mediated
  - Goodpasture's sydrome (anti-basement membrane antibodies)
  - Kawasaki's disease (?anti-endothelial antibodies)
- Immune complex
  - Behçet's disease
  - Cryoglobulins
  - Some drug-induced vasculitis (sulfonamides)
  - Erythema elevatum diutinum
  - Henoch–Schönlein purpura
  - Infection-induced immune complex vasculitis
    - Bacterial (*Streptococcus*)
    - Viral (hepatitis B and C)
  - Lupus erythematosus
  - Paraneoplastic vasculitis
  - Rheumatoid arthritis – nodules, pyoderma gangrenosum-like, digital gangrene, ulcers, petechiae, purpura, mononeurits multiplex
  - Serum sickness vasculitis
    - Heterologous proteins
    - Whole serum
- Unknown
  - Allograft acute cellular vascular rejection
  - Pyoderma gangrenosum-like, nodules, erythema nodosum-like, Raynaud's phenomenon
  - Erythema nodosum
  - Giant cell arteritis
  - Polyarteritis nodosa
  - Takayasu's arteritis

## POLYMORPHONUCLEAR

Allergic vasculitis

Erythema elevatum diutinum – localized; HIV-associated

Henoch–Schönlein purpura

HIV-associated

Sweet's syndrome

Zeek's hypersensitivity vasculitis

Collagen vascular disease

Erythema nodosum (early)

Bowel-associated dermatitis–arthritis syndrome

Behçet's syndrome

Urticarial vasculitis

## LYMPHOCYTIC

Drug reaction

Erythema multiforme

Erythema nodosum

Pityriasis lichenoides et varioliformis acuta

Dysproteinemia – macroglobulinemia

Degos' disease – idiopathic, HIV-associated *JAAD 38:852–856, 1998*

Lupus erythematosus – lymphocytic large vessel vasculitis *Rook p.2156, 1998, Sixth Edition*

Macroglobulinemia

Malignant atrophic papulosis

Perniosis

## GRANULOMATOUS VASCULITIS

***SYSTEMIC***

Wegener's granulomatosis

Churg–Strauss disease

Infections – Hansen's disease, tuberculosis, syphilis, HIV-associated

Lymphomatoid granulomatosis (angiocentric T-cell lymphoma)

Polyarteritis nodosa – including HIV-associated

***FOCAL***

Lethal midline granuloma

Eosinophilic and necrotizing focal granuloma

Cogan's syndrome

Granuloma faciale

Nodular vasculitis

## LARGE VESSEL VASCULITIS

***POLYMORPHONUCLEAR***

Polyarteritis nodosa

Superficial migratory thrombophlebitis

Lymphangitis

*LYMPHOCYTIC*

Peripheral vascular disease

Lupus erythematosus

*GRANULOMATOUS*

Giant cell arteritis

Erythema induratum

Takayasu's arteritis

# VEGETATING LESIONS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Bullous pemphigoid *AD 117:56–57, 1981*

Chronic granulomatous disease *Minerva Ped 30:899–905, 1978*

Cicatricial pemphigoid *Arch Derm Res 279 Suppl:S30–37, 1987*

Fogo selvagem (endemic pemphigus) – vegetative plaques *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Pemphigoid vegetans – vegetating plaque *JAAD 30:649–650, 1994; JAAD 29:293–299, 1993; AD 115:446–448, 1979*

Pemphigus foliaceus *Dermatologica 180:102–105, 1990*

Pemphigus vegetans *Int J Derm 23:135–141, 1984;* drug-induced (captopril) *JAAD 27:281–284, 1992*

Pemphigus vegetans variant of intraepidermal neutrophilic IgA dermatosis *JAAD 38:635–638, 1998*

Pemphigus vulgaris *BJD 146:684–687, 2002; BJD 109:459–463, 1983*

## CONGENITAL LESIONS

Ectopic respiratory mucosa *JAAD 43:939–942, 2000*

## DRUG-INDUCED

Amiodarone-induced iododerma *Ann DV 124:260–263, 1997*

Lithium – halogenoderma-like lesion *AD 136:126–127, 2000*

## EXOGENOUS AGENTS

Bromoderma – single or multiple papillomatous nodules or plaques studded with pustules on face or extremities *Ped Derm 18:336–338, 2001; AD 115:1334–1335, 1979;* ingestion of soft drink (Ruby Red Squirt) *NEJM 348:1932–1934, 2003*

Iododerma, vegetating *Dermatology 198:295–297, 1999; JAAD 36:1014–1016, 1997; Ped Derm 13;51–53, 1996; JAAD 22:418–422, 1990; AD 123:387–388, 1987;* iododerma in chronic renal failure *Dermatology 198:295–297, 1999; Dermatologica 171:463–468, 1985*

## INFECTIONS AND INFESTATIONS

Actinomycosis *JAAD 48:456–460, 2003;* actinomycotic mycetoma *JAAD 17:443–438, 1987;* perianal vegetating lesions *Ann DV 109:789–790, 1982*

Alternariosis *BJD 145:484–486, 2001; BJD 143:910–912, 2000; Ann DV 109:841–846, 1982; Ann DV 108:653–662, 1981; Alternaria jenuissima* – ulcerated vegetative nodule *BJD 142:840–841, 2000*

Amebic granulomas – vegetating plaque of genitalia, perineum and anus *JAAD 48:456–460, 2003; Entamoeba histolytica* in neonate *Textbook of Neonatal Dermatology, p.234, 2001*; *Derm Clinics 17:151–185, 1999*

Aspergillosis *BJD 85 (suppl 17):95–97, 1971*

Bartonellosis *Am J Trop Med Hyg 50:143–144, 1994*

BCG granuloma *Clin Infect Dis 29:1569–1570, 1999*

Bejel

Blastomycosis-like pyoderma *JAAD 48:456–460, 2003; AD 115:170–173, 1979; Pseudomonas JAAD 23:750–752, 1990*

Botryomycosis

*Calymmatobacterium granulomatis* (Donovanosis) *J Clin Inf Dis 25:24–32, 1997*

Candidal granuloma, chronic mucocutaneous candidiasis *Rev Inst Med Trop Sao Paolo 28:364–367, 1986; Annu Rev Med 32:491–497, 1981*

Chancroid *Acta DV 64:452–5, 1984*

Chromomycosis *JAAD 48:456–460, 2003*

Coccidioidomycosis *JAAD 48:456–460, 2003*

Condyloma acuminata *Rook p.3210, 1998, Sixth Edition*

Cryptococcosis *J Dermatol 23:209–213, 1996*

Dissecting cellulitis

Ecthyma

Filariasis

Fusospirochetal or mixed infection, penile – uncircumcised *Rook p.3188, 1998, Sixth Edition*

Granuloma inguinale – papule or nodule breaks down to form ulcer with overhanging edge; deep extension may occur; or serpiginous extension with vegetative hyperplasia; pubis, genitalia, perineum; extragenital lesions of nose and lips, or extremities *JAAD 32:153–154, 1995; JAAD 11:433–437, 1984*

Herpes simplex – in HIV *JAAD 37:860–863, 1997;* perianal in HIV disease *Pathology 33:532–535, 2001*

Herpes zoster *Klin Med (Mosk) 43:42–44, 1965*

Histoplasmosis in AIDS *JAAD 23:422–428, 1990*

Kerion

Leishmaniasis – framboesoid leishmaniasis *JAAD 48:456–460, 2003; Rook p.1272, 1998, Sixth Edition;* espundia (mucocutaneous leishmaniasis) – facial edema, erythema, verrucous plaques, dermatitis, edema of lips *Rook p.1418, 1998, Sixth Edition; Am J Trop Med Hyg 59:49–52, 1998;* vegetating tumor of the hard palate *Oral Dis 8:59–61, 2002*

Leprosy

Lymphogranuloma venereum *Rook p.3175, 1998, Sixth Edition*

Melioidosis (*Burkholderia pseudomallei*) *Cutis 72:310–312, 2003*

Molluscum contagiosum in AIDS *Tyring p.65, 2002; JAAD 35:266–267, 1996*

Mycetoma

*Mycobacterium haemophilum*

*Mycobacterium tuberculosis* – vegetative lupus vulgaris (lupus vorax) *JAAD 48:456–460, 2003*; starts as red–brown plaque; vegetating forms – ulcerate, areas of necrosis, invasion of mucous membranes with destruction of cartilage (lupus vorax); tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; head, neck, around nose, extremities, trunk *Rook p.1196, 1998, Sixth Edition; Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

Mycobacteriosis, non-tuberculous *JAAD 48:456–460, 2003*

Nocardiosis – vegetative plaque *JAAD 41:338–340, 1999*

North American blastomycosis *Dermatol Int 6:44–48, 1967 (Spanish)*

Paracoccidioidomycosis *Rook p.1272, 1998, Sixth Edition*

Phaeohyphomycosis *JAAD 23:363–367, 1990; JAAD 18:1023–1030, 1988;* linear vegetative plaques of legs; Coniothyrium *Cutis 73:127–130, 2004*

Protothecosis *JAAD 48:456–460, 2003*

Schistosomal granulomas *Rook p.1398, Sixth Edition*

*Scopulariopsis brevicaulis* – vegetative ulcerative nodule of forearm *Clin Inf Dis 30:820–823, 2000*

*Serratia marcescens Cutis 66:461–463, 2000*

Sporotrichosis – vegetative plaque of penis *AD 139:1647–1652, 2003*

Syphilis – condylomata lata *Rook p.1248, 1998, Sixth Edition;* nodular secondary syphilis *AD 113:1027–1032, 1997;* granulomatous secondary syphilis; framboesiform secondary syphilides *Rook p.1272, 1998, Sixth Edition;* tertiary lues (gumma) *AD 134:365–370, 1998*

Tinea capitis

*Trichophyton rubrum*, invasive – exophytic nodules *Cutis 67:457–462, 2001*

Warts, including condylomata acuminata

Yaws – primary red papule, ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (raspberry-like) (framboesia) *Rook p.1268–1271, 1998, Sixth Edition*

### INFILTRATIVE LESIONS

Plasma cell balanitis (Zoon's balanitis) *J Urol 153:424–426, 1995; Genitourin Med 71:32–34, 1995; BJD 105:195–199, 1981*

Verruciform xanthoma – of penis *Urology 23:600–603, 1984*

### INFLAMMATORY DISORDERS

Crohn's disease, cutaneous *JAAD 48:456–460, 2003*

Pyoderma gangrenosum *Hautarzt 50:217–220, 1999*

Pyoderma vegetans – crusted hyperplastic plaques, mimic blastomycosis; ulceration mimicking pyoderma gangrenosum; crusted red plaques with pustules *JAAD 50:785–788, 2004; BJD 144:1224–1227, 2001; J Cut Med Surg 5:223–237, 2001; JAAD 20:691–693, 1989; J Derm Surg Onc 12:271–273, 1986*

Pyostomatitis vegetans *Acta DV 81:134–136, 2001; JAAD 31:336–341, 1994*

Sarcoid *JAAD 48:456–460, 2003*

Superficial granulomatous pyoderma (pyoderma gangrenosum vegetans) *BJD 153:684–686, 2005; BJD 146:141–143, 2002; Hautarzt 45:635–638, 1994; J Dermatol 16:127–132, 1989; JAAD 18:511–521, 1988*

### NEOPLASTIC DISEASES

Bowen's disease – penile *Rook p.3188, Sixth Edition*

Kaposi's sarcoma *Tyring p.223, 2002*

Keratoacanthoma

Leukemia – acute promyelocytic leukemia *Dermatologica 151:184–190, 1975*

Lymphoma – vegetating cutaneous T-cell lymphoma *Hautarzt 29–219–221, 1978;* malignant pyoderma (angiocentric lymphoma) *JAAD 48:456–460, 2003;* pyogenic lymphoma – primary cutaneous neutrophil-rich $CD30^+$ anaplastic large cell lymphoma *BJD 148:580–586, 2003*

Malignant blue nevus – scalp *Int J Derm 37:126–127, 1998*

Melanoma, including acral lentiginous melanoma; metastatic melanoma

Metastatic carcinoma

Squamous cell carcinoma – complicating venous stasis ulcers *South Med J 58:779–781, 1965;* vegetative lesions of penis *J Urol 104:291–297, 1970*

Verrucous carcinoma – epithelioma cuniculatum *AD 136:547–548, 550–551, 2000;* giant condyloma of Buschke–Lowenstein, oral florid papillomatosis *JAAD 32:1–21, 1995; JAAD 14:947–950, 1986; Int J Derm 18:608–622, 1979;* sacrum *BJD 143:459–460, 2000;* leg amputation stump *Dermatologica 182:193–195, 1991*

### PRIMARY CUTANEOUS DISEASES

Acrodermatitis continua of Hallopeau

Darier's disease (keratosis follicularis) – malodorous vegetative plaques in flexures *Am J Clin Dermatol 4:97–105, 2003; AD 128:399, 1992*

Dermatitis vegetans

Erythema elevatum diutinum

Hailey–Hailey disease

Lichen simplex chronicus

Nummular dermatitis

Pustulosis vegetans *AD 120:1355–1359, 1984*

Pyoderma vegetans

Subcorneal pustular dermatosis *Z Haut Geschlechtskr 45:1–10, 1970; Dermatol Int 7:132–133, 1968*

### PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

### VASCULAR

Lymphostasis verrucosa cutis

Wegener's granulomatosis *JAAD 48:456–460, 2003*

## VERRUCOUS LESIONS OF THE LEGS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Fogo selvagem (endemic pemphigus) – verrucous prurigo nodularis-like lesions *JID 107:68–75, 1996; JAAD 32:949–956, 1995*

Lichen planus pemphigoides

Lupus erythematosus – hypertrophic DLE

Pemphigus vulgaris

### DRUG-INDUCED

Lichen planus-like drug eruption

### INFECTIONS AND INFESTATIONS

Blastomycosis-like pyoderma

Chromomycosis – feet, legs, arms, face and neck *AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Cryptococcosis

Leishmaniasis – leishmaniasis recidivans (lupoid leishmaniasis) – brown–red or brown–yellow papules close to scar of previously healed lesion; resemble lupus vulgaris; may ulcerate or form concentric rings; keloidal form, verrucous form of legs, extensive psoriasiform dermatitis *Rook p.1414, 1998, Sixth Edition*

Mycetoma

*Mycobacterium marinum AD 134:365–370, 1998; JAAD 24:208–215, 1991*

North American blastomycosis – disseminated blastomycosis *Am Rev Resp Dis 120:911–938, 1979; Medicine 47:169–200, 1968*

Paracoccidioidomycosis

Sporotrichosis

*Trichophyton rubrum*, invasive

Verrucae vulgaris of amputation stump

### INFILTRATIVE DISEASES

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

Lichen myxedematosus

Pretibial myxedema

Sarcoidosis *AD 133:882–888, 1997; AD 102:665–669, 1970;* mimicking hypertrophic lichen planus *Int J Derm 28:539–541, 1989*

### NEOPLASTIC DISEASES

Epidermal nevus, linear

Hyperkeratotic lichen planus-like reactions combined with infundibulocystic hyperplasia *AD 140:1262–1267, 2004*

Kaposi's sarcoma *Tyring p.223,376, 2002*

Keratoacanthoma – classical; keratoacanthoma centrifugum marginatum *JAAD 30:1–19, 1994; AD 111:1024–1026, 1975*

Melanoma – verrucous melanoma

Porocarcinoma *BJD 152:1051–1055, 2005*

Porokeratosis, linear *Ped Derm 21:682–683, 2004*

Squamous cell carcinoma

### PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, generalized

Darier's disease (keratosis follicularis) *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992*

Epidermolysis bullosa pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994*

Erythema elevatum diutinum

Hypertrophic lichen planus *AD 139:933–938, 2003; Caputo p.16, 2000; Rook p.1904–1912, 1998, Sixth Edition*

Lichen amyloidosis

Lichenoid pigmented purpuric eruption

Lichen simplex chronicus

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Psoriasis, elephantine *Rook p.1598–1599, 1998, Sixth Edition*

Verrucous hyperplasia of the stump

### SYNDROMES

Incontinentia pigmenti *JAAD 47:169–187, 2002; Dermatol 191 (2):161–163, 1995*

Netherton's syndrome – verrucous hyperplasia of lower legs *BJD 131:615–621, 1994*

Reiter's syndrome – keratoderma blenorrhagicum; pretibial areas *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

### TRAUMA

Verrucous hyperplasia of the amputation stump *AD 74:448–449, 1956*

### VASCULAR

Lymphostasis verrucosa cutis (chronic lymphedema) – brawny edema with overlying hyperkeratosis; congenital lymphedema, lymphangitis, cellulitis, filariasis, malaria, schistosomiasis, morphea, radiation, scleredema, surgical trauma, venous stasis *Caputo p.193, 2000; Rook p.2285, 1998, Sixth Edition*

Stasis dermatitis

Vasculitis

## VERRUCOUS LESIONS, PERIUNGUAL

***AD 130:204–209, 1994***

Amelanotic melanoma

Bowen's disease

Dermatitis vegetans

Epidermal nevus *AD 97:273–285, 1968*

Epidermodysplasia verruciformis *BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Keratoacanthoma

Lymphostasis verrucosa cutis (chronic lymphedema, multiple causes) – brawny edema with overlying hyperkeratosis *Rook p.2285, 1998, Sixth Edition*

*Mycobacterium marinum AD 134:365–370, 1998; JAAD 24:208–215, 1991*

Mycobacterium tuberculosis – tuberculosis verrucosa cutis

Onychomycosis

Pyogenic granuloma

Reiter's syndrome – keratoderma blenorrhagicum *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Squamous cell carcinoma – associated with human papillomavirus 16,18,34 *AD 127:1813–1818, 1991; AD 125:666–669, 1989*

Subungual exostosis

Verrucae vulgaris *Tyring p.259, 2002; Rook p.2845, 1998, Sixth Edition*

Verrucous carcinoma (epithelioma cuniculatum) *Tyring p.274, 2002; Dermatology 186:217–221, 1993*

# VERRUCOUS PLAQUES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Graft vs. host disease – columnar epidermal necrosis in transfusion-associated chronic GVH *AD 136:743–746, 2000*

Lichen planus pemphigoides

Lupus erythematosus hypertrophicus – hypertrophic discoid lupus erythematosus *JAAD 9:82–90, 1983; Cutis 28:290–300, 1981;* lupus profundus; LE hypertrophicus et profundus – verrucous brown–black plaque *BJD 96:75–78, 1977*

Pemphigoid nodularis *BJD 142:143–147, 2000*

Pemphigoid vegetans – vegetating plaque *JAAD 30:649–650, 1994; AD 115:446–448, 1979*

Pemphigus erythematosis

Pemphigus vegetans – 1–2% of all cases of pemphigus; Neumann type – bullae with small peripheral pustules evolve into vegetative plaques; denuded areas develop after plaques slough; Hallopeau type – pustules, not bullae, are the primary lesions; verrucous plaques then develop; no denuded areas; cerebriform tongue; spontaneous resolution not uncommon *Dermatol Clinics 11:429–452, 1993*

Scleroderma – axillary verrucous pigmentation resembling acanthosis nigricans *Br Med J ii:1642–1645, 1966*

## CONGENITAL

Subepidermal calcified nodule in children – verrucous papule *Ped Derm 12:307–310, 1995*

## DEGENERATIVE

Diabetic neuropathy *BJD 133:1011–1012, 1995*

## DRUG-INDUCED

Bleomycin *JAAD 33:851–852, 1995*

Halogenoderma – iodides – nasal congestion, conjunctivitis, and a range of systemic symptoms or bromides with weakness, restlessness, headache, ataxia, and personality changes; both produce vegetative nodules or plaques often studded with pustules; in iododerma, the verrucous plaques are often closer to the eye, and in bromoderma, they are below the eye

Insulin – acanthosis nigricans-like changes due to insulin injections *AD 122:1054–1056, 1986*

Lichen planus-like drug eruption

## EXOGENOUS AGENTS

Exogenous calcium from EEG paste *Ped Derm 15:27–30, 1998; Neurology 15:477–480, 1965*

## INFECTIONS AND/OR INFESTATIONS

Actinomycosis – cervicofacial, thoracic, abdominal, primary cutaneous, and pelvic

AIDS – neutrophilic dermatosis of AIDS *JAAD 31:1045–1047, 1994*

Alternariosis *BJD 145:484–486, 2001*; *Clin Inf Dis 32:1178–1187, 2001;* Alternaria alternata *AD 141:1171–1173, 2005; Alternaria jenuissima* – ulcerated verrucous nodule *BJD 142:840–841, 2000*

Bartonellosis – verruga peruana; bacillary angiomatosis *Tyring p.228, 2002*

*Bipolaris* – verrucous plaque of nasal conchae *J Med Vet Mycol 24:461–465, 1986*

Blastomycosis-like pyoderma (pyoderma vegetans) – crusted or verrucous plaques which may weep, ulcerate or clear centrally, often involve the flexures, and do not respond to antibiotics alone despite the regular presence of *Staphylococcus aureus* or group A streptococci *JAAD 20:691–693, 1989*

Botryomycosis – usually on the limbs, reported on the trunk, face, and perianal area; causative organisms include *Staphylococcus aureus, Escherichia coli, Proteus* spp., *Actinobacillus lignieresii,* alpha hemolytic streptococcus, *Propionibacterium acnes, Serratia marcescens, Peptostreptococcus, Moraxella non-liquefaciens, Neisseria* spp. *JAMA 123:339–341, 1943; JAAD 24:393–396, 1991;* due to *Moraxella non-liquifaciens Cutis 43:140–142, 1989*

Candidal granuloma – chronic mucocutaneous candidiasis *JAAD 21:1309–1310, 1989; Annu Rev Med 32:491–497, 1981*

Chromomycosis – feet, legs, arms, face and neck; common causative organisms include *Phialophora verrucosa*, *Fonsecaea pedrosoi*, *F. compactum*, *Wangiella dermatitidus* and *Cladosporium carrionii*, *Rhinocladiella cerphilum* and *Aureobasidium pullulans*; large pigmented round thick walled bodies with septation in two planes (muriform cells) *AD 141:1457–1462, 2005; BJD 152:560–564, 2005; AD 133:1027–1032, 1997; BJD 96:454–458, 1977; AD 104:476–485, 1971*

Coccidioidomycosis *JAAD 46:743–747, 2002; AD 134:365–370, 1998*

Condyloma acuminata *Textbook of Neonatal Dermatology, p.218, 2001; Rook p.3184, 1998, Sixth Edition*

Cryptococcosis *AD 112:1734–1740, 1976; BJD 74:43–49, 1962;* coexistent cryptococcosis and Kaposi's sarcoma in AIDS *Cutis 41:159–162, 1988*

Cytomegalovirus – verrucous plaques occur in patients with AIDS*;* retinitis and colitis in HIV patients *Dermatology 200:189–195, 2000; JAAD 38:349–351, 1998; JAAD 27:943–950, 1992; AD 125:1243–1246, 1989*

Ecthyma (RPC-like)

Epidermodysplasia verruciformis *Caputo p.126, 2000; BJD 121:463–469, 1989; Arch Dermatol Res 278:153–160, 1985*

Erythrasma – disciform erythrasma

*Exophiala jeanselmei* (phaeohyphomycosis) – subcutaneous phaeohyphomycosis refers to cyst-like or encapsulated subcutaneous nodular abscesses *JAAD 13:877–881, 1985*

Filariasis

*Fusarium solanae* – granulomatous hyalohyphomycosis due to *Fusarium solanae AD 127:1735–1737, 1991*

Granuloma inguinale (*Calymmatobacterium* granulomatis) – pleomorphic non-motile Gram-negative bacillus; 3–6% have extragenital lesions on the nose, lips, or extremities.

Herpes simplex virus *Tyring p.87,312, 2002;* acyclovir-resistant *JAAD 17:875–880, 1987*; herpes simplex and tinea nodule in AIDS *JAAD 16:1151–1154, 1987;* hyperkeratotic plaques of chronic HSV may also be culture positive for other organisms including *Mycobacterium avium-intracellulare* and *Candida*

Herpes zoster – chronic disseminated lesions in AIDS *Tyring p.132,314, 2002*

Histoplasmosis – fever, cough, and skin lesions in the HIV-positive patient *Int J Derm 30:104–108, 1991; JAAD 23:422–428, 1990*

Kerion *Ped Derm 21:444–447, 2004*

Leishmaniasis – verrucous form of legs; *BJD 151:1165–1171, 2004; JAAD 51:S125–128, 2004; JAAD 48:893–896, 2003*; *JAAD 27:227–231, 1992;* leishmaniasis recidivans (lupoid leishmaniasis) – brown–red or brown–yellow papules close to scar of previously healed lesion; resemble lupus vulgaris; may ulcerate or form concentric rings; keloidal form, extensive psoriasiform dermatitis *Rook p.1414, 1998, Sixth Edition;* espundia (mucocutaneous leishmaniasis) – facial edema, erythema, verrucous plaques, dermatitis, edema of lips *Rook p.1418, 1998, Sixth Edition; Am J Trop Med Hyg 59:49–52, 1998;* post-kala-azar dermal leishmaniasis *BJD 143:136–143, 2000*

Leprosy *BJD 131:747–748, 1994; Ind J Lepr 64:183–187, 1992*

Lobomycosis *Int J Derm. 32:324–332, 1993*

Malignant pyoderma

Molluscum contagiosum in AIDS *JAAD 27:943–950, 1992*

Mycetoma
- Fungi
  - Cladophialophora bantiana *JAAD 52:S114–117, 2005*
  - *Exophiala jeanselmei*
  - *Madurella mycetomatis*
  - *M. grisea* (New World)
  - *Leptosphaeria senegalensis*
  - *Pyronochaeta romeroi*
  - *Curvularia lunulata*
  - *Pseudoallescheria boydii*
  - *Neotestudina rosatii*
  - *Acremonium* spp.
  - *Fusarium* spp.
  - Dermatophytes
- Aerobic actinomycetes
  - *Actinomadura madurae*
  - *A. pelletieri*
  - *Streptomyces somalensis* (Sudan and Middle East)
  - *Nocardia brasiliensis*
  - *N. asteroides* (Central America and Mexico)
  - *N. otitidis caviarum*

*Mycobacterium tuberculosis* – tuberculosis verrucosa cutis; hand (prosector's wart), knees, ankles, buttocks; serpiginous outline with finger-like projections; central involution and scarring; purplish, red, brown; occasional psoriasiform plaque or keloidal, crusting and exudation; infiltrated papillomatous excrescences; deep papillomatous and sclerotic forms *Ped Derm 18:393–395, 2001; Clin Exp Dermatol 13:211–220, 1988*

Atypical mycobacterial infection, including *Mycobacterium marinum JAAD 24:208–215, 1991; AD 134:365–370, 1998; M. kansasii JAAD 40:359–363, 1999; JAAD 16:1122–1128, 1987; JAAD 36:497–499, 1997*

Nocardiosis

North American blastomycosis – Mississippi valley; central Kentucky is endemic area; wood debris or soil close to rivers; primary cutaneous, pulmonary, and disseminated forms *AD 136:547, 550, 2000; Cutis 58:402–404, 1996*

Orf – papillomatous stage *Tyring p.54, 2002*

Paracoccidioidomycosis (South American blastomycosis) *Tyring p.342, 2002;* near mouth, anus, or genitalia *J Clin Inf Dis 23:1026–1032, 1996*

Phaeohyphomycosis – verrucous nodule *JAAD 33:309–311, 1995; Derm Clinics 17:151–185, 1999; Alternaria alternata AD 137:815–820, 2001;* subcutaneous phaeohyphomycosis – *Exophiala jeanselmei, Wangiella, Cladosporium, Bipolaris, Alternaria AD 138:973–978, 2002;* inoculation phaeohyphomycosis

Pinta

Protothecosis *JAAD 31:920–924, 1994; BJD 146:688–693, 2002*

Pyoderma

Scabies – crusted scabies – first described in 1848 by Danielssen and Boeck in Norway; seen in patients after renal transplants, with systemic vasculitis, Down's syndrome, collagen vascular disease, corticosteroids (systemic or topical), on immunosuppressive therapy, lymphoreticular malignancy, tabes dorsalis, syringomyelia, parkinsonism, cerebrovascular disease, diabetes and malnutrition, vitamin A deficiency, Kaposi's sarcoma, and AIDS *Clin Exp Dermatol 17 (5):339–341, 1992; Cutis 43:325–329, 1989*

Schistosomal granuloma, seen especially around vulva and anus *Derm Clinics 17:151–185, 1999*

*Serratia marcescens Cutis 66:461–463, 2000*

Sporotrichosis *JAAD 52:451–459, 2005;* fixed cutaneous sporotrichosis *Derm Clinics 17:151–185, 1999*; *JAAD 25:928–932, 1991, AD 122:413–417, 1986 Ped Derm 3:311–314, 1986*

Syphilis – condyloma lata in toe webs *Cutis 57:38–40, 1996*; nodular secondary syphilis *AD 113:1027–1032, 1997;* annular verrucous perianal dermatitis in secondary syphilis *BJD 152:1343–1345, 2005;* malignant secondary syphilis; tertiary lues (gumma) – nodules (arcuate and circinate, psoriasiform, granuloma annulare-like, serpiginous noduloulcerative), gummas (which result in punched out ulcers), gummatous infiltration of the tongue, perforation of the hard palate, destruction of the uvula

Tinea corporis, including invasive *Trichophyton rubrum* infection

Tungiasis – verrucous plaque *BJD 144:118–124, 2001*

Tyzzer's disease (*Bacillus piliformis*) – papules *JAAD 34:343–348, 1996*

Varicella – chronic varicella zoster in AIDS *Clin Exp Derm 24:346–353, 1999; JAAD 28:306–308, 1993; JAAD 27:943–950, 1992*

Verrucae vulgaris *AD 140:13–14, 2004; Tyring p.260, 2002*; *JAAD 43:340–343, 2000; Cutis 63:91–94, 1999; JAAD 36:850–852, 1997;* large verrucae in selective IgM deficiency, immunoglobulin deficiency with hyper-IgM; condyloma acuminata

Yaws (mother yaw) – *Treponema pallidum* subsp. *pertenue*; 10–13 μm long by 0.15 μm wide; replicate in 30 hours; non-venereal; transmitted by skin contact; primarily in children; primary lesions on feet, legs, and buttocks; Africa, Asia, South and Central America, and Pacific Islands *JAAD 29:519–535, 1993; Cutis 38:303–305, 1986*

## INFILTRATIVE

Amyloidosis – lichen amyloidosis *Rook p.2628–2630, 1998, Sixth Edition*

Osteoma cutis – congenital plate-like osteoma cutis *Ped Derm 10:182–186, 1993; AD 69:613–615, 1954*

Verrucous (verruciform) xanthoma – normolipemic; most commonly on mucosal surfaces; may be multifocal or associated with lymphedema; seen in CHILD syndrome and with ILVEN; may be a non-X histiocytosis; scrotum, penis, vulva, anogenital area, sacrum, digits, and on lymphedematous extremity *AD 138:689–694, 2002; JAAD 27:1021–1023, 1992; Am J Surg Pathol 22:479–487, 1998; AD 118:686–691, 1982;* of glans penis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.80, 1998; Cutis 51:369–372, 1993;* verruciform xanthoma – of the scrotum *BJD 150:161–163, 2004*

Xanthoma disseminatum (Montgomery's syndrome) – red–yellow–brown papules and nodules of flexural surfaces, trunk, face, proximal extremities and oral mucosa; become

confluent into xanthomatous plaques; verrucous plaques *NEJM 338:1138–1143, 1998; JAAD 23:341–346, 1990; AD Syphilol 37:373–402, 1938*

## INFLAMMATORY

Cytophagic histiocytic panniculitis (nodule) *AD 121:910–913, 1985*

Mucinous syringometaplasia (papules) – mimics plantar wart or verruca vulgaris; metaplastic mucin containing cells lining glandular structures *JAAD 11:503–508, 1984*

Pseudoverrucous peristomal dermatitis (urostomy) – skin surrounding urostomy site may be normal, or may show erythematous-erosive lesions or pseudoverrucous lesions *JAAD 19:623–628, 1988*

Pyoderma gangrenosum

Pyoderma vegetans – vegetating tissue reaction with localized bacterial infection in immune compromised patient; associated with ulcerative colitis, defective cellular immunity, cutaneous T-cell lymphoma, large cell lymphoma, alcoholism; *Staphylococcus aureus* or beta hemolytic *Streptococcus* common *JAAD 20:691–693, 1989*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – verrucous plaques with satellite lesions *JAAD 51:931–939, 2004; Semin Diagn Pathol 7:19–73, 1990*

Sarcoidosis *AD 133:882–888, 1997; AD 102:665–669, 1970;* mimicking hypertrophic lichen planus *Int J Derm 28:539–541, 1989*

Superficial granulomatous pyoderma *AD 136:1263–1268, 2000; JAAD 18:11–21, 1988*

Toxic epidermal necrolysis – healing with verrucous hyperplasia *BJD 149:1082–1083, 2003*

## METABOLIC

Calcinosis cutis – overlying verrucous changes *Rook p.2370, 1998, Sixth Edition*

Thyroid acropachy

Pretibial myxedema *JAAD 46:723–726, 2002*

## NEOPLASTIC

Acrosyringeal epidermolytic papulosis neviformis *Dermatologica 171:122–125, 1985*

Actinic keratosis

Adnexal tumors

Anal intraepithelial neoplasia – verrucous perianal hyperpigmented patches, white and/or red plaques *JAAD 52:603–608, 2005*

Anogenital carcinoma *BJD 143:1217–1223, 2000*

Basal cell carcinoma

Bowen's disease – of the foot *AD 123:1517–1520, 1987;* of both feet *BJD 151:227–228, 2004*

Clear cell acanthoma

Collagenome perforans verruciforme – may occur in scars; transepidermal elimination disorder; other trans-epidermal elimination disorders include calcinosis cutis, chondrodermatitis nodularis chronicis helicis, reactive perforating collagenosis, elastosis perforans serpiginosa, granuloma annulare, perforating folliculitis, blastomycosis, chromomycosis, botryomycosis, tuberculosis, histoplasmosis *AD 122:1044–1046, 1986*

Connective tissue nevus – mimicking epidermal nevus *JAAD 16:264–266, 1987;* purplish verrucous plantar plaque *BJD 146:164–165, 2002*

Dermatofibroma

Ecrine angiomatous hamartoma *BJD 141:167–169, 1999; Dermatologica 143:100–104, 1971*

Eccrine dermal duct tumor

Eccrine poroma

Eccrine porocarcinoma (porocarcinoma) *BJD 152:1051–1055, 2005; JAAD 49:S252–254, 2003; JAAD 27:306–311, 1992*

Eccrine syringofibroadenoma (acrosyringeal hamartoma) – tapioca pudding-like or mosaic surface; multiple lesions associated with hidrotic ectodermal dysplasia; ESFA associated with other tumors – papillary syringoadenoma, clear cell acanthoma, verrucous eccrine poroma *JAAD 41:650–651, 1999; JAAD 36:569–576, 1997; AD 126:945–949, 1990*

Epidermal nevus *Caputo p.118, 2000; Ped Derm 16:211–213, 1999; JAAD 41:824–826, 1999*

Epidermoid cyst

Erythroplasia of Queyrat *JAAD 37:1–24, 1997*

Fibroepithelioma of Pinkus *AD 134:861–866, 1998*

Granular cell tumor (nodule) *Cutis 69:343–346, 2002; Cutis 62:147–148, 1998; Cutis 43:548–550, 1989*

Hidroacanthoma simplex – extremities *J Cutan Pathol 21:274–279, 1994*

Infundibulocystic hyperplasia – hyperkeratotic lichen planus-like reactions combined with infundibulocystic hyperplasia *AD 140:1262–1267, 2004*

ILVEN – inflammatory linear verrucous epidermal nevus *J Dermatol 26:599–602, 1999; AD 133:567–568, 1997*

Intraepidermal pilar epithelioma *JAAD 18:123–132, 1988; Cutis 37:339–341, 1986*

Kaposi's sarcoma – verrucous nodules and plaques *Tyring p.223,376, 2002;* hyperkeratotic Kaposi's sarcoma in AIDS with massive lymphedema *BJD 142:501–505, 2000; JAAD 38:143–175, 1998*

Keratoacanthoma – giant type, multiple keratoacanthomas; keratoacanthoma centrifugum marginatum *Cutis 73:257–262, 2004; JAAD 48:282–285, 2003; JAAD 30:1–19, 1994; AD 111:1024–1026, 1975; Hautarzt 13:348–352, 1962*

Large cell acanthomas *JAAD 8:840–845, 1983*

Lymphoma – cutaneous T-cell lymphoma *AD 140:441–447, 2004; JAAD 46:325–357, 2002; Clin Exp Derm 21:205–208, 1996; AD 124:655–657, 1988; AD 113:57–60, 1977;* Ki+1 (CD30) anaplastic lymphoma *AD 136:1559–1564, 2000*

Malignant fibrous histiocytoma in discoid lupus erythematosus (DLE) *AD 124:114–116, 1988*

Melanocytic nevus *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.80, 1999;* congenital melanocytic *Hum Pathol 4:395–418, 1973*; inflammatory nevi evolving into halo nevi in children *BJD 152:357–360, 2005*

Melanoma (verrucous melanoma) *Histopathology 23:453–458, 1993; JAAD 24:505–506, 1991; AD 124:1534–1537, 1988;* acral lentiginous melanoma *JAAD 48:183–188, 2003*

Metastatic carcinoma

Mucinous nevus *BJD 148:1064–1066, 2003*

Neurocristic hamartoma – verrucous blue plaque *JAAD 49:924–929, 2003*

Nevoid hyperkeratosis of the nipple *JAAD 46:414–418, 2002*

Nevus lipomatosis superficialis *Ped Derm 20:313–314, 2003; AD Syphilol 130:327, 1921*

Nevus sebaceus *Curr Prob Derm 8:137–188, 1996*

Pagetoid reticulosis *AD 125:402–406, 1989*
Two variants: (1) localized – Woringer–Kolopp disease; (2) generalized – Ketron–Goodman disease; intraepidermal large atypical cells expressing CD30 (Ki–1) antigen; small lymphocytes in dermis

Papillomatosis cutis carcinoides *Cutis 62:77–80, 1998*

Plasmacytoma – extramedullary plasmacytoma *JAAD 34:146–148, 1996*

Porokeratosis – of Mibelli – hyperkeratotic variant *Cutis 72:391–393, 2003; Arch Derm Res 279 Suppl:S38–47, 1987;* linear porokeratosis *Ped Derm 21:682–683, 2004;* perianal inflammatory verrucous porokeratosis (porokeratosis ptychotropica) *BJD 140:553–555, 1999*

Porokeratotic eccrine ostial and dermal duct nevus (filiform wart-like lesions) *JAAD 43:364–367, 2000; JAAD 24:300–301, 1991; Cutis 46:495–497, 1990; AD 122:892–895, 1986*

Seborrheic keratosis – giant lesion mimicking verrucous carcinoma *J Dermatol 12:341–343, 1985*

Seborrheic keratosis – malignancies arising in seborrheic keratoses include adenocarcinoma, squamous cell carcinoma *in situ* (Bowen's disease), squamous cell carcinoma, basal cell carcinoma, keratoacanthomas, and malignant melanoma *AD 127:1738–1739, 1991*

Squamous cell carcinoma *Rook p.1689, 1998, Sixth Edition; Derm Surg 22:243–254, 1996;* associated with human papillomavirus 16, 18 *AD 127:1813–1818, 1991; AD 125:666–669, 1989*

Syringocystadenocarcinoma papilliferum *AD 138:1091–1096, 2002;* cauliflower-like verrucous plaque *JAAD 45:755–759, 2001;* verrucous linear plaque *AD 71:361–372, 1955*

Vascular and myxoid fibromas of the fingers (papules)

Verrucous carcinoma – epithelioma cuniculatum *NEJM 352:488, 2005; AD 136:547–548, 550–551, 2000;* giant condyloma of Buschke–Lowenstein – penis *Rook p.3184, 1998, Sixth Edition*; groin or perianal *Cutis 24:203–206,209, 1979;* oral florid papillomatosis *JAAD 32:1–21, 1995; JAAD 14:947–950, 1986; Int J Derm 18:608–622, 1979;* sacrum *BJD 143:459–460, 2000;* of leg amputation stump *Dermatologica 182:193–195, 1991*

Verrucous cyst *Eur J Dermatol 8:186–188, 1998*

## PARANEOPLASTIC DISEASES

Acanthosis nigricans *BJD 153:667–668, 2005*

Bazex syndrome

Florid cutaneous papillomatosis – palmar *Rook p.1555, 1998 Sixth Edition*

Keratoacanthoma visceral carcinoma syndrome – cancers of the genitourinary tract *AD 139:1363–1368, 2003; AD 120:123–124, 1984*

Necrobiotic xanthogranuloma with paraproteinemia – periorbital site most common, but multiple lesions always present; ulceration common; central clearing and atrophy; IgG-kappa most common, then IgG-lambda; mucous membrane, lung, myocardial lesions, and associated lymphoreticular malignancy *AD 128:94–100, 1992*

Paraneoplastic pemphigus *JAAD 39:876–871, 1998*

## PRIMARY CUTANEOUS DISEASE

Acanthosis nigricans

Acral mucinous syringometaplasia – associated with verrucous hyperplasia *Arch Pathol Lab Med 110:248–249, 1986*

Adolescent onset ichthyosiform erythroderma – verrucous rippling *BJD 144:1063–1066, 2001*

Atopic dermatitis

Confluent and reticulated papillomatosis

Darier's disease (keratosis follicularis) *Clin Dermatol 19:193–205, 1994; JAAD 27:40–50, 1992;* of foot *Caputo p.124, 2000*

Epidermolysis bullosa pruriginosa – mild acral blistering at birth or early childhood; violaceous papular and nodular lesions in linear array on shins, forearms, trunk; lichenified hypertrophic and verrucous plaques in adults *BJD 130:617–625, 1994*

Epidermolytic hyperkeratosis – overlying bony prominences, scalp, nipples *Rook p.1506, 1998, Sixth Edition*

Erythema elevatum diutinum *JAAD 50:652–653, 2004*

Granular parakeratosis (axillary (or submammary) granular hyperkeratosis) (axillary granular parakeratosis) *AD 137:1241–1246, 2001; JAAD 40:813–814, 1999; JAAD 39:495–496, 1998*; *JAAD 33:373–375, 1995; JAAD 37:789–790, 1997; JAAD 24:541–544, 1991*

Hailey–Hailey disease – genital papules *JAAD 26:951–955, 1992*

Hyperkeratosis of the nipple (hyperkeratosis areolae mammae) *JAAD 41:274–276, 1999*; *AD 113:1691–1692, 1977*

Kyrle's disease – chronic scattered generalized papules with hyperkeratotic cone shaped plugs; chronic genetically determined disorder *JAAD 16:117–123, 1987*

Keratosis lichenoides chronica *JAAD 49:511–513, 2003; BJD 144:422–424, 2001; AD 129:914–915, 1993; AD 105:739–743, 1972*

Lichen myxedematosus

Lichen planus – hypertrophic lichen planus *AD 139:933–938, 2003; Rook p.1904–1912, 1998, Sixth Edition*

Lichen sclerosus et atrophicus *JAAD 38:831–833, 1998*

Lichen simplex chronicus, including giant lichenification of Pautrier – genitocrural lichenification with solid tumorous plaques with verrucous cribriform surface *AD Syphilol 39:1012–1020, 1939*

Lichen striatus

Malignant pyoderma – rare potentially lethal disease characterized by necrotizing pyodermatous ulcers predominantly involving the face, neck, and upper trunk with a predilection for the preauricular areas; malignant pyoderma is distinct from pyoderma gangrenosum with an unrelenting destructive progression if untreated, a different clinical distribution, an earlier age of onset, a lack of deeply undermined necrotic borders, and the lack of association with any underlying diseases *Int J Derm 26:42, 1987*

Necrolytic acral erythema – serpiginous, verrucous plaques of dorsal aspects of hands, legs; associated with hepatitis C infection *JAAD 50:S121–124, 2004*

Palmoplantar keratodermas

Perianal pseudoverrucous papules and nodules in children – perianal hypertrophic plaques *Cutis 67:335–338, 2001; AD 128:240–242, 1992*

Periumbilical pseudoxanthoma elasticum – verrucous plaque *JAAD 39:338–344, 1998; South Med J 84:788–789, 1991*

Prurigo nodularis

Pseudo-acanthosis nigricans

Pseudoepitheliomatous keratotic and micaceous balanitis *Cutis 35:77–79, 1985; Bull Soc Fr Dermatolog Syphiligr 68:164–167, 1961*

Psoriasis, elephantine, rupioid *Rook p.1598–1599, 1998, Sixth Edition*

Superficial vegetating pyoderma

Symmetric progressive erythrokeratoderma

Urostomy site – pseudoverrucous peristomal lesions – warty papules at mucocutaneous junction *Rook p.930, 1998, Sixth Edition; JAAD 19:623–632, 1988*

Verrucous hyperplasia of the stump

Terra firme (dermatosis neglecta) *AD 135:728–729, 1999*

## PSYCHOCUTANEOUS DISEASES

Factitial cheilitis – cobblestoned lips *Ped Derm 16:12–15, 1999*

## SYNDROMES

CHILD syndrome – with verruciform xanthoma *Ped Derm 15:360–366, 1998*

Cobb's syndrome (cutaneomeningospinal angiomatosis) – segmental port wine stain and vascular malformation of the spinal cord *AD 113:1587–1590, 1977; NEJM 281:1440–1444, 1969; Ann Surg 62:641–649, 1915*; port wine stain may be keratotic *Dermatologica 163:417–425, 1981;* angiokeratoma-like lesions *Cutis 71:283–287, 2003;* with verrucous angioma *Dermatologica 163:417–425, 1981*

Ectodermal dysplasias

Epidermodysplasia verruciformis

Gall–Galli syndrome – Dowling–Degos disease with acantholysis – hyperkeratotic follicular papules *JAAD 45:760–763, 2001*

Goltz's syndrome (focal dermal hypoplasia) (papule) – X-linked dominant, possible autosomal dominant; terminal deletion of the short arm of the X chromosome; cutaneous, musculoskeletal (80%), ocular (80%), and oral abnormalities; hypoplastic and atrophic skin changes, linear and reticulated hypo and hyperpigmentation, lipomatous lesions, periorificial and mucous membrane papillomas and telangiectasias; xerosis, photosensitivity, nail changes, alopecia, sparse brittle hair; musculoskeletal involvement includes syndactyly, hypoplastic or absent digits, asymmetry of the body, scoliosis, hand and foot bony anomalies; ocular changes include colobomas, microphthalmia, strabismus, nystagmus, lens subluxation; oral anomalies include enamel defects, dysplastic teet, irregular spacing, agenesis of teeth, oral papillomas, microdontia, high arched palate *JAAD 28:839–843, 1993*

Hyper-IgE syndrome (Buckley's syndrome)

Incontinentia pigmenti – X-linked dominant. Xp28 or Xp11.21 locations; progressive persistent verrucous plaques; skin lesions present in 50% at birth and in 90% by 2 weeks of life; dental abnormalities in two-thirds of patients, ocular in 25–35%, and CNS defects in one-third *JAAD 47:169–187, 2002; AD 124:29–30, 1988*; verrucous subungual lesions *Dermatol 191 (2):161–163, 1995; AD 122:1431–1434, 1986;* linear warty lesions of palms in late incontinentia pigmenti *BJD 143:1102–1103, 2000*

Keratosis–ichthyosis–deafness syndrome (KID syndrome) *Ped Derm 15:219–221, 1998*

Keratosis lichenoides chronica

Klippel–Trenaunay–Weber – angiokeratomas; epidermal nevi *BJD 123:539, 1990*

Lipoid proteinosis (Urbach–Wiethe disease) – autosomal recessive; yellow verrucous plaques and nodules on extensor surfaces; asymptomatic visceral involvement of multiple organs; extracellular hyaline-like material in dermis; PAS positive and diastase resistant; probably represents glycoproteins and/or proteoglycan complexes *BJD 151:413–423, 2004; JID 120:345–350, 2003; BJD 148:180–182, 2003; Hum Molec Genet 11:833–840, 2002; JAAD 39:149–171, 1998; Ped Derm 14:22–25, 1997; JAAD 21:599–601, 605, 1989*

Mal de Meleda – keratotic (verrucous) plaques of the elbows *AD 136:1247–1252, 2000*

McCune–Albright syndrome – epidermal nevi *Eur J Pediatr 154:102–104, 1995*

Netherton's syndrome – flexural verrucous hypertrophy

Olmsted syndrome (nose and lips) – congenital palmoplantar and periorificial keratoderma which improves in adolescence; linear keratoses in flexures; keratosis pilaris-like lesions; leukokeratosis of the tongue; alopecia, onychodystrophy, anhidrosis of palms and soles; missing premolar; hyperlaxity of the joints *Ped Derm 21:603–605, 2004; Ped Derm 20:323–326, 2003; BJD 136:935–938, 1997; AD 132:797–800, 1996; AD 131:738–739, 1995; JAAD 10:600–610, 1984*

Pachyonychia congenita *Ped Derm 14:491–493, 1997*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus (epidermal nevus) and a contralateral segmental lentiginous or papular speckled lentiginous nevus *Dermatology 194:77–79, 1997*

Phakomatosis pigmentovascularis – port wine stain, oculocutaneous (dermal and scleral) melanosis, CNS manifestations; type I – port wine stain and linear epidermal nevus; type II – port wine stain and dermal melanocytosis; type III – port wine stain and nevus spilus; type IV – port wine stain, dermal melanocytosis, and nevus spilus *J Dermatol 26:834–836, 1999; AD 121:651–653, 1985*

Proteus syndrome – epidermal nevi, port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly *JAAD 52:834–838, 2005; AD 140:947–953, 2004; AD 137:219–224, 2001*, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Arch Fr Pediatr 47:441–444, 1990 (French); Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1998*

Reiter's syndrome – keratoderma blenorrhagicum; soles, pretibial areas, dorsal toes, feet, fingers, hands, nails, scalp *Rook p.2765–2766, 1998; Semin Arthritis Rheum 3:253–286, 1974*

Rothmund–Thomson syndrome (poikiloderma congenitale) – autosomal recessive; photodistributed poikiloderma with juvenile cataracts, short stature, absent or shortened digits, partial or total alopecia, defects of nails and teeth, hypogonadism, triangular face, verrucous hyperkeratoses of hands, feet, knees, and elbows *Ped Derm 8:58–60, 1991*; *JAAD 17:332–338, 1987*

Sjögren–Larsson syndrome – verrucous hyperkeratosis of flexures, neck, and periumbilical folds; mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo – deficiency of fatty aldehyde dehydrogenase *Chem Biol Interact 130–132:297–307, 2001; Am J Hum Genet 65:1547–1560, 1999; JAAD 35:678–684, 1996*

## TOXIC

Arsenical keratosis

Foreign body granuloma

## TRAUMA

Verrucous hyperplasia of the amputation stump *AD 74:448–449, 1956*

### VASCULAR

Angiokeratomas

Angiokeratoma coroporis diffusum with normal enzyme activities *AD 140:353–358, 2004*

Angiosarcoma *Histopathology 32:556–561, 1998*

Arteriovenous malformation

Chylous reflux – from dilated chylous vesicles (lymphatics); yellow/cream-colored verrucous plaques *Rook p.2296, 1998, Sixth Edition*

Elephantiasis verrucosa nostra *Cutis 62:77–80, 1998; Int J Derm 20:177–187, 1981*

Fibroangioma – digital verrucous fibroangioma – verrucous papule *Acta DV 72:303–304, 1992*

Glomus tumor, plaque type *BJD 127:411–416, 1992; J Dermatol 17:423–428, 1990*

Hemangioma – cutaneous keratotic hemangioma *AD 132:703–708, 1996;* verrucous hemangioma *AD 132:703–708, 1996; Int J Surg Pathol 2:171–176, 1995; J Derm Surg Oncol 13:1089–1092, 1987; Ped Derm 2:191–193, 1985; AD 96:247–253, 1967;* linear *JAAD 42:516–518, 2000*

Lymphatic malformations – localized microcystic lymphatic malformations *Ped Derm 16:423–429, 199*

Lymphangioma circumscriptum – blue–black *Rook p.2292, 1998, Sixth Edition; BJD 83:519–527, 1970;* acquired lymphangioma (lymphangiectasia) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma, scleroderma, keloids, tumors, tuberculosis, repeated trauma *BJD 132:1014–1016, 1996*

Lymphedema, congenital (Milroy's disease), lymphedema praecox, lymphedema tarda

Lymphostasis verrucosa cutis (chronic lymphedema, multiple causes) – brawny edema with overlying hyperkeratosis *Rook p.2285, 1998, Sixth Edition*

Pigmented purpuric eruption – lichenoid pigmented purpuric eruption

Pseudo-Kaposi's sarcoma due to arteriovenous fistula (Stewart–Bluefarb syndrome) – ulcerated purple plaque *Ped Derm 18:325–327, 2001; AD 121:1038–1040, 1985*

Pyogenic granuloma

Stasis dermatitis

Vasculitis

## VULVA, HYPERTROPHIC AND/OR EDEMATOUS LESIONS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Angioedema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Lupus erythematosus – hypertrophic discoid lupus erythematosus

Pemphigus vegetans

### CONGENITAL LESIONS

Congenital labial hypertrophy *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.111, 1998*

### DRUG REACTIONS

Fixed drug eruption *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.163, 1998*

### INFECTIONS AND INFESTATIONS

Abscess – Bartholin's duct; vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Actinomycosis – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Amebiasis – vegetating plaque of genitalia, perineum, and anus *Derm Clinics 17:151–185, 1999;* vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Bejel – condylomata *Rook p.1256–1257, 1998, Sixth Edition*

Candidiasis – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Cellulitis (streptococcal) – chronic edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.222–224, 1998*

Chronic infection – lymphedema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.222–223, 1998*

Condylomata acuminata *Tyring p.262, 2002; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.128–130, 1998*

Filariasis – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Granuloma inguinale – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Herpes simplex virus – rapidly growing giant genital mass *BJD 149:216–217, 2003*

Leishmaniasis

Lymphogranuloma venereum – esthiomene – scarring and fistulae of the buttocks and thighs with elephantiasic lymphedema of the vulva *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.147,224, 1998; Int J Dermatol 15:26–33, 1976*

*Mycobacterium tuberculosis Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

North American blastomycosis – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Rhinosporidiosis – vascular nodules; may resemble condylomata *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

*Schistosoma haematobium* – verrucous lesion *AD 138:1245–1250, 2002; Eur J Obstet Gynecol Reprod Biol 79:213–216, 1998;* vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Syphilis – secondary (condyloma lata); tertiary

Yaws – secondary (daughter yaws, pianomas, framboesiomas) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws) *Rook p.1268–1271, 1998, Sixth Edition; JAAD 29:519–535, 1993*

### INFILTRATIVE DISEASES

Amyloidosis

Mastocytosis *Ped Derm 22:556–557, 2005*

Verruciform xanthoma *Am J Clin Path 71:224–228, 1979*

Vulvitis circumscripta plasmacellularis – vegetating tumor *JAAD 19:947–950, 1988*

Xanthoma disseminatum *JAAD 25:433–436, 1991*

## INFLAMMATORY DISEASES

Crohn's disease (vulvitis granulomatosa) – vulvar swelling; bilateral or unilateral *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.162,222,224, 1998; JAAD 36:697–704, 1997; Int J Gynecol Pathol 14:352–359, 1995*

Hidradenitis suppurativa *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.166,224, 1998; J Reprod Med 36:113–117, 1991*

Pyostomatitis vegetans *BJD 149:181–184, 2003*

## METABOLIC DISEASES

Calcinosis cutis – vaginal nodules due to urinary incontinence *BJD 150:169–171, 2004*

Masculinization

Pregnancy – vulvar edema due to lymphatic obstruction *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Pseudo-masculinization *Plast Reconstr Surg 68:787–788, 1981*

Virilizing tumors

## NEOPLASTIC

Acrochordon *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.197, 1998*

Androgen-producing tumors – clitoromegaly *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.111, 1998*

Bowen's disease *Ann DV 109:811–812, 1982; Cancer 14:318–329, 1961*

Bowenoid papulosis *Rook p.3234, 1998, Sixth Edition; JAAD 29:644–646, 1993*

Epidermal inclusion cyst – due to genital mutilation *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.118, 1998*; clitoral hypertrophy

Epidermal nevus *Ped Derm 17:1–6, 2000*

Erythroplasia of Queyrat *Rook p.3202, 1998, Sixth Edition*

Extramammary Paget's disease *Obstet Gynecol 39:735–744, 1972*

Giant cell fibroblastoma (congenital) – vulvar hypertrophy *Ped Derm 18:255–257, 2001*

Granular cell tumor – cobblestoning of vulva *Ped Derm 10:153–5, 1993*

Inflammatory linear verrucous epidermal nevus (ILVEN) *Ped Derm 17:1–6, 2000*

Leiomyomas – clitoral hypertrophy *J Iowa Med Soc 63:535–538, 1973*

Lipoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.204, 1998*

Lymphoma, including cutaneous T-cell lymphoma

Malignant granular cell schwannoma

Melanocytic nevus – giant congenital melanocytic nevus (bulky perineal nevocytoma) *JAAD 53:S139–142, 2005; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.207, 1998*

Melanoma *Rook p.1746, 1998, Sixth Edition*

Metastases *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.219, 1998;* lymphangiectasis secondary to intralymphatic metastases

Nevus sebaceus

Pelvic tumor with lymphatic obstruction *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Sebaceous gland hypertrophy of labia minora *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.104, 1998; Rook p.3205, 1998, Sixth Edition*

Seborrheic keratosis

Squamous cell carcinoma *Tyring p.268, 2002;* metastatic epidermotrophic squamous cell carcinoma of vagina *JAAD 11:353–356, 1984;* squamous cell carcinoma *in situ Derm Surg 21:890–894, 1995*

Verrucous carcinoma – giant condylomata of Buschke and Lowenstein *Cutis 21:207–211, 1978*

Vulvar intraepithelial neoplasia *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.212–213, 1998*

## PRIMARY CUTANEOUS DISEASES

Acantholytic dermatosis of the vulvo-crural area – vulvar papules, cobblestoning of the vulva and thighs *Cutis 67:217–219, 2001*

Acanthosis nigricans *Rook p.3206, 1998, Sixth Edition; JAAD 31:1–19, 1994*

Benign hypertrophy of the labia minora *Eur J Obstet Gynecol Reprod Biol 8:61–64, 1978*

Darier's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.231, 1998; Ped Derm 10:146–148, 1993*

Elephantiasis

Hailey–Hailey disease – verrucous plaque *AD 135:203–208, 1999*

Infantile gluteal granuloma

Lichen planus – hypertrophic lichen planus

Lichen sclerosus et atrophicus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.189–193, 1998*

Lichen simplex chronicus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.157–158, 1998; J Reprod Med 36:309–311, 1991*

Lipodystrophia centrifugalis abdominalis – vulvar atrophy *Ped Derm 21:538–541, 2004; AD 104:291–298, 1971*

Papular acantholytic dyskeratosis

Pityriasis rosea

Psoriasis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.168, 1998; Rook p.1602, 1998, Sixth Edition*

Pyoderma vegetans *AD 116:1169–1171, 1980*

Vulvar papillomatosis – angiofibromas; vestibular papillae; papules *Rook p.3216, 1998, Sixth Edition*; *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.104, 1998; AD 126:1594–1598, 1990*

## SYNDROMES

Lawrence–Seip syndrome (congenital generalized lipodystrophy) – lipoatrophic diabetes – clitoromegaly *AD 91:326–334, 1965*

Netherton's syndrome – intertrigenous and perigenital dermatitis, edema, papillomatosis resembling cellulitis; vulvar edema and hypertrophy *BJD 131:615–621, 1994*

Neurofibromatosis – hypertrophy of clitoral hood *Urology 37:337–339, 1991*

Steatocystoma multiplex

## TRAUMA

Physical trauma – vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Thermal burn – child abuse; vulvar edema *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.116, 1998*

Radiation therapy – lymphatic obstruction *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Surgical trauma – vulvar hematoma, vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.122, 1998*

Vulvar hematoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.116, 1998*

### VASCULAR

Hemangiomas *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.200, 1998*

Lymphedema *Arch Pathol Lab Med 124:1697–1699, 2000;* congenital *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.224, 1998*

Lymphangiectasia (acquired lymphangioma) – due to scarring processes such as recurrent infections, radiotherapy, scrofuloderma (tuberculous adenitis), tumors, genital Crohn's disease *Rook p.2294–2295, 1998, Sixth Edition; BJD 132:1014–1016, 1996*

Lymphangioma circumscriptum *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.205–206, 1998;* acquired vulvar lymphangioma mimicking genital warts *J Cutan Pathol 26:150–154, 1999*

Varicosity *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.229, 1998*

## VULVAR ERYTHEMA/PRURITUS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – anesthetics (benzocaine), antibiotics (neomycin), antihistamine creams, nail polish, vaginal perfumes, douches, preservatives or active ingredients in topical creams and ointments (parabens, imidazolidinylurea), moisturizers (lanolin), poison ivy, rubber (gloves, condoms, diaphragms), contraceptives, clothing dyes, fragrances in laundry products *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.155, 1998; BJD 126:52–56, 1992;* pigmented purpuric clothing dermatitis to disperse dyes *Contact Dermatitis 43:360, 2000*

Bullous pemphigoid *BJD 145:994–997, 2001*

Cicatricial pemphigoid *Ped Derm 21:51–53, 2004*

Food allergy – vaginal itching *Ann Allergy 72:546, 1994*

Lichenoid reactions with antibodies to desmoplakins I and II – *JAAD 48:433–438, 2003*

Lupus erythematosus – discoid lupus erythematosus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.172, 1998; BJD 121:727–741, 1989;* systemic lupus erythematosus *BJD 121:727–741, 1989*

Seasonal allergic disease – vulvar itching *J Allergy Clin Immunol 95Z:780–782, 1995*

### DRUGS

Capecitabine (Xeloda) *JAAD 45:790–791, 2001*

Corticosteroids – topical corticosteroid withdrawal *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.232, 1998*

Enalapril – vaginal itching *Ann Intern Med 112:217–222, 1990*

Fixed drug eruption *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.163, 1998*

Toxic epidermal necrolysis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.184, 1998*

### EXOGENOUS AGENTS

Irritant contact dermatitis – bubble baths in children, soap, detergents, fabric softener, feminine hygiene products, chemicals, deodorant sprays, friction, thermal damage (hot water bottles), trauma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.155, 1998; Contact Dermatitis 5:375–377, 1979*

### INFECTIONS OR INFESTATIONS

Bacterial cellulitis/erysipelas *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.140*
- *Streptococcus pyogenes* (group A beta-hemolytic)
- *Haemophilus influenzae*
- *Streptococcus pneumoniae*
- *Staphylococcus aureus*
- *Neisseria meningitides*
- *Shigella*
- *Yersinia*

Candidiasis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.136–137, 1998; Rook p.3212, 1998, Sixth Edition; Clin Obstet Gynecol 24:407–438, 1981*

Enterobiasis (*Enterobius vermicularis*) (threadworm) – vulvar dermatitis *Rook p.1390, 1998, Sixth Edition; Br J Vener Dis 49:314–315, 1973*

Folliculitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.141, 1998*

*Gardnerella vaginalis* – non-specific vaginitis (*Gardnerella* and *Mobiluncus*) *J Clin Microbiol 28:28:2033–2039, 1990; Clin Obstet Gynecol 24:439–460, 1981*

Gonorrhea *Ghatan p.115, 2002, Second Edition*

*Haemophilus* vulvovaginitis *Ped Derm 17:1–6, 2000*

Herpes simplex *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.131–132, 1998*

Herpes zoster *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.134, 1998*

Pediculosis *The Clinical Management of Itching; Parthenon; p.123, 2000*

Pinworm *Ghatan p.115, 2002, Second Edition*

Scabies *The Clinical Management of Itching; Parthenon; p.120, 2000*

Scarlet fever

*Shigella* vulvovaginitis *Adolesc Pediatr Gynecol 7:86–89, 1994*

Streptococcal vulvovaginitis/cellulitis *Ped Derm 17:1–6, 2000; South Med J 75:446–447, 1982*

Tinea cruris *AD 118:446, 1982*

Trichomoniasis *Clin Obstet Gynecol 24:407–438, 1981*

Vaginitis – bacterial vaginosis; *Haemophilus vaginalis*, *Gardnerella vaginalis*, anaerobic bacteria *The Clinical Management of Itching; Parthenon; p.123, 2000*

### INFILTRATIVE DISEASES

Langerhans cell histiocytosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.220, 1998*

Zoon's (plasma cell) vulvitis – red vulva *AD 141:789–790, 2005;* red plaque *JAAD 19:947–950, 1988; Dermatologica 111:157, 1955*

### INFLAMMATORY DISEASES

Crohn's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.162, 1998*

Pseudolymphoma *Eur J Obstet Gynecol Reprod Biol 47:167–168, 1992*

Pyostomatitis vegetans *BJD 149:181–184, 2003*

Salivary vulvitis *Obstet Gynecol 37:238–240, 1971*

Seminal vulvitis – vulvar edema, erythema, pruritus *Am J Obstet Gynecol 126:442–444, 1976*

Stevens–Johnson syndrome *Ped Derm 19:52–55, 2002*

Vulvar vestibulitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.173; J Reprod Med 36:413–415, 1991*

### METABOLIC DISEASES

Acrodermatitis enteropathica *Genital Skin Disorders, Fischer and Margesson, CV Mosby, 1998, p.228; Rook p.3224, 1998, Sixth Edition*

Fucosidosis – with angiokeratoma corporis diffusum on telangiectatic background *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.198, 1998*

Kwashiorkor (protein and caloric deprivation) – vulvitis and vulvovaginitis *Cutis 67:321–327, 2001*; *JAAD 21:1–30, 1989*

Vitamin $B_1$ and $B_2$ deficiency *JAAD 15:1263–1274, 1986*

Zinc deficiency

### NEOPLASTIC DISEASES

Basal cell carcinoma – anogenital pruritus *Am J Obstet Gynecol 121:173–174, 1975*

Bowen's disease

Cloacagenic carcinoma – anogenital pruritus *JAAD 23:1005–1008, 1990*

Extramammary Paget's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.217, 1998; Cancer 46:590–594, 1980; Am J Clin Pathol 27:559–566, 1957;* anogenital pruritus *Br J Surg 75:1089–1092, 1988*

Squamous cell carcinoma *in situ* – anogenital pruritus *The Clinical Management of Itching; Parthenon; p.125, 2000*

Syringoma *Obstet Gynecol 55:515–518, 1980*

Vulvar intraepithelial neoplasia – anogenital pruritus *The Clinical Management of Itching; Parthenon; p.125, 2000*

### PRIMARY CUTANEOUS DISEASES

Atopic dermatitis *Ped Derm 17:1–6, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.154, 1998*

Granulomatous periorificial dermatitis – extrafacial and generalized periorificial dermatitis *AD 138:1354–1358, 2002*

Hailey–Hailey disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.178, 1998*

Intertrigo

Lichen planus *AD 125:1677–1680, 1989;* erosive lichen planus *BJD 147:625–627, 2002; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.170–171, 1998; Rook p.3229–3230, 1998, Sixth Edition*

Lichen sclerosus et atrophicus – wrinkled lesions, atrophic vulva with shrinkage *Cutis 67:249–250, 2001; Rook p.2549–2551,3231–3232, 1998, Sixth Edition; Trans St John's Hosp Dermatol Soc 57:9–30, 1971*

Lichen simplex chronicus *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.157, 1998; Rook p.3226, 1998, Sixth Edition*

Psoriasis *Ped Derm 17:1–6, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.168, 1998; Rook p.1602,3205,3229, 1998, Sixth Edition;* napkin psoriasis *Rook p.1602, 1998, Sixth Edition; Contact Dermatitis 26:248–252, 1992; BJD 773:445–447, 1961*

Seborrheic dermatitis *Rook p.3205, 1998, Sixth Edition*

### PSYCHOCUTANEOUS DISEASES

Psychogenic vulvar itching – pruritus, erythema, burning *BJD 104:611–619, 1981*

### SYNDROMES

Hereditary mucoepithelial dyskeratosis – red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral and nasal mucous membranes, cervix, vagina, and urethra; increased risk of infections, fibrocystic lung disease *JAAD 21:351–357, 1989*

Papular–purpuric 'gloves and socks' syndrome *JAAD 41:793–796, 1999*

Reiter's syndrome – circinate vulvitis *Dan Med Bull 32:272–273, 1985*

Wells' syndrome *JAAD 48:S60–61, 2003*

### TRAUMA

Burns – thermal, chemical *Ghatan p.115, 2002, Second Edition*

Child abuse

Dermatographism *JAAD 31:1040–1041, 1994*

Enuresis

Radiation dermatitis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.123, 1998*

Trauma, physical

### VASCULAR LESIONS

Hemangiomas *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.200, 1998*

Klippel–Trenaunay–Weber syndrome *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.2001, 1998*

## VULVAR PAPULES AND NODULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Angioedema

Pemphigus vulgaris/vegetans

Rheumatoid nodule *J Clin Pathol 49:85–87, 1996*

Urticaria

### CONGENITAL LESIONS

Dermoid cyst

Lipomas *AD 118:447, 1982*

Supernumerary breasts *Br Med J ii:1234–1236, 1962*

Supernumerary nipples *Obstet Gynecol 52:225–228, 1978; Cancer 38:2570–2574, 1976*

## DRUGS

Corticosteroid-induced fat necrosis *Rook p.3222, 1998, Sixth Edition*

Fixed drug eruption

## EXOGENOUS AGENTS

Contact dermatitis – allergic or irritant

Foreign body

Sclerosing lipogranuloma *Am J Obstet Gynecol 101:854–856, 1968*

## INFECTIONS

Actinomycosis

Amebic dysentery in infants – granuloma *Pediatrics 71:595–598, 1983*

Bacillary angiomatosis *Obstet Gynecol 88:709–711, 1996*

Bartholin's abscess – *Escherichia coli*, *Streptococcus faecalis*, staphyococcus, gonococcus, *Chlamydia trachomatis Rook p.3215, 1998, Sixth Edition; Br J Vener 54:409–413, 1978*

Bejel (endemic syphilis) – condyloma-like lesions *Rook p.3210, 1998, Sixth Edition*

*Candida*

Condyloma acuminata *Tyring p.262, 2002*

Furunculosis *Ghatan p.65, 2002, Second Edition*

Granuloma inguinale (donovanosis) – initial nodule *Rook p.3167,3210, 1998, Sixth Edition*

Herpes simplex *AD 135:203–208, 1999*

Leishmaniasis *Lancet i:127–132, 1960;* post-kala-azar dermal leishmaniasis – in India, hypopigmented macules; nodules develop after years; tongue, palate, genitalia *Rook p.1370,1419–1420, 1998, Sixth Edition; E Afr Med J 63:365–371, 1986*

Lymphogranuloma venereum – initial papule or papulovesicle *Rook p.3210,3219, 1998, Sixth Edition*

Malakoplakia – *Escherichia coli*, *Pseudomonas* species, *Staphylococcus aureus*; soft plaques; indurated ulcer *J Ind Med Assoc 72:254–255, 1979; Clin Exp Dermatol 2:131–135, 1977*

Molluscum contagiosum *Tyring p.62, 2002; Rook p.3216, 1998, Sixth Edition*

*Mycobacterium tuberculosis* – periorificial; Bartholin's gland infection *Clin Obstet Gynecol 2:530–548, 1959*

North American blastomycosis *Ghatan p.65, 2002, Second Edition*

Rhinosporidiosis – vascular nodules; may resemble condylomata *Rook p.1360, 1998, Sixth Edition; Arch Otolaryngol 102:308–312, 1976*

Scabies

*Schistosoma haematobium* – resemble condyloma acuminata *Clin Exp Dermatol 8:189–194, 1983;* vulvar cobblestoned nodule *Am J Surg Pathol 8:787–790, 1984*

Staphylococcal furunculosis *Rook p.3214, 1998, Sixth Edition*

Syphilis – secondary; condyloma lata – white moist papules *Rook p.1247,3210, 1998, Sixth Edition;* gummas *Rook p.3222, 1998, Sixth Edition*

Yaws – secondary (daughter yaws, pianomas, framboesiomas) – small papules which ulcerate, become crusted; resemble raspberries; periorificial (around mouth, nose, penis, anus, vulva); extend peripherally (circinate yaws) *Rook p.1268–1271, 1998, Sixth Edition; JAAD 29:519–535, 1993*

## INFILTRATIVE DISEASES

Amyloidosis – nodular cutaneous amyloidosis *JAAD 39:149–171, 1998; AD 121:518–521, 1985*

Langerhans cell histiocytosis – vulvar papules, vesicles, pustules, ulcers *Obstet Gynecol 67:46–49, 1986*

Vulvitis chronica circumscripta plasmacellularis (plasma cell vulvitis) (Zoon's vulvitis) *BJD 149:638–641, 2003; AD 126:1351–1356, 1990;* red plaque *JAAD 19:947–950, 1988*

Verruciform xanthoma *Am J Clin Pathol 71:224–228, 1979*

Vulvitis granulomatosis

## INFLAMMATORY DISEASES

Crohn's disease – granulomas *J Obstet Gynecol 80:376–378, 1973; BJD 80:1–8, 1968;* unilateral labial hypertrophy; erythema, edema, induration *JAAD 36:986–988, 1996; JAAD 27:893–895, 1992; AD 126:1351–1356, 1990; Ped Derm 5:103–106, 1988*

Edema

Endometriosis (cutaneous deciduosis) *JAAD 43:102–107, 2000*

Hidradenitis suppurativa *BJD 119:345–350, 1988*

Infantile gluteal granuloma

Lymphocytoma cutis *Hautarzt 15:657–661, 1964*

Midline granuloma *Proc R Soc Med 57:289–297, 1964*

Nodular fasciitis *Obstet Gynecol 69:513–516, 1987*

Pseudoepitheliomatous hyperplasia

Sarcoid *JAAD 44:725–743, 2001; JAAD 39:281–283, 1998*

## INTERLABIAL MASSES IN GIRLS

Hydrocolpos

Paraurethral cyst

Prolapsed ectopic ureterocele

Rhabdomyosarcoma of vagina (botryoid sarcoma)

Urethral prolapse

## METABOLIC DISEASES

Calcinosis cutis, idiopathic *J Pediatr Adolesc Gynecol 12:157–160, 1999; Cutis 41:273–275, 1988*

Congenital adrenal hyperplasia – clitoromegaly *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.108, 1998*

Endometriosis (cutaneous deciduosis) – red papule or nodule *JAAD 43:102–107, 2000;* firm blue nodules *Obstet 40:28–34, 1972*

## NEOPLASTIC DISEASES

Adenocarcinoma – undifferentiated carcinoma *Am J Surg Pathol 15:990–1001, 1991*

Apocrine cystadenoma *JAAD 31:498–499, 1994*

Apocrine hamartomas – benign pigmented apocrine hamartomas *Ped Derm 10:123–124, 1993*

Apocrine nevi *Ped Derm 10:123–124, 1993*

Bartholin's gland carcinoma (adenocarcinoma) *Ghatan p.65, 2002, Second Edition; Obstet Gynecol 35:578–584, 1970*

Bartholin's gland cyst *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.199, 1998; Rook p.3207, 1998, Sixth Edition*

Basal cell carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.211, 1998; Cancer 24:460–470, 1969;* multiple hereditary infundibulocystic basal cell carcinomas *AD 135:1227–1235, 1999*

Blue nevus *AD 139:1209–1214, 2003;* epithelioid blue nevus *BJD 145:496–501, 2001*

Bowenoid papulosis – verrucous, lichenoid, dry, brown, whitish papules or plaques *Cancer 57:823–836, 1986*

Ciliated cyst of vulva *JAAD 32:514–515, 1995*

Dermatofibrosarcoma protuberans *Gynecol Oncol 30:149–152, 1988; Br J Obstet Gynecol 88:203–205, 1981*

Embryonal rhabdomyosarcoma *AD 138:689–694, 2002*

Endometriosis *Ghatan p.65, 2002, Second Edition*

Epidermal nevus

Epidermoid cyst *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.203, 1998;* near clitoris *Rook p.3207, 1998, Sixth Edition;* clitoromegaly *Eur J Obstet Gynecol Reprod Biol 87:163–165, 1999*

Epithelioid sarcoma *Acta Cytol 39:100–103, 1995; Cancer 52:1462–1469, 1983*

Extramammary Paget's disease – vulvar pigmented extramammary Paget's disease; hyperpigmented plaque *BJD 142:1190–1194, 2000*

Fibroadenomas (accessory mammary tissue) *Rook p.3204, 1998, Sixth Edition*

Fibroepithelial polyp

Fibromas

Giant cell fibroblastoma (congenital) – vulvar hypertrophy *Ped Derm 18:255–257, 2001*

Granular cell tumor (nodule or cobblestoning) *AD 136:1165–1170, 2000; Ped Derm 10:123–124, 1993; Ped Derm 4:94–97, 1987*

Hidradenoma papilliferum – vulvar or perianal nodule *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.204, 1998; J Derm Surg Onc 16:674–676, 1990; Acta Obstet Gynecol Scand 52:387–389, 1973*

Inflammatory linear verrucous epidermal nevus (ILVEN)

Kaposi's sarcoma *Ghatan p.65, 2002, Second Edition*

Keratoacanthoma *G Ital DV 124:285–287, 1989*

Leiomyoma *Rook p.2367, 1998, Sixth Edition; J Reprod Med 10:75–76, 1973*

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Lipoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.204, 1998*

Lymphomas *Rook p.3237, 1998, Sixth Edition*

Lymphomatoid papulosis – ulcerated vulvar nodule *JAAD 44:339–341, 2001*

Mammary-like glands of the vulva – cysts *Int J Gynecol Pathol 14:184–188, 1995*

Merkel cell carcinoma *Obstet Gynecol 63 (Suppl):61–63, 1984*

Melanocytic nevi *J Cutan Pathol 14:87–91, 1987*

Melanoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.216, 1998; Rook p.3237, 1998, Sixth Edition; Mayo Clin Proceed 72:362–366, 1997; JAAD 22:428–435, 1990*

Metastases – cervical carcinoma *Gynecol Oncol 48:349–354, 1993;* endometrial or cervical carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.219, 1998*

Müllerian cyst *Ghatan p.65, 2002, Second Edition*

Multinucleated atypia of the vulva – white flat-topped papules *Cutis 75:118–120, 2005*

Myofibroma – skin-colored to hyperpigmented nodules of hand, mouth, genitals, shoulders *JAAD 46:477–490, 2002*

Neurofibromas

Nodular fasciitis

Papillary apocrine fibroadenoma *J Cutan Pathol 24:256–260, 1997*

Retention cysts *Rook p.3207, 1998, Sixth Edition*

Sarcoma *Ghatan p.65, 2002, Second Edition*

Sebaceous gland hyperplasia *Obstet Gynecol 68 (Suppl 3):635–655, 1986*

Seborrheic keratoses *Rook p.3207, 1998, Sixth Edition*

Skene's duct cyst – paraurethral duct cyst *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.208–209, 1998*

Skin tags (fibroepithelial polyps) *Rook p.3207, 1998, Sixth Edition*

Squamous cell carcinoma *Tyring p.268, 2002;* metastatic epidermotropic squamous cell carcinoma of the vagina *JAAD 11:353–356, 1984*

Sweat gland tumors

Syringomas *AD 135:203–208, 1999; Ped Derm 13:80–81, 1996; JAAD 19:575–577, 1988; AD 121:756–760, 1985; AD 103:494–496, 1971;* giant syringoma of the vulva *BJD 141:374–375, 1999;* brown papules, skin-colored papules, discrete white cystic papules, lichenoid papules *JAAD 48:735–739, 2003*

Trichoepithelioma *J Reprod Med 33:317–319, 1988*

Urethral caruncle *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.209, 1998*

Verrucous carcinoma *BJD 143:1217–1223, 2000*

Vestibular mucous cyst *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.210, 1998*

White sponge nevus

## NORMAL

Vestibular papillae of the vulva (angiofibromas) – papules *Rook p.3216, 1998, Sixth Edition*; *AD 126:1594–1598, 1991*

## PRIMARY CUTANEOUS DISEASES

Acantholytic dermatosis of the vulvo-crural area (papular acantholytic dermatosis) – vulvar papules, cobblestoning of the vulva and thighs *Cutis 67:217–219, 2001; AD 129:1344–1345, 1993*

Angiolymphoid hyperplasia with eosinophilia *Clin Exp Dermatol 15:65–67, 1990*

Breast tissue – aberrant breast tissue of the vulva; ectopic breast tissue *Ghatan p.65, 2002, Second Edition*

Darier's disease

Erythema of Jacquet *Rook p.3223, 1998, Sixth Edition*

Fox–Fordyce disease – papules *Rook p.3207, 1998, Sixth Edition*

Hailey–Hailey disease (white topped papules) *AD 78:446–453, 1958*

Infantile gluteal granuloma *Rook p.3223, 1998, Sixth Edition*

Lichen simplex chronicus

Papular acantholytic dyskeratosis of the vulva *Ped Derm 22:237–239, 2005*

Warty dyskeratoma – keratotic nodule

### PSYCHOCUTANEOUS DISEASES

Factitial granuloma *Rook p.3222, 1998, Sixth Edition*

### SYNDROMES

Angiokeratoma corporis diffusum (Fabry's disease) *Rook p.3204, 1998, Sixth Edition*

Bazex-Christol-Dupre syndrome – multiple vulvar trichoepitheliomas *BJD 153:682–684, 2005*

Costello syndrome – perianal and vulvar papules; warty papules around nose and mouth, legs, perianal skin; loose skin of neck, hands, and feet; acanthosis nigricans; low-set protuberant ears, thick palmoplantar surfaces with single palmar crease, gingival hyperplasia, hypoplastic nails, moderately short stature, craniofacial abnormalities, hyperextensible fingers, sparse curly hair, diffuse hyperpigmentation, generalized hypertrichosis, multiple nevi *Ped Derm 20:447–450, 2003; JAAD 32:904–907, 1995; Aust Paediat J 13:114–118, 1977*

Goltz's syndrome – vulvar papillomas

Melkersson–Rosenthal syndrome – granuloma *Dermatologica 182:128–131, 1991*

Multiple mucosal neuroma syndrome

Neurofibromatosis *BJD 127:540–541, 1992; AD 88:320–321, 1963*

Nevoid basal cell carcinoma syndrome

Reiter's sydrome – red and white papules; circinate vulvovaginitis *AD 128:811–814, 1992; Hautarzt 39:748–739, 1988*

Steatocystoma multiplex

### VASCULAR

Aggressive angiomyxoma – polypoid mass *JAAD 38:143–175, 1998*

Angiokeratoma of Fordyce *JAAD 12:561–563, 1985; BJD 83:409–411, 1970*

Angioma

Angiomyofibroblastoma *JAAD 38:143–175, 1998*

Blue rubber bleb nevus (purple)

Hemangiomas – intact or ulcerated nodules *Rook p.3204, 1998, Sixth Edition*

Lymphangiectasia *Rook p.3204, 1998, Sixth Edition*

Lymphangioma or lymphangioma circumscriptum *Cutis 67:229–232, 2001; BJD 129:334–336, 1993;* secondary to radiation therapy *Cutis 67:239–240, 2001*

Lymphedema – primary or secondary

Pyogenic granuloma *Ped Derm 21:614–615, 2004*

Thrombophlebitis of vulva *Ghatan p.65, 2002, Second Edition*

Varicosity *Rook p.2256, 1998, Sixth Edition*

## VULVAR ULCERS

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – contact vulvitis *NEJM 347:1412–1418, 2002;* vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

Bullous pemphigoid, including localized childhood vulvar pemphigoid *JAAD 22:762–764; Ped Derm 2:302–307, 1985; AD 128:804–807, 1992;* desquamative vaginitis *Dermatologica 176:200–201, 1988*; anti-p200 and anti-alpha3 chain of laminin 5 *JAAD 52:S90–92, 2005*

Cicatricial pemphigoid *Ped Derm 21:51–53, 2004; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.180, 1998; Rook p.1874–1875, 1998, Sixth Edition; BJD 118:209–217, 1988; Oral Surg 54:656–662, 1982;* end stage scarring may result in introital shrinkage

Dermatitis herpetiformis – juvenile *Trans St John's Hosp Dermatol Soc 54:128–136, 1968*

Epidermolysis bullosa acquisita *Bolognia p.1111, 2003*

Linear IgA disease (chronic bullous disease of childhood) – annular polycyclic bullae *Ped Derm 15:108–111, 1998*

Lupus erythematosus, systemic *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*; *BJD 121:727–741, 1989*

Mixed connective tissue disease – orogenital ulcers *Rook p.2545, 1998, Sixth Edition; Am J Med 52:148–159, 1972*

Pemphigoid gestationis *Rook p.3206, 1998, Sixth Edition*

Pemphigus vegetans *Rook p.3206, 1998, Sixth Edition*

Pemphigus vulgaris *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.181, 1998; Obstet Gynecol 33:264–266, 1969*

Rheumatoid nodule *J Clin Pathol 49:85–87, 1996*

Severe combined immunodeficiency in Athabascan American–Indian children *AD 135:927–931, 1999*

### DRUG-INDUCED

Fixed drug eruption *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*; *Rook p.3227, 1998, Sixth Edition*

Foscarnet-induced ulcer *JAAD 28:799, 1993*

Lithium carbonate *Cutis 48:65–66, 1991*

Non-steroidal anti-inflammatory drugs *J Oral Pathol Med 24:46–48, 1995*

### EXOGENOUS AGENTS

Foreign bodies *Rook p.3227, 1998, Sixth Edition*

Quaternary ammonium solutions on a speculum

Tampon use – recurrent vulvar ulcers *JAMA 250:1430–1431, 1983*

### INFECTIONS AND INFESTATIONS

Actinomycosis *Rook p.3227, 1998, Sixth Edition*

AIDS – acute HIV infection *AD 134:1279–1284, 1998; J Acquir Immune Defic Syndr Hum Retrovirol 13:343–347, 1996*

Amebic abscesses – *Entamoeba histolytica Derm Clinics 17:151–185, 1999;* amebic dysentery *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998; Rook p.3214, 1998, Sixth Edition*

Anaerobic streptococcal infections

Brown recluse spider bite (*Loxosceles reclusa*) *Am J Obstet Gynecol 140:341–343, 1981*

Brucellosis *Rook p.3227, 1998, Sixth Edition*

Candidiasis – vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998; Sex Transm Dis 12:193–197, 1985*

Chancriform pyoderma (pyogenic ulcer) (*Staphylococcus aureus*) – ulcer with indurated base; eyelid, near mouth, genital *AD 87:736–739, 1963*

Chancroid – ulcerated papule *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.145, 1998; Rook p.3210, 1998, Sixth Edition;* phagedenic chancroid (deformity and mutilation) – round or oval ragged undermined ulcer with satellite ulcers *Int J STD AIDS 8:585–588, 1997; JAAD 19:330–337, 1988*

Cryptococcosis *JAAD 37:116–117, 1997; Genitourin Med 63:341–343, 1987*

Diphtheria – gray pseudomembrane *Rook p.3214,3227, 1998, Sixth Edition*

Ecthyma gangrenosum *JAAD 11:781–787, 1984*

Epstein–Barr virus – acute infection (infectious mononucleosis) *JAAD 51:824–826, 2004; Dermatol Clin 20:283–289, 2002; Tyring p.149, 2002; Obstet Gynbecol 92:642–644, 1998; J Pediatr Adolesc Gynecol 11:185–187, 1998; Sex Transm Infect Dis 74:296–297, 1998; Genitourin Med 70:356–357, 1993; NEJM 311:966–968, 1984; Am J Obstet Gynecol 127:673–674, 1977*

Furunculosis

Fusospirochetal infection *Rook p.3227, 1998, Sixth Edition*

Gangrenous ecthyma of infancy *Ann DV 108:451–455, 1981*

Gonorrhea with vaginal discharge – round or oval ulcers *Acta DV (Stockh) 43:496, 1963*

Granuloma inguinale – ulcer with rolled border *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.146–148, 1998; Rook p.3210, 1998, Sixth Edition*

Hand foot and mouth disease *Rook p.3227, 1998, Sixth Edition*

Herpes simplex *J Inf Dis 177:543–550, 1998; Pediatr Clin North Am 28:397–435, 1981; Am J Obstet Gynecol 135:553–554, 1979*

Herpes zoster *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998; Rook p.3227, 1998, Sixth Edition*

Impetigo *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Leprosy

Lymphogranuloma venereum – fluctuant lymph nodes ulcerate; fistula formation *Rook p.3210,3219, 1998, Sixth Edition*

Malakoplakia – *Escherichia coli*, *Pseudomonas* species, *Staphylococcus aureus*; indurated ulcer *J Ind Med Assoc 72:254–255, 1979; Clin Exp Dermatol 2:131–135, 1977*

*Mycobacterium tuberculosis* – primary tuberculous chancre *JAAD 26:342–344, 1992;* periorificial tuberculosis; ulcers with ragged edges *Rook p.3210, 1998, Sixth Edition*

Osteomyelitis *Genitourinary Med 69:460–461, 1993*

Phagedenic ulcer

Pneumonia *Rook p.3227, 1998, Sixth Edition*

*Pseudomonas aeruginosa Rook p.3227, 1998, Sixth Edition*

Pyoderma *Rook p.3227, 1998, Sixth Edition*

*Salmonella paratyphi* (paratyphoid fever) *Eur J Dermatol 13:297–298, 2003*

Scabies *Genitourinary Med 67:322–326, 1991*

Schistosomiasis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Smallpox *Rook p.3227, 1998, Sixth Edition*

*Staphylococcus aureus* – vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

Streptococci, beta hemolytic – vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998;* anaerobic streptococci *Rook p.3227, 1998, Sixth Edition*

Syphilis – primary chancre *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.143, 1998; Rook p.1241–1243,3210, 1998, Sixth Edition;* secondary; tertiary (gummas) *Genitourin Med 65:1–3, 1989*

Tinea cruris – vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

Typhoid fever – aphthous ulcer *Rook p.3227, 1998, Sixth Edition; Ned Tijdschr Geneekd 115:1080–1082, 1971*

Vaccinia *Rook p.3227, 1998, Sixth Edition*

Varicella *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Yaws *Rook p.3210, 1998, Sixth Edition*

## INFILTRATIVE DISEASES

Langerhans cell histiocytosis *AD 137:1241–1246, 2001; J Dermatol 21:259–263, 1994; Ann Dermatol 2:128–131, 1990*

Vulvitis circumscripta plasmacellularis (Zoon's plasma cell vulvitis) *Bolognia p.1111, 2003; BJD 149:638–641, 2003*

## INFLAMMATORY DISEASES

Aphthosis *Rook p.3228, 1998, Sixth Edition*

Crohn's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.162, 1998; AD 129:1607–1612, 1993; JAAD 36:986–988, 1996; AD 126:1351–1356, 1990;* mimicking herpes simplex infection *Int J STD AIDS 4:54–56, 1993;* knife-cut ulcer (linear) *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.162, 1998*

Desquamative inflammatory vaginitis *Genitourin Med 66:275–279, 1990*

Erythema multiforme *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.183, 1998; Medicine 68:133–140, 1989; JAAD 8:763–765, 1983;* Stevens–Johnson syndrome *Rook p.2083,3227, 1998, Sixth Edition*

Focal vulvitis *Rook p.3227, 1998, Sixth Edition*

Hidradenitis suppurativa *Rook p.3222, 1998, Sixth Edition*

Inflammatory dermatoses – any inflammatory dermatosis may result in vulvar erosions and ulcers

Pilonidal sinuses *Am J Obstet Gynecol 101:854–856, 1968*

Pyoderma gangrenosum *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998; JAAD 27:623–625, 1992; Int J Gynaecol Obstet 35:175–178, 1991*

Toxic epidermal necrolysis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Ulcus vulvae acutum (Lipschutz ulcer) *Cutis 65:387–389, 2000; Acta DV (Stockh) 45:221–222, 1965Arch Dermatol Syph (Berlin) 114:363–395, 1913; Obstet Gynecol 38:440–443, 1971;* as manifestation of primary Epstein–Barr virus *BJD 135:663–665, 1996*

## METABOLIC DISEASES

Acrodermatitis enteropathica *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.228, 1998; Rook p.3224, 1998, Sixth Edition*

Estrogen deficiency – atrophic vulvitis with vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

Pellagra vaginitis

Uremia *Ghatan p.65, 2002, Second Edition*

## NEOPLASTIC

Basal cell carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.211, 1998*

Bowen's disease

Extramammary Paget's disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.217, 1998*

Kaposi's sarcoma *Tyring p.224, 2002*

Leukemia – myelomonocytic leukemia – presenting with vaginal ulcers *Dermatology 199:346–348, 1999;* myelocytic *South Med J 86:293–294, 1993*

Lymphoma *JAAD 51:824–826, 2004*

Melanoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.217, 1998*

Metastases – ulcerated nodule *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.219, 1998*

Squamous cell carcinoma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.215, 1998*

Vulvar intraepithelial neoplasia *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.212–213, 1998; Rook p.3229, 1998, Sixth Edition*

### PARANEOPLASTIC DISORDERS

Necrolytic migratory erythema (glucagonoma syndrome) *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998; Lancet ii:1–4, 1974*

Paraneoplastic pemphigus *Ped Derm 20:238–242, 2003*

### PRIMARY CUTANEOUS DISEASES

Acute parapsoriasis (pityriasis lichenoides et varioliformis acuta) (Mucha–Habermann disease) *AD 123:1335–1339, 1987; AD 118:478, 1982*

Anovaginal fistula – vulvar ulceration *J Reprod Med 33:857–858, 1988*

Aphthosis *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.159, 1998*

Epidermolysis bullosa – polydysplastic epidermolysis bullosa *Rook p.3206,3227, 1998, Sixth Edition*

Erythema of Jacquet

Hailey–Hailey disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.177–178, 1998; Bull Soc Fr Dermatol Syphiligr 75:352–355, 1975*

Intertrigo – with fissuring *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.164, 1998*

Keratosis lichenoides chronica *JAAD 49:511–513, 2003*

Lichen planus – erosive *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.170, 1998; BJD 135:89–91, 1996; AD 130:1379–1382, 1994; AD 125:1677–1680, 1989; Int J Dermatol 28:381–384, 1989*

Lichen sclerosus et atrophicus – bullous or non-bullous *Rook p.2549–2551, 1998, Sixth Edition;* vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120–121, 1998*

Lichen simplex chronicus *J Reprod Med 36:309–311, 1991;* vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

Psoriasis – vulvar fissure *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.120, 1998*

### PSYCHOCUTANEOUS DISEASES

Factitial *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*; *Obstet Gynecol 41:239–242, 1973*

Self-mutilation *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.123–124, 1998*

### SYNDROMES

AEC syndrome (Hay–Wells syndrome) – vaginal erosions, mild hypohidrosis *Ped Derm 16:103–107, 1999*

Behçet's disease *JAAD 51:S83–87, 2004; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.159–160, 1998; Rook p.3227–3228, 1998, Sixth Edition; Ulster Med J 56:74–76, 1987*

Hypereosinophilic syndrome *AD 132:535–541, 1996*

MAGIC syndrome *AD 126:940–944, 1990*

Reiter's syndrome *JAAD 48:613–616, 2003; Arch Int Med 145:822–824, 1985*

Sweet's syndrome *JAAD 51:824–826, 2004*

### TRAUMA

Blunt/sharp injury *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Chemical trauma *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Excoriations

Lacerated hymen *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.115, 1998*

Mechanical *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.241, 1998*

Radiation necrosis *Am J Obstet Gynecol 164:1235–1238, 1991*

Sexual abuse *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.125–127, 1998*

Sexual injury *Aust NZ J Obstet Gynecol 6:291–293, 1966*

### VASCULAR LESIONS

Atherosclerotic peripheral vascular disease *Genital Skin Disorders, Fischer and Margesson, CV Mosby p.230, 1998*

Hemangioma, ulcerated *Plast Reconstr Surg 87:861–866, 1991*

## WHITE FEET

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis

Bullous pemphigoid

Dermatomyositis

Lupus erythematosus, systemic

Pemphigus

Rheumatoid arthritis

Scleroderma

Vasculitis

### CONGENITAL ANOMALIES

Syringomyelia

### DRUG-INDUCED

Intra-arterial injection of vasopressors

Vasoconstrictors – nicotine, ergot

### EXOGENOUS

Overhydration – maceration

### INFECTIONS AND INFESTATIONS

Pitted keratolysis

Tinea pedis

### METABOLIC DISEASES

Cold proteins

Cystic fibrosis – aquagenic wrinkling of the palms *AD 141:621–624, 2005*

Hyperviscosity

Macroglobulinemia

### PARANEOPLASTIC DISEASES

Tripe soles

### PRIMARY CUTANEOUS DISEASES

Dyshidrosis

Palmoplantar keratoderma

Pustular psoriasis

Symmetrical lividity of the soles (hyperhidrosis) *BJD 37:123–125, 1925*

Weber Cockayne epidermolysis bullosa with plantar blisters

### TOXINS

Perchlorethylene-induced Raynaud's phenomenon

Vinyl chloride exposure

### TRAUMA

Delayed deep pressure urticaria

Friction blisters

Maceration

Tropical immersion foot

### VASCULAR DISEASES

Arteriosclerosis – pallor *Rook p.2231, 1998, Sixth Edition*

Raynaud's phenomenon

Thromboangitis obliterans

## WHITE MACULES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – azo dyes *Contact Dermatitis 38:189–193, 1998;* monobenzyl ether of hydroquinone; rubber allergic contact dermatitis with post-inflammatory depigmentation

Acquired agammaglobulinemia – vitiligo *Rook p.2750, 1998, Sixth Edition*

Bullous pemphigoid

Dermatomyositis – with Degos' disease-like lesions *JAAD 50:895–899, 2004*

Graft vs. host disease – hypopigmented patches or total leukoderma *BJD 134:780–783, 1996*

Lupus erythematosus – systemic lupus – reticulated telangiectatic erythema of thenar and hypothenar eminences, finger pulps, toes, lateral feet, and heels; bluish red with small white scars; striate leukonychia *Rook p.2473–2474, 1998, Sixth Edition;* Degos' disease-like lesions *BJD 95:649–652, 1976; Arch Int Med 134:321–323, 1974;* vitiligo-like patches after resolution of subacute cutaneous LE *JAAD 44:925–931, 2001; Dermatology 200:6–10, 2000;* SCLE *JAAD 33:828–830, 1995, Z. Hautkr 69:123–126, 1994;* discoid lupus erythematosus *Rook p.2444–2449, 1998, Sixth Edition; NEJM 269:1155–1161, 1963*; neonatal lupus – vitiligo-like patches *Clin Exp Dermatol 19:409–411, 1994*

Morphea – guttate; linear morphea (en coup de sabre) – early bleaching of hair *Rook p.2504–2508, 1998, Sixth Edition;* pansclerotic morphea

Pemphigus vulgaris

Rheumatoid arthritis – Degos' disease-like lesions *J Dermatol 24:488–490, 1997;* atrophie blanche-like lesions in rheumatoid vasculitis *BJD 147:905–913, 2002*

Scleroderma (progressive systemic sclerosis) – Degos' disease-like lesions *AD 100:575–581, 1969*

### DEGENERATIVE DISEASES

Aging – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

### DRUGS

Afloqualone – photoleukomelanoderma *J Dermatol 21:430–433, 1994*

Bleomycin – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Chemotherapy – transverse striated leukonychia *Textbook of Neonatal Dermatology, p.512, 2001*

Chloroquine *JAAD 48:981–983, 2003;* phototoxicity leading to vitiligo *J R Army Med Corps 144:163–165, 1998;* loss of hair pigmentation *Ghatan p.230, 2002, Second Edition*

Corticosteroids – topical; following steroid injection

Diphencyprone *Dermatologica 177:146–148, 1988*

Dixarazine – white hair *Acta DV* (*Stockh*) *61:85–88, 1981*

Fluorobutyrophenone – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Flutamide – with residual vitiligo *Contact Dermatitis 38:68–70, 1998*

Haloperidol – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Hydroxychloroquine – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Hydroquinone – hypopigmentation of skin and hair *Rook p.2965, 1998, Sixth Edition*

Interferon-$\alpha$ – induction of vitiligo *Cutis 60:289–290, 1997*

IL-2 reaction *AD 130:890–893, 1995*

Imatinib mesilate (Glivec) – progression of vitiligo *BJD 153:691–692, 2005; Cancer 98:2483–2487, 2003; J Natl Mead Assoc 95:722–724, 2003; J Clin Oncol 20:869–870, 2002*

Melanoma vaccine-associated leukoderma – gp100/MART-1–transduced dendritic cell vaccine *AD 138:799–802, 2002*

Mephenesin – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Mercaptoamines *Ghatan p.8, 2002, Second Edition*

Mercurial ointments – periorbital depigmentation *Rook p.2985, 1998, Sixth Edition*

Para-amino benzoic acid – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Phenobarbital – depigmentation of skin and hair *Ann DV 119:927–929, 1992*

Phenols *Ghatan p.8, 2002, Second Edition*

Phenylthiourea – hypopigmentation of skin and hair *Rook p.2965, 1998, Sixth Edition*

Physostigmine *Ghatan p.8, 2002, Second Edition*

Quinacrine – loss of hair pigmentation *Ghatan p.230, 2002, Second Edition*

Thiotepa eyedrops – periorbital depigmentation *AD 115:973–974, 1979*

Triparanol – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Valproic acid – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Vasoconstrictors – nicotine, ergot

Vasopressors – intra-arterial injections of vasopressors

## EXOGENOUS AGENTS

Chemical leukoderma *Rook p.1807, 1998, Sixth Edition*
- Arsenic
- Chloroquine/hydroxychloroquine
- Hydroquinone *BJD 105 (Suppl.21):51–56, 1981*
- Monobenzyl ether of hydroquinone *BJD 105 (Suppl.21):51–56, 1981*
- Monomethyl ether of hydroquinone *BJD 105 (Suppl.21):51–56, 1981*
- para-tertiary butyl phenol *BJD 105 (Suppl.21):51–56, 1981; Dermatologica 135:54–59, 1967*
- para-tertiary amyl phenol *BJD 105 (Suppl.21):51–56, 1981*
- para-tertiary butyl catechol *BJD 105 (Suppl.21):51–56, 1981*

Lymphocyte infusion – vitiligo *BJD 145:1015–1017, 2001*

PUVA therapy for cutaneous T-cell lymphoma – vitiligo-like leukoderma *BJD 145:1008–1014, 2001*

Rubber depigmentation – wristwatch band; biking suit

Swim goggles – periorbital leukoderma (raccoon-like) *Contact Dermatitis 10:129–131, 1984*

Vitamin E – white hair at injection sites of infants *Dermatologica 145:56–59, 1972*

## INFECTIONS AND INFESTATIONS

Candidiasis – of skin; of nails in congenital candidiasis *Textbook of Neonatal Dermatology, p.513, 2001*

Dengue fever – exanthem with islands of sparing ('white islands in a sea of red') *Clin Inf Dis 36:1004–1005,1074–1075, 2003; Tyring p.477, 2002*

Gram-negative web space infection – white maceration

Herpes zoster – post-inflammatory depigmentation *Rook p.2964, 1998, Sixth Edition; Int J Derm 25:624–628, 1986*

Leishmaniasis – post-kala-azar dermal leishmaniasis

Leprosy – indeterminate – hypopigmented macules of face, arms, buttocks, or trunk *Rook p.1222, 1998, Sixth Edition;* borderline tuberculoid, tuberculoid – hypopigmented macule with dry, hairless anesthetic surface with fine wrinkling *Int J Lepr Other Mycobact Dis 67:388–391, 1999;* lepromatous leprosy *Rook p.1224, 1998, Sixth Edition;* borderline lepromatous *Rook p.1227, 1998, Sixth Edition*; white lunulae *Ghatan p.80, 2002, Second Edition*

Measles – Koplik's spots

Onchocerciasis – hypopigmented and depigmented atrophic macules of pretibial, inguinal areas, and bony prominences (leopard skin) *Cutis 65:293–297, 2000; Rook p.1382, 1998, Sixth Edition*

Onychomycosis – superficial white onychomycosis – *Trichophyton rubrum*, *T. mentagrophytes*, *Aspergillus* species, *Acremonium* species (*A. strictum*), *Fusarium solanae*, *Onychocola canadensis AD 140:696–701, 2004; JAAD 36:29–32, 1997*

Oral hairy leukoplakia

Parvovirus B19 – Koplik's spots

Pinta – late secondary phase hypopigmented, depigmented hyperpigmented atrophic skin *Rook p.1274, 1998, Sixth Edition AD 135:685–688, 1999;* tertiary (late phase) – achromia over elbows, knees, ankles, wrists back of hands *Rook p.1274, 1998, Sixth Edition*

Pitted keratolysis

Sepsis – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

Syphilis – secondary; as macular syphilid fades get depigmented macules with hyperpigmented background (leukoderma syphiliticum) on back and sides of neck (necklace of Venus) *Rook p.1248–1249, 1998, Sixth Edition*

Tinea pedis

Tinea versicolor *Semin Dermatol 4:173–184, 1985*

Verruca – involuting flat wart with halo *Ghatan p.251, 2002, Second Edition*

Yaws – primary red papule, ulcerates, crusted; satellite papules; become round ulcers, papillomatous or vegetative friable nodules which bleed easily (raspberry-like) (framboesia); heals with large atrophic scar with white center with dark halo *Rook p.1268–1271, 1998, Sixth Edition*

## INFLAMMATORY DISEASES

Crohn's disease – Degos' disease-like lesions *Acta DV (Stockh) 75:408–409, 1995*

Leukoderma following erythema multiforme *Ped Derm 18:120–122, 2001;* also following SLE, SCLE, CTCL, actinic dermatitis, Darier's disease

Post-inflammatory hypopigmentation of skin and hair *Ghatan p.70, 2002, Second Edition*

Sarcoid *AD 123:1557–1562, 1987; Am J Med 35:67–89, 1963*

Sympathetic ophthalmia – depigmentation of eyebrows and eyelashes *Rook p.2995, 1998, Sixth Edition*

Transverse striated leukonychia – after febrile illness *Textbook of Neonatal Dermatology, p.512, 2001*

## METABOLIC DISEASES

Addison's disease – vitiligo-like patches *Rook p.1807, 1998, Sixth Edition*

Anemia – generalized pallor

Cold proteins – cryoglobulins, cryofibrinogens, cold agglutinins

Congestive heart failure – white lunulae *Ghatan p.80, 2002, Second Edition*

Copper deficiency – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Hemochromatosis – leukonychia *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Histideinemia – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Homocystinuria – lightening of hair *Rook p.2965, 1998, Sixth Edition*

Hyperviscosity

Hypoalbuminemia – Muehrcke's lines (thin white transverse bands) *Ghatan p.82, 2002, Second Edition;* leukonychia

*Ghatan p.79, 2002, Second Edition;* Terry's nails (proximal 80% of nail plate is white, distal 20% is pink) *Ghatan p.85, 2002, Second Edition*

Hypopituitarism – diffuse loss of pigment *Rook p.1807, 1998, Sixth Edition*

Iron deficiency – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Kwashiorkor – hypochromotrichia and hypopigmentation of skin *Cutis 67:321–327, 2001; Cutis 51:445–446, 1993*

Liver disease – leukonychia *Ghatan p.79, 2002, Second Edition;* white lunulae *Ghatan p.80, 2002, Second Edition;* Terry's nails *Ghatan p.85, 2002, Second Edition*

Malabsorption – AIDS, inflammatory bowel disease, vitamin $B_{12}$ deficiency; hypopigmented hair *Ghatan p.69, 2002, Second Edition;* white lunulae *Ghatan p.80, 2002, Second Edition*

Necrobiosis lipoidica diabeticorum – of scalp with central depigmentation *Trans St John's Hosp Dermatol Soc 57:202–220, 1971*

Oast-house disease – white hair, recurrent edema; increased serum methionine *Rook p.2965, 1998, Sixth Edition*

Panhypopituitarism – pale, yellow tinged skin *Ghatan p.165, 2002, Second Edition*

Pellagra – leukonychia *Ghatan p.79, 2002, Second Edition*

Pernicious anemia – vitiligo, canities *Rook p.1783, 1998, Sixth Edition*

Phenylketonuria – phenylalanine hydroxylase deficiency; fair skin and hair *Rook p.2645,2965, 1998, Sixth Edition;* lichen sclerosus-like changes *JAAD 49:S190–192, 2003*

Prolidase deficiency – autosomal recessive; atrophie blanche lesions; skin spongy and fragile with annular pitting and scarring; leg ulcers; photosensitivity, telangiectasia, purpura, premature graying, lymphedema *Ped Derm 13:58–60, 1996; JAAD 29:819–821, 1993; AD 127:124–125, 1991*; *AD 123:493–497, 1987*

Renal disease – hypopigmented hair *Ghatan p.70, 2002, Second Edition;* transverse white nail bands *Ghatan p.81, 2002, Second Edition;* half and half nails (Lindsay's nails) *Textbook of Neonatal Dermatology, p.512, 2001*; generalized pallor

Thyroid disease *Rook p.1807, 1998, Sixth Edition;* white lunulae *Ghatan p.80, 2002, Second Edition;* hyper- or hypothyroidism – vitiligo *Ghatan p.166, 2002, Second Edition*

Vitamin $B_{12}$ deficiency – white hair *AD 122:896–904, 1986*

Zinc deficiency – leukonychia *Ghatan p.79, 2002, Second Edition;* Muehrcke's paired lines *Textbook of Neonatal Dermatology, p.512, 2001*

## NEOPLASTIC DISEASES

Basal cell carcinoma – with depigmented halo *Ghatan p.251, 2002, Second Edition*

Blue nevus – with depigmented halo *Ghatan p.251, 2002, Second Edition*

Clear cell papulosis – white macules on the lower abdomen in infancy with later development of these lesions in the milk line *BJD 138:678–683, 1998; Am J Surg Pathol 11:827–834, 1987*

Dermatofibroma – with depigmented halo *Ghatan p.251, 2002, Second Edition*

Extramammary Paget's disease – white patches of vulva *BJD 151:1049–1053, 2004*

Histiocytosis, malignant – multiple erythematous plaques with depigmentation *Am J Dermatopathol 19:299–302, 1997*

Lymphoma – hypopigmented cutaneous T-cell lymphoma *J Dermatol 27:543–546, 2000; AD 128:1265–1270, 1992*; depigmented macules of erythrodermic CTCL *JAAD 46:325–357, 2002;* in childhood *Ped Derm 14:449–452, 1997; AD 130:476–480, 1994*; *JAAD 17:563–570, 1987*

Macroglobulinemia

Melanocytic nevus, congenital or acquired – halo nevus *Ghatan p.251, 2002, Second Edition;* atypical nevi, non-pigmented *AD 113:992–994, 1997*

Halo nevus (Sutton's nevus; leukoderma acquisitum centrifugum) – depigmented skin and hair *AD 92:14–35, 1965*

Halo nevus without nevus

Melanoma – leukoderma; hypopigmented hair; regressed melanoma – white scar *JAAD 53:101–107, 2005*

Neurofibroma – with halo *Ghatan p.251, 2002, Second Edition*

Nevus depigmentosus *Textbook of Neonatal Dermatology, p.361–362, 2001*

Seborrheic keratosis – with halo *Ghatan p.251, 2002, Second Edition*

Tumor of the follicular infundibulum

White sponge nevus

## PARANEOPLASTIC DISORDERS

Carcinoid syndrome – white macules surrounded by erythema and telangiectasia *BJD 90:547–551, 1974*

Tripe palms

## PHOTODERMATOSES

Chronic actinic dermatitis with vitiligo-like depigmentation *Clin Exp Dermatol 17:38–43, 1992*

## PRIMARY CUTANEOUS DISEASES

Albinism – tyrosinase negative (type IA), yellow mutant (type IB), platinum, tyrosinase positive (type II), minimal pigment, brown, rufous, Hermansky–Pudlak syndrome – hypopigmented skin and hair *JAAD 19:217–255, 1988*

Albinoidism *JAAD 19:217–255, 1988*

Alopecia areata – white (hair) overnight *AD 102:162–167, 1970;* white lunulae *Ghatan p.80, 2002, Second Edition*

Atopic dermatitis – white dermatographism *Rook p.2128, 1998, Sixth Edition;* pallor around mouth, nose, and ears *Ghatan p.125, 2002, Second Edition;* post-inflammatory depigmentation in dark skinned patients secondary to rubbing and lichenification

Atrophoderma of Pasini and Pierini

Balanitis xerotica obliterans

Bier's spots

Canities – white hair

## DIFFUSE HYPOMELANOSIS OF SCALP HAIR

Book syndrome

Chediak–Higashi syndrome

Chronic protein loss or deficiency (kwashiorkor, renal disease, inflammatory bowel disease, malabsorption)

Down's syndrome

Elejalde's syndrome

Fanconi syndrome

Griscelli's syndrome

Hallerman–Streiff syndrome

Hyperthyroidism

Prolidase syndrome

Treacher Collins syndrome

Vitamin $B_{12}$ deficiency

## PREMATURE GRAYING

Ataxia telangiectasia

Bird-headed dwarfism (Seckel's syndrome)

Fisch syndrome

Hereditary premature canities

Myotonic dystrophy

Oasthouse disease

Piebaldism

Prolidase deficiency

Progeria

Rothmund–Thomson syndrome

Sudden whitening of hair

Vitiligo

Waardenburg syndrome

Werner syndrome

Clear cell papulosis – white macules and papules *BJD 138:678–683, 1998*

Darier's disease – perifollicular depigmented macules *BJD 827–830, 1989;* linear white streaks of nails *Rook p.2841–2842, 1998, Sixth Edition; JAAD 27:40–50, 1992;* white lunulae *Ghatan p.80, 2002, Second Edition*

Dyshidrosis

Epidermolysis bullosa – Weber–Cockayne variant with plantar bullae

Fibroelastolytic papulosis of the neck *BJD 137:461–466, 1997*

Granuloma multiforme – upper trunk and arms; papules evolving into annular plaques with geographical, polycyclic borders; heal centrally with depigmented macules; Central Africa *Rook p.2309, 1998, Sixth Edition*

Idiopathic guttate hypomelanosis *JAAD 23:681–684, 1990*

Leukonychia – congenital *JAAD 39:509–512, 1998;* totalis *BJD 152:401–402, 2005;* association of leukonychia with knuckle pads and mixed hearing loss *NEJM 276:202–207, 1967*; association of leukonychia totalis, sebaceous cysts, renal calculi *AD 111:899–901, 1975;* association with peptic ulcer disease and cholelithiasis *NY State J Med 1982:1797–1800;* association with keratoderma and hypotrichosis *BJD 133:636–638, 1995;* palmoplantar keratoderma and atrophic fibrosis *Int J Derm 29:535–541, 1990;* pili torti *Cutis 1985:533–534;* congenital hypoparathyroidism; hypoparathyroidism, onychorrhexis and cataracts, LEOPARD syndrome *Int J Derm 29:535–541, 1990*; Hailey–Hailey disease (longitudinal leukonychia) *Hautarzt 43:451–452, 1992;* fungal infection, zinc deficiency, tuberculosis, malignancy, heavy metal poisoning, typhoid fever, Raynaud's phenomenon, sulfathiazole, trazolone, chemotherapeutic agents minor trauma, psoriasis, Darier's disease, Mee's lines (white transverse bands) seen with arsenic poisoning, pellagra, malnutrition, typhoid fever, Hodgkin's disease, renal failure, renal allograft rejection, and myocardial infarction *Dermatol Clin 6:305–313, 1988;* Muehrcke's lines of hypoalbuminemia; apparent leukonychia (diffuse whitening of the nail bed) – Terry's nails *Lancet 1:757–759, 1954;* ulcerative colitis *Semin Dermatol 10:17–20, 1991*, anemia and leprosy; exogenous causes of diffuse leukonychia – direct contact with nitric acid, nitrite solution or concentrated sodium chloride *Semin Dermatol 10:17–20, 1991;* punctate leukonychia due to trauma *Rook p.2830, 1998, Sixth Edition*; apparent leukonychia – pale nail bed due to anemia, edema, vascular insufficiency *Rook p.2830, 1998, Sixth Edition*

Lichen planus, atrophic

Lichen sclerosus et atrophicus (balanitis xerotica obliterans (lichen sclerosus of the glans)) – non-bullous or bullous *World J Urol 18:382–387, 2000; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.1189–193, 1998; AD 123:1391–1396, 1987;* purpuric *Ped Derm 10:129–131, 1993;* guttate variant; of the scalp *BJD 103:197–200, 1980*

Palmoplantar keratoderma

Perifollicular macular atrophy (perifollicular elastolysis) – gray–white finely wrinkled round areas of atrophy with central hair follicle *BJD 83:143–150, 1970*

Pityriasis alba

Pityiasis lichenoides chronica *BJD 100:297–302, 1979*

Poliosis *Rook p.2964, 1998, Sixth Edition*

Psoriasis – Woronoff's ring; pustular psoriasis

Symmetrical lividity of the soles

Vitiligo – face, axillae, groin, areolae, genitalia, areas of trauma or friction *JAMA 293:730–735, 2005; JAAD 38:647–666, 1998; Genital Skin Disorders, Fischer and Margesson, CV Mosby p.194, 1998*

White forelock – isolated finding

## PSYCHOCUTANEOUS DISEASES

Acarophobia

Factitial dermatitis

## SYNDROMES

Acroleukopathy – hypopigmentation around nailfolds and distal interphalangeal joints *AD 92:172–173, 1965*

Alezzandrini's syndrome – unilateral degenerative retinitis, ipsilateral facial vitiligo, poliosis, with or without deafness *Arch Iranian Med 4, April, 2001; Ophthalmologica 147:409–419, 1964*

Angelman syndrome – hypopigmentation, mental retardation *Am J Med Genet 40:454, 1991*

Antiphospholipid antibody syndrome – porcelain white scars (atrophie blanche-like) *JAAD 36:149–168, 1997; JAAD 36:970–982, 1997*

APECED (polyendocrinopathy, candidiasis, ectodermal dystrophy) syndrome – vitiligo *Rook p.2743, 1998, Sixth Edition*

Apert's syndrome – cutaneous and ocular hypopigmentation; craniosynostosis, midface malformation, syndactyly, severe acne and seborrhea *Ghatan p.200, 2002, Second Edition*

Ataxia telangiectasia – vitiligo and canities *JAAD 42:939–969, 2000*

Bart–Pumphrey syndrome – knuckle pads, total leukonychia, mixed hearing loss *JAAD 51:292, 2004*

Bloom's syndrome – hypopigmented macules *Ped Derm 14:120–124, 1997*

Book syndrome – autosomal dominant; canities, hyperhidrosis, premolar hypodontia *Am J Hum Genet 2:240–263, 1950*

Chediak–Higashi syndrome – autosomal recessive; oculocutaneous hypopigmentation, pigment dilution, silvery hair, neurologic dysfunction, defective polymorphonuclear cell chemotaxis *Ped Derm 21:479–482, 2004; Curr Probl Dermatol 18:93–100, 1989; Arch Int Med 119:381–386, 1987*

Conradi–Hünermann syndrome – hypochromic areas, linear hyperkeratotic bands with diffuse erythema and scale, follicular atrophoderma, scalp alopecia *Ped Derm 15:299–303, 1998; AD 127:539–542, 1991*

Cri du chat syndrome (chromosome 5, short arm deletion syndrome) – premature graying of the hair, pre-auricular skin tag with low-set malformed ears *J Pediatr 102:528–533, 1983*

Cross–McKusick–Breen syndrome (oculocerebral syndrome with hypopigmentation) – autosomal recessive; albino-like hypopigmentation, microphthalmos, opaque cornea, nystagmus, spasticity, mental retardation *J Pediatr 70:398–406, 1967*

Crouzon's syndrome – hypopigmentation in surgical scars *Ped Derm 13:18–21, 1996*

Darier's disease – leukoderma *Dermatology 188:157–159, 1994;* unilateral Darier's and guttate leukoderma *JAAD 48:955–957, 2003*

Deafness, vitiligo, and muscle wasting of hands, feet, and legs *Arch Otolaryngol 93:194–197, 1971*

Depigmented bilateral Blaschko hypertrichosis with dilated follicular orifices and cerebral and ocular malformations *BJD 142:1204–1207, 2000*

Down's syndrome – hypopigmented hair; vitiligo *Ghatan p.69, 2002, Second Edition*

Dyskeratosis congenita

Elejalde syndrome – autosomal recessive; silvery hair, profound central nervous system dysfunction, normal immune function, photo-hyperpigmentation (bronze coloration) *Ped Derm 21:479–482, 2004*

Eosinophilic fasciitis

Epidermal nevus syndrome – hypochromic nevi *Ped Derm 6:316–320, 1989*

Fanconi's syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Fisch's syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Griscelli's syndrome – silvery hair, eyelashes, and eyebrows, pigment dilution (partial albinism), and cellular and humoral immunodeficiency, recurrent infections *Ped Derm 21:479–482, 2004; JAAD 38:295–300, 1998; Am J Med 65:691–702, 1978*

Hallerman–Streiff syndrome – hypopigmented hair *Ghatan p.69, 2002, Second Edition*

Hermansky–Pudlak syndrome – white skin and hair *AD 135:774–780, 1999; Am J Hematol 26:305–311, 1987; Blood 14:162–169, 1959*

Hypomelanosis of Ito (incontinentia pigmenti achromians) – whorled depigmented patches in Blaschko pattern; associated musculoskeletal, teeth, eye, and central nervous system abnormalities *JAAD 19:217–255, 1988*

Hypomelia, hypotrichosis, facial hemangioma syndrome (pseudothalidomide syndrome) – sparse silvery blond hair *Am J Dis Child 123:602–606, 1972*

Incontinentia pigmenti – anhidrotic and achromians lesions *BJD 116:839–849, 1987*

MAUIE syndrome – erythroderma with skip areas; micropinnae, alopecia, ichthyosis, and ectropion *JAAD 37:1000–1002, 1997*

Menkes' kinky hair syndrome – hypopigmented hair *Rook p.2965, 1998, Sixth Edition*

Mukamel syndrome – autosomal recessive; premature graying in infancy, lentigines, depigmented macules, mental retardation, spastic paraparesis, microcephaly, scoliosis *Bolognia p.859, 2003*

Multiple endocrine neoplasia syndrome type I – hypopigmented macules *JAAD 42:939–969, 2000*

Multiple lentigines syndrome – hypopigmented macules *Ped Derm 13:100–104, 1996*

Myotonic dystrophy – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Neurofibromatosis – localized hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Oculocutaneous albinism *Dermatol Clin 6:217–228, 1988; JAAD 19:217, 1988*

Oculocutaneous albinism, dysmorphic features, short stature *Ophthalmic Paediatr Genet 11:209–213, 1990*

Patau syndrome (trisomy 13) – depigmented spots *Rook p.2812, 1998, Sixth Edition*

Phakomatosis pigmentovascularis – nevus anemicus *Ped Derm 13:33–35, 1996*

Piebaldism – autosomal dominant; white forelock, white patches on upper chest, abdomen, extremities with islands of hyperpigmentation within *JAAD 44:288–292, 2001;* mutations and deletions of *c-kit* (steel factor receptor) *Am J Hum Genet 56:58–66, 1995*

Pierre–Robin syndrome – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Prader–Willi syndrome – hypopigmentation, mental retardation *Am J Med Genet 40:454, 1991*

Progeria – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Pseudocleft of upper lip, cleft lip-palate, and hemangiomatous branchial cleft – canities *Plast Reconstr Surg 83:143–147, 1989*

Robert's syndrome (hypomelia–hypotrichosis–facial hemangioma syndrome) – autosomal recessive; mid-facial port wine stain extending from forehead to nose and philtrum, cleft lip with or without cleft palate, sparse silver-blond hair, limb reduction malformation, characteristic facies, malformed ears with hypoplastic lobules, marked growth retardation *Clin Genet 31:170–177, 1987; Clin Genet 5:1–16, 1974*

Rothmund–Thomson syndrome – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Russell–Silver syndrome – achromia *JAAD 40:877–890, 1999; J Med Genet 36:837–842, 1999*

Seckel's syndrome – autosomal recessive; hair sparse and prematurely gray, growth retardation, beak-like nose, large eyes, skeletal defects *Am J Med Genet 12:7–21, 1982*

Symmetrical progressive leukopathy – Japan and Brazil; punctate leukoderma on shins, extensor arms, abdomen, interscapular areas *Ann Dermatol Syphiligr 78:452–454, 1951*

Tay syndrome – autosomal recessive; growth retardation, triangular face, cirrhosis, trident hands, premature canities, vitiligo *Bolognia p.859, 2003*

Tietz's syndrome – autosomal dominant; absence of pigment, deaf-mutism, hypoplastic eyebrows *Rook p.2964, 1998, Sixth Edition; Am J Hum Genet 15:259–264, 1963*

Treacher Collins syndrome – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Tuberous sclerosis – ash leaf macules, confetti hyopigmentation, white eyelashes, poliosis *Int J Dermatol 37:911–917, 1998; BJD 135:1–5, 1996; JAAD 32:915–935, 1995; Ped Clin North Am 38:991–1017, 1991; S Med J 75:227–228, 1982*

Tuomaala–Haapanen syndrome (brachymetapody, anodontia, hypotrichosis, albinoid trait) *Acta Ophthalmol 46:365–371, 1968*

Tyrosinemia – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Unusual facies, vitiligo, canities, progressive spastic paraplegia *Am J Med Genet 9:351–357, 1981*

Vogt–Koyanagi–Harada syndrome – occurs primarily in Asians, blacks, and darkly pigmented Causians; Stage 1 – aseptic meningitis; Stage 2 – uveitis (iritis, iridocyclitis) and dysacusis (tinnitus, hearing loss); Stage 3 – depigmentation of skin (60% of patients), depigmentation of hair (poliosis – eyelashes, eyebrows, scalp, and body hair – 90% of patients), alopecia areata; halo nevi *Ann DV 127:282–284, 2000; AD 88:146–149, 1980*

von Willebrand's disease with albinism *Rook p.2737, 1998, Sixth Edition*

Waardenberg's syndrome – type I – white forelock; dystopia canthorum, broad nasal root, synophrys, iris heterochromia, deafness, canities, piebaldism; hypoplasia of nasal alae, terminal hair on tip of nose; PAX 3 gene mutation; type II – sensorineural hearing loss, heterochromic irides, absence of dystopia canthorum; MITF mutations; type III (Waardenbug–Klein syndrome) – features of type I, limb abnormalities; PAX 3 gene mutations; type IV (Waardenburg–Shah syndrome) – extensive depigmentation; Hirschsprung's disease; endothelin receptor B gene mutations *Textbook of Neonatal Dermatology, p.361, 2001; Dermatol Clin 6:205–216, 1988*

Werner's syndrome (pangeria) – graying of temples in teenage years *Medicine 45:177–221, 1966*

Woolf syndrome – autosomal recessive; piebaldism with congenital nerve deafness *JAAD 48:466–468, 2003; Arch Otolaryngol 82:244–250, 1965*

Xeroderma pigmentosum – acute sunburn, persistent erythema, freckling – initially discrete, then fuse to irregular patches of hyperpigmentation, dryness on sun-exposed areas; with time telangiectasias and small angiomas, atrophic white macules develop; vesiculobullous lesions, superficial ulcers lead to scarring, ectropion; multiple malignancies; photophobia, conjunctivitis, symblepharon, neurologic abnormalities *Adv Genet 43:71–102, 2001; Hum Mutat 14:9–22, 1999; Mol Med Today 5:86–94, 1999; Derm Surg 23:447–455, 1997; Dermatol Clin 13:169–209, 1995; Recent Results Cancer Res 128:275–297, 1993; AD 123:241–250, 1987; Ann Intern Med 80:221–248, 1974;* XP variant *AD 128:1233–1237, 1992*

Ziprkowski–Margolis syndrome – X-linked recessive, deaf-mutism, heterochromic irides, piebald-like hypomelanosis *JAAD 48:466–468, 2003*

## TOXINS

Arsenic – Mee's lines of nails *BJD 149:757–762, 2003*

Perchlorethylene-induced Raynaud's phenomenon

Thallium – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

Vinyl chloride exposure

## TRAUMA

Burns

Cryotherapy *Rook p.3249,3574, 1998, Sixth Edition*

Delayed deep pressure urticaria

Friction blisters

Frostbite – waxy white appearance *Rook p.958, 1998, Sixth Edition*

Heavy metal intoxication – Mees' lines; transverse striated leukonychia *Textbook of Neonatal Dermatology, p.512, 2001*

Physical trauma – hypopigmented hair *Ghatan p.70, 2002, Second Edition*

Radiation therapy – hypopigmented hair *Rook p.2964, 1998, Sixth Edition*

Scars

Sun damage – pseudoscars

Tropical immersion foot

Vibration white finger *Int Arch Occup Environ Health 73:150–155, 2000; Rook p.931, 1998, Sixth Edition*

## VASCULAR DISORDERS

Arteriosclerosis – pallor *Rook p.2231, 1998, Sixth Edition*

Atrophie blanche (livedo with ulceration) *AD 134:491–493, 1998; JAAD 8:792–798, 1983; AD 119:963–969, 1983;* with Degos' disease-like lesions *JAAD 50:895–899, 2004*

Bier spots – anemic macules or ivory white spots on erythrocyanotic background; exaggerated vasoconstrictive response in stasis associated hypoxia; or with mixed cryoglobulinemia *BJD 146:921–922, 2002; AD 136:674–675, 2000*

Buerger's disease – elevation of leg – white leg and foot

Congestive heart failure – Terry's nails (proximal 80% of nail plate is white, distal 20% is pink) *Ghatan p.85, 2002, Second Edition*

Constitutive speckled vascular mottling *AD 136:674–675, 2000*

Degos' disease – malignant atrophic papulosis *Int J Derm 39:361–362, 2000; Ann DV 79:410–417, 1954;* familial Degos' disease *JAAD 50:895–899, 2004*

Dissecting aortic aneurysm – transverse white nail bands *Ghatan p.81, 2002, Second Edition*

Hemangioma, pre-proliferative phase – avascular patch

Ischemia – white lunulae *Ghatan p.80, 2002, Second Edition*

Nevus anemicus *BJD 134:292–295, 1996*

Nevus oligemicus *Ghatan p.8, 2002, Second Edition*

Polyarteritis nodosa – atrophie blanche-like lesions *BJD 148:789–794, 2003; Rheum Dis Clin NA 27:677–728, 2001*

Raynaud's phenomenon

Vasculitis

Congenital Volkmann ischemic contracture (neonatal compartment syndrome) – upper extremity circumferential contracture from wrist to elbow; necrosis, cyanosis, edema, eschar, bullae, purpura; irregular border with central white ischemic tissue with formation of bullae, edema, or spotted bluish color with necrosis, a reticulated eschar or whorled pattern with contracture of arm; differentiate from necrotizing fasciitis, congenital varicella, neonatal gangrene, aplasia cutis congenital, amniotic band syndrome, subcutaneous fat necrosis, epidermolysis bullosa *BJD 150:357–363, 2004*

## LINEAR HYPOPIGMENTATION

Epidermal nevus

Goltz's syndrome

Hypomelanosis of Ito

Incontinentia pigmenti, fourth stage

Intralesional corticosteroids

Lichen striatus

Linear keratosis follicularis and linear basaloid follicular hamartoma with guttate macules

Menkes' kinky hair syndrome (female carrier)

Nevus comedonicus

Nevus depigmentosus

Pigmentary mosaicism

Segmental vitiligo

Segmental ash leaf macule

# WHITE PAPULES OR NODULES

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Dermatomyositis – calcinosis cutis; white papules resembling malignant atrophic papulosis *JAAD 36:317–319, 1997*

Graft vs. host disease, chronic – lichen sclerosus-like lesions *JAAD 53:591–601, 2005; AD 138:924–934, 2002*

Lupus erythematosus – white papules resembling malignant atrophic papulosis (Degos' disease) *JAAD 36:317–319, 1997; Dermatologica 175:45–46, 1987; BJD 95:649–652, 1976; Arch Int Med 134:321–323, 1974;* nodular episcleritis

Morphea – white plaque*;* guttate morphea *Rook p.2504–2508, 1998, Sixth Edition*

Rheumatoid nodule

Scleroderma – white papules resembling malignant atrophic papulosis (Degos' disease) *Cutis 75:101–104, 2005; JAAD 36:317–319, 1997; AD 100:575–581, 1969;* ivory subcutaneous nodules of trunk and extremities *BJD 101:93–96, 1979;* calcinosis

## CONGENITAL LESIONS

Bohn's pearls (milia) of the neonate

Calcinosis cutis of the ear, congenital *JAAD 49:117–119, 2003*

Cartilaginous rest of the neck, congenital *Cutis 58:293–294, 1996*

Epstein's pearls – keratinous cysts of palatal or alveolar mucosa in neonates *Int Dent J 27:261–262, 1988*

Urethral retention cyst – white papule at urethral opening of males *Textbook of Neonatal Dermatology, p.483, 2001*

## DEGENERATIVE DISORDERS

Elastotic nodules of the ear *JAAD 50:100, 2004; Cutis 44:452–454, 1989*

## DRUG-INDUCED

Lichen planus

## EXOGENOUS AGENTS

Foreign body granuloma

Silicone granuloma

## INFECTIONS

Adiaspiromycosis – cutaneous adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white-yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

Coxsackie A16 – Koplik's spots *Ghatan p.249, 2002, Second Edition*

Echovirus 9 – Koplik's spots *Ghatan p.249, 2002, Second Edition*

Epidermodysplasia verruciformis

Maggots *Clin Inf Dis 35:1566–1571, 2002*

Measles – Koplik's spots *Tyring p.407–408, 2002; Rook p.3102, 1998, Sixth Edition*

Molluscum contagiosum, including molluscum folliculitis *BJD 142:555–559, 2000*

Parvovirus B19 – Koplik's spots *Rook p.3102, 1998, Sixth Edition*

Syphilis – condyloma lata – white moist papules *Rook p.1247, 1998, Sixth Edition*

Tungiasis

## INFILTRATIVE LESIONS

Cutaneous mucinosis of infancy – day 1–6; firm grouped white to translucent papules of arms, hands, and trunk; may be linear *AD 119:272–273, 1983; AD 116:198–200, 1980*

Sarcoid

Scleromyxedema *JAAD 33:37–43, 1995*

Self-healing juvenile cutaneous mucinosis *AD 131:459–461, 1995*

## METABOLIC DISEASES

Calcinosis cutis – idiopathic *Rook p.2665, 1998, Sixth Edition;* papular or nodular calcinosis cutis secondary to heel sticks *Textbook of Neonatal Dermatology, p.112, 2001; Ped Derm 18:138–140, 2001*; cutaneous calculus *BJD 75:1–11, 1963;* extravasation of calcium carbonate or gluconate solution *Textbook of Neonatal Dermatology, p.111, 2001*; metastatic calcification – deposition of calcium in the media of blood vessels – extensive bone destruction, milk-alkali syndrome, primary or secondary hyperparathyroidism, primary hypoparathyroidism, pseudohypoparathyroidism, chronic renal failure, sarcoid, vitamin D intoxication *JAAD 33:693–706, 1995; Cutis 32:463–465, 1983;* milia-like calcinosis cutis in Down's syndrome *Ped Derm 19:271–273, 2002;* heel sticks *Cutis 32:65–66, 1983;* vaginal nodules due to urinary incontinence *BJD 150:169–171, 2004*

Calcium oxalate – distal digital white papule

Calcium phosphate

Gout – tophus – monosodium urate *Cutis 64:233–236, 1999; AD 134:499–504, 1998*

Idiopathic calcinosis of the scrotum *Br J Plast Surg 42:324–327, 1989; Eur Urol 13:130–131, 1987; Int J Derm 20:134–136,1981; AD 114:957, 1978;* dystrophic calcinosis of benign epithelial cyst *BJD*

Miliaria – giant centrifugal miliaria profunda – white papule

Osteoma cutis – primary osteoma cutis including multiple osteomas, congenital plate-like osteoma cutis, multiple miliary facial osteomas, Albright's hereditary osteodystrophy, and fibrodysplasia ossificans progressiva *BJD 146:1075–1080, 2002; JAAD 38:906–910, 1998*

Progressive osseous heteroplasia – papules and nodules *J Bone Joint Surg Am 76:425–436, 1994*

Pseudogout – pseudotophi (calcium pyrophosphate) *Rook p.2653, 1998, Sixth Edition*

Renal disease, chronic – nodular calcinosis *Ghatan p.176, 2002, Second Edition*

## NEOPLASTIC DISEASES

Acrochordon

Anal intraepithelial neoplasia – perianal hyperpigmented patches, white and/or red plaques *JAAD 52:603–608, 2005*

Basal cell carcinoma

Bowenoid papulosis – vulvar whitish papules or plaques *Cancer 57:823–836, 1986*

Clear cell papulosis *Ped Derm 14:380–382, 1997; JAAD 33:230–233, 1995*

Connective tissue nevus *Ped Derm 22:153–157, 2005*; eruptive collagenomas in pregnancy *JAAD 53:S150–153, 2005*

Desmoplastic trichoepithelioma – single papule *Cancer 40:2979–2986, 1977;* multiple familial *JAAD 39:853–857, 1998*

Epidermoid cyst *Rook p.1667, 1998, Sixth Edition*

Eruptive vellus hair cysts – skin-colored, red, white, blue, yellow eyelid papules *Ped Derm 19:26–27, 2002*

Large cell acanthomas – white to red flat-topped papules *JAAD 53:335–337, 2005*

Leiomyoma

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Marginal cysts of eyelids – occluded glands of Moll; painless white or yellow cyst of lower eyelid close to lacrimal punctum *Rook p.2987, 1998, Sixth Edition*

Melanocytic nevus – atypical nevi, non-pigmented *AD 113:992–994, 1997*

Melanoma – desmoplastic melanoma

Metastatic carcinoma

Milia, including multiple eruptive milia – face, earlobe *Rook p.1669, 1998, Sixth Edition; JAAD 37:353–356, 1997; Cutis 60:183–184, 1997; Clin Exp Dermatol 21:58–60, 1996;* after blistering (epidermolysis bullosa, EBA, bullous lupus erythematosus) or trauma (porphyria cutanea tarda, friction)

Neuroma (solitary neurofibroma) *Rook p.2363, 1998, Sixth Edition;* palisaded encapsulated neuroma *AD 140:1003–1008, 2004*

Nevus sebaceus

Osteochondroma – white–yellow nodule *Derm Surg 27:591–593, 2001*

Perforating follicular hybrid cyst (pilomatrixoma and steatocystoma) of inner eyelid (tarsus) *JAAD 48:S33–34, 2003*

Persistent actinic epidermolytic hyperkeratosis – hypopigmented papules *J Cutan Pathol 6:272–279, 1979*

Pilar cyst, calcified

Pilomatrixoma – papule with white inclusions *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.71, 1999*

Porokeratosis of Mibelli – white plaque *JAAD 52:553–555, 2005*

Reactive fibrous papule of the fingers (giant-cell fibroma) – fingers and palms *Dermatologica 143:368–375, 1971*

Retention cyst from glands of Zeis *Rook p.2987, 1998, Sixth Edition*

Sclerotic fibromas of the skin *JAAD 20:266–271, 1989*

Seborrheic keratosis, irritated

Stucco keratoses

Syringomas, vulvar – discrete white cystic papules *JAAD 48:735–739, 2003*

Trichodiscoma – hypopigmented papules *AD 126:1093,1096, 1990*

Trichoepithelioma

Tumors of the follicular epithelium, multiple eruptive – hypopigmented papules of the face and extremities *AD 135:463–468, 1999; JAAD 39:853–857, 1998*

White fibrous papulosis of the neck *BJD 127:295–296, 1992*

## PHOTODERMATOSES

Actinic lichen planus *AD 135:1543–1548, 1999*

## PRIMARY CUTANEOUS DISEASES

Acne vulgaris – closed comedones (whiteheads) *Rook p.1949–1951, 1998, Sixth Edition;* osteoma cutis *Ghatan p.258, 2002, Second Edition*

Albopapuloid epidermolysis bullosa

Anetoderma

Clear cell papulosis – hypopigmented macules and slightly elevated 1–10-mm papules along milk line on lower abdomen and pubic area *Ped Derm 22:268–269, 2005; Ped Derm 14:380–382, 1997*

Epidermolysis bullosa, dominant dystrophic; epidermolysis bullosa, albopapuloidea (Pasini) – ivory white papules *BJD 146:267–274, 2002*

Epidermolysis bullosa pruriginosa – reticulate scarring, dermatitis with lichenified plaques, violaceous linear scars, albopapuloid lesions of the trunk, prurigo nodularis-like lesions, milia *BJD 152:1332–1334, 2005*

Eruptive tooth

Focal epithelial hyperplasia (Heck's disease) *Tyring p.273, 2002*

Frictional dermatitis of children – pinhead-sized white papules or warty lesions of backs of hands, elbows, and knees *Rook p.895–896, 1998, Sixth Edition*

Granuloma annulare

Lichen nitidus

Lichen planus – perianal *Rook p.3170, 1998, Sixth Edition*

Lichen sclerosus et atrophicus *Rook p.2549–2551, 1998, Sixth Edition;* guttate variant; of the scalp *BJD 103:197–200, 1980*

Lichen striatus

Micaceous and keratotic pseudoepitheliomatous balanitis *Bull Soc Fr Dermatol Syphiligr 68:164–167, 1966*

Nevus anelasticus *Ped Derm 22:153–157, 2005*

Papular acantholytic dyskeratosis of the vulva *Ped Derm 22:237–239, 2005*

Papular elastorrhexis – non-follicular white papules *Ped Derm 22:153–157, 2005; Ped Derm 19:565–567, 2002; JAAD 19:409–414, 1988*

Perifollicular elastolysis – gray or white follicular papules of neck, earlobes *JAAD 51:165–185, 2004*

Pseudoxanthoma elasticum-like papillary dermal elastolysis *AD 136:791–796, 2000; JAAD 26:648–650, 1992*

Psoriasis

Reactive perforating collagenosis

White fibrous papulosis of the neck *JAAD 51:165–185, 2004; Clin Exp Derm 16:224–225, 1991; JAAD 20:1073–1077, 1989*

## SYNDROMES

Albright's hereditary osteodystrophy – osteoma cutis *Ghatan p.258, 2002, Second Edition*

Birt–Hogg–Dube syndrome – trichodiscomas *JAAD 48:111–114, 2003; AD 113:1674–1677, 1977*

Buschke–Ollendorff syndrome – connective tissue nevi and osteopoikilosis; single or multiple yellow, white, or skin-colored papules, nodules, plaques of extremities *JAAD 48:600–601, 2003; BJD 144:890–893, 2001*

Dermochondrocorneal dystrophy – white nodules of feet *Caputo p.56, 2000*

Down's syndrome – milia-like idiopathic calcinosis cutis *BJD 134:143–146, 1996*

Fibrodysplasia ossificans progressiva – osteoma cutis *Ghatan p.258, 2002, Second Edition*

Hunter's syndrome – white to skin-colored papules over scapulae, shoulders, upper arms, chest, thighs, and nape of neck; sometimes arranged in linear ridges and plaques, or cobblestoned *Ped Derm 7:150, 1991; AD 113:602–605, 1977*

Hurler's syndrome

Juvenile hyaline fibromatosis – pearly white papules of face and neck; larger papules and nodules around nose, behind ears, on fingertips, multiple subcutaneous nodules of scalp, trunk, and extremities, papillomatous perianal papules; joint contractures, skeletal lesions, gingival hyperplasia, stunted growth *Textbook of Neonatal Dermatology, p.444–445, 2001*

Lipoid proteinosis – yellow–white papules of tongue, lips, pharynx *Int J Derm 39:203–204, 2000; JAAD 27:293–297, 1992*

Oral–facial–digital syndrome – white nodules of tongue

Tuberous sclerosis – connective tissue nevus

### TRAUMA

Extruding tooth – white papule *Cutis 54:253–254, 1994*

Piezogenic pedal papules *AD 106:597–598, 1972*

Scar

Weathering nodules of the ear *BJD 135:550–554, 1996*

### VASCULAR DISEASES

Degos' disease *JAAD 37:480–484, 1997; AD 122:90–91,93–94, 1986; Ann DV 79:410–417, 1954*

## XANTHOMATOUS LESIONS

Alagille syndrome – triangular facies, cardiovascular anomalies (peripheral pulmonary stenosis), butterfly-like vertebral arch defects, ocular abnormalities *Ped Derm 15:199–202, 1998*

APO E11/E111 phenotype

Cerebrotendinous xanthomatosis

CHILD syndrome – xanthomatous pattern *Dermatologica 180:263–266, 1990*

Epidermolysis bullosa, dystrophica – verruciform xanthoma

Eruptive xanthoma *Cutis 50:31–32, 1992*

Hereditary tendinous and tuberous xanthomas

High-density lipoprotein deficiency

Hyperapoprotein B

Langerhans cell histiocytosis – xanthoma-like cutaneous lesions in an adult *JAAD 34:688–689, 1996*

Lymphoma – B-cell lymphoma – xanthomatous infiltration of the neck *Eur J Derm 10:481–483, 2000;* papular xanthomatosis *JAAD 26:828–832, 1992;* dystrophic xanthoma in cutaneous T-cell lymphoma *AD 123:91–94, 1987;* xanthomatous CTCL *AD 128:1499–1502, 1992*

Normocholesterolemic dysbetalipoproteinemia

Normocholesterolemic xanthomatosis *AD 122:1253–1257, 1986*

Normolipemic eruptive xanthomas

Normolipemic papular xanthomas – in erythrodermic atopic dermatitis *JAAD 32:326–333, 1995*

Normolipemic plane xanthomas – multiple myeloma; Castleman's syndrome *JAAD 39:439–442, 1998; JAAD 26:105–109, 1991;* relapsing polychondritis *Acta DV 74:221–223, 1994*

Normolipemic subcutaneous xanthomatosis

Normolipemic tendinous and tuberous xanthomas

Papular xanthomas

Beta sitosterolemia

Serum lipoprotein deficiency

Titanium dioxide pigmentation – plane xanthoma-like lesion *AD 121:656–658, 1985*

Verruciform xanthoma *JAAD 42:343–347, 2000; Am J Surg Pathol 22:479–487, 1998*

Wegener's granulomatosis – yellow eyelid papules (florid xanthelasmata) *JAAD 37:839–842, 1997; Br J Ophthalmol 79:453–456, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999*

Xanthoma disseminatum *NEJM 338:1138–1143, 1998; Clin Investig 7:233–238, 1993; JAAD 23:341–346, 1990; AD Syphilol 37:373–402, 1938*

Xanthomas following erythroderma

## XEROSIS – ASSOCIATIONS AND CAUSES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Graft vs. host disease *JAAD 53:591–601, 2005*

Lupus erythematosus *Ghatan p.267, 2002, Second Edition*

Sjögren's syndrome – anhidrosis *JAAD 16:233–235, 1987;* xerosis *Rook p.2571, 1998, Sixth Edition*

### DEGENERATIVE DISEASES

Senescence *BJD 122 Suppl 35:97–103, 1990*

Sympathetic nerve dystrophy – anhidrosis with xerosis *Rook p.2780, 1998, Sixth Edition*

### DRUG-INDUCED

Beta blockers *The Clinical Management of Itching; Parthenon; p.35, 2000*

Busulfan *The Clinical Management of Itching; Parthenon; p.35, 2000*

Cetuximab *JAAD 53:291–302, 2005*

Cimetidine *AD 118:253–254, 1982*

Clofazamine *Ghatan p.267, 2002, Second Edition*

Clofibrate *The Clinical Management of Itching; Parthenon; p.35, 2000*

Diazocholesterol *Ghatan p.267, 2002, Second Edition*

Fenretinide *Clin Can Res 9:2032–2039, 2003*

Flutamide *Ghatan p.267, 2002, Second Edition*

Hydroxyurea *AD 135:818–820, 1999; AD 111:183–187, 1975*

Indinavir (protease inhibitor) *JAAD 46:284–293, 2002*

Interferon-$\alpha$ *Semin Oncol 14:1–12, 1987*

Itraconazole – photodermatitis and retinoid-like dermatitis *J Eur Acad Dermatol Venereol 14:501–503, 2000*

Lithium carbonate *AD 111:1073–1074, 1975*

Nafoxidine *The Clinical Management of Itching; Parthenon; p.35, 2000*

Niacin *The Clinical Management of Itching; Parthenon; p.35, 2000*

PUVA *J Formosa Med Assoc 98:335–340, 1999*

Retinoid dermatitis – isotretinoin, etretinate, acetretin *Clin Pharm 2:12–19, 1983*

Tamoxifen *The Clinical Management of Itching; Parthenon; p.35, 2000*

Triparanol *Ghatan p.267, 2002, Second Edition*

Vitamin A excess *Exp Eye Res 7:388–393, 1968*

Voriconazole – photodermatitis and retinoid-like dermatitis *Ped Derm 21:675–678, 2004; Pediatr Infect Dis J 21:240–248, 2002; Clin Exp Dermatol 26:648–653, 2001*

## EXOGENOUS AGENTS

Chloracne *Clin Exp Dermatol 18:523–525, 1993*

Cryosurgery *Arch Ophthalmol 99:460–463, 1981*

Dry environment *BJD 149:240–247, 2003*

Irritant contact dermatitis – resembles xerosis *Rook p.721, 1998, Sixth Edition*

Kava dermopathy – xerosis with scaly yellow pigmentation *JAAD 53:S105–107, 2005; JAAD 31:89, 1994*

Water sports *Fitzpatrick, p.1253*

Winter *Fitzpatrick, p.1213*

## INFECTIONS AND INFESTATIONS

AIDS *JAAD 22:1270–1277, 1990*

Amebiasis

HTLV-1-associated myelopathy/tropical spastic paraparesis *Clin Inf Dis 36:507–513, 2003;* HTLV-1 (acute T-cell leukemia) *JAAD 49:979–1000, 2003*

HTLV-II *Ghatan p.267, 2002, Second Edition*

Leishmaniasis – post-kala-azar leishmaniasis *J Inf Dis 173:758, 1996*

Leprosy

Onchocerciasis – atrophic changes; earliest of buttock, shoulders, and legs; fine wrinkling and xerotic skin (lizard skin) *AD 140:1161–1166, 2004; BJD 121:187–198, 1989*

Scabies, crusted *Rook p.1464, 1998, Sixth Edition*

## INFLAMMATORY DISEASES

Sarcoid *Ghatan p.267, 2002, Second Edition*

## METABOLIC DISEASES

Anorexia nervosa *Dermatology 203:314–317, 2001; AD 123:1386, 1987*

Chronic renal failure *Rook p.2730, 1998, Sixth Edition; Nephrol Dial Transplant 10:2269–2273, 1995*

Cretinism – coarse facial features, lethargy, macroglossia, cold dry skin, livedo, umbilical hernia, poor muscle tone, coarse scalp hair, synophrys, no pubic or axillary hair at puberty *Rook p.2708, 1998, Sixth Edition*

Diabetes *Skin Res Technol 8:250–254, 2002*

Essential fatty acid deficiency – severe xerosis with underlying erythema, hair loss with hypopigmentation, and weeping intertrigenous rash *Ped Derm 16:95–102, 1999*

Hypoparathyroidism *JAAD 15:353–356, 1986*

Hemochromatosis – ichthyosis-like atrophic dry skin *AD 113:161–165, 1977; Medicine 34:381–430, 1955*

Hypoparathyroidism *Ghatan p.267, 2002, Second Edition*

Hypothyroidism (myxedema) – pale, cold, scaly, wrinkled skin *JAAD 26:885–902, 1992;* erythema craquele *BJD 89:289–291, 1973*

Hypopituitarism – Sheehan's syndrome – skin is yellow, dry *Rook p.2914, 1998, Sixth Edition*

Kwashiorkor *Ghatan p.267, 2002, Second Edition*

Liver disease *Ghatan p.267, 2002, Second Edition*

Multiple nutritional deficiencies – erythema craquele-like appearance

Prolidase deficiency – autosomal recessive; leg ulcers, dermatitis, xerosis *BJD 144:635–636, 2001*

Malabsorption syndromes *Ghatan p.267, 2002, Second Edition*

Marasmus – severe protein and caloric deprivation; wrinkled, loose, dry skin *JAAD 21:1–30, 1989*

Panhypopituitarism *Ghatan p.165, 2002, Second Edition*

Vitamin A deficiency *JAAD 41:322–324, 1999*

Vitamin A intoxication *J Pediatr Orthop 5:219–221, 1985*

Zinc deficiency

## PARANEOPLASTIC DISORDERS

Generalized erythema craquele as a paraneoplastic phenomenon; lymphoma *BJD 97:323–326, 1977;* breast, cervix, lung, Kaposi's sarcoma, leiomyosarcoma *Ghatan p.267, 2002, Second Edition;* angioimmunoblastic lymphadenopathy *AD 115:370, 1979;* gastric carcinoma *BJD 109:277–278, 1983;* breast cancer *BJD 110:246, 1984*

Lymphoma *BJD 97:323–326, 1977;* adnexotropic T-cell lymphoma *JAAD 38:493–497, 1998*

## PRIMARY CUTANEOUS DISEASES

Anhidrotic ectodermal dysplasia

Atopic dermatitis *AD 127:1689–1692, 1991*

Erythema cracquele *Rook p.3285, 1998, Sixth Edition*

Ichthyosis – epidermolytic hyperkeratosis, ichthyosis vulgaris, lamellar ichthyosis, non-bullous congenital ichthyosis, Refsum's syndrome, KID syndrome

Idiopathic guttate hypomelanosis *BJD 103:635–642, 1980*

Nummular dermatitis *Dermatology 199:135–139, 1999*

Winter itch *Fitzpatrick, p.1253*

## PSYCHOCUTANEOUS DISEASES

Anorexia nervosa/bulemia nervosa *Dermatology 203:314–317, 2001; Int J Dermatol 39:348–353, 2000; Ped Derm 16:90–94, 1999*

## SYNDROMES

Ablepharon macrostomia – absent eyelids, ectropion, abnormal ears, rudimentary nipples, dry redundant skin, macrostomia, ambiguous genitalia *Hum Genet 97:532–536, 1996*

Angiokeratoma corporis diffusum (Fabry's disease ($\alpha$-galactosidase A)) – X-linked recessive; skin dry or anhidrotic *JAAD 17:883–887, 1987; NEJM 276:1163–1167, 1967;* anhidrosis *JAAD 37:523–549, 1997*

Anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome) *J Dermatol 26:44–47, 1999;* X-linked recessive – premature aged appearance with soft, dry, finely wrinkled skin, especially around eyes; absent or reduced sweating,

hypotrichosis, and total or partial anodontia *J Med Genet 28:181–185, 1991;* autosomal recessive *Ped Derm 7:242, 1990*

Cardio-facio-cutaneous syndrome – xerosis/ichthyosis, eczematous dermatitis, alopecia, growth failure, hyperkeratotic papules, ulerythema ophryogenes, seborrheic dermatitis, CALMs, nevi, keratosis pilaris *Ped Derm 17:231–234, 2000*

Cockayne's syndrome *AD 133:1293–1295, 1997*

Crouzon's syndrome

Down's syndrome *Dermatology 205:234–238, 2002; Rook p.373, 1998, Sixth Edition*

Ectodermal dysplasia – ankyloblepharon, absent lower eyelashes, hypoplasia of upper lids, coloboma, seborrheic dermatitis, cribriform scrotal atrophy, ectropion, lacrimal duct hypoplasia, malaligned great toenails, gastroesophageal reflux, ear infections, laryngeal cleft, dental anomalies, scalp hair coarse and curly, sparse eyebrows, xerosis, hypohidrosis, short nose absent philtrum, flat upper lip *BJD 152:365–367, 2005*

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *Cutis 53:309–312, 1994; JAAD 25:879–881, 1991*

Haber's syndrome *AD 117:321–324, 1981*

Hallermann–Streiff syndrome

Hereditary mucoepithelial dysplasia (dyskeratosis) (Gap junction disease, Witkop disease) – dry rough skin; red eyes, non-scarring alopecia, keratosis pilaris, erythema of oral (hard palate, gingival, tongue) and nasal mucous membranes, cervix, vagina, and urethra; perineal and perigenital psoriasiform dermatitis; increased risk of infections, fibrocystic lung disease *BJD 153:310–318, 2005; Ped Derm 11:133–138, 1994; Am J Med Genet 39:338–341, 1991; JAAD 21:351–357, 1989; Am J Hum Genet 31:414–427, 1979; Oral Surg Oral Med Oral Pathol 46:645–657, 1978*

Hidrotic ectodermal dysplasia *JAAD 27:917–921, 1992*

Hutchinson–Gilford syndrome – hypohidrosis

Hypohidrotic ectodermal dysplasias (ED)
- Hypohidrotic ED – X-linked
- Hypohidrotic ED – autosomal recessive
- Hypohidrotic ED with corkscrew hairs *JAAD 27:917–921, 1992*
- Rapp–Hodgkin ED
- Ectrodactyly–ectodermal dysplasia–cleft lip/palate (EEC) syndrome
- Roselli–Gulienetti syndrome
- Alopecia–onychodysplasia–hypohidrosis–deafness
- Basan syndrome
- Greither type
- Xeroderma–talipes–enamel defect
- Ankyloblepharon–ectrodactyly–cleft lip and palate (AEC) syndrome
- Anonychia with flexural pigmentation
- Tricho-onycho-dental dysplasia
- Hypohidrosis-diabetes insipidus syndrome
- Hypohidrosis with neurolabyrinthitis
- Hypoplastic enamel-onycholysis-hypohidrosis (Witkop–Brearley–Gentry syndrome) – marked facial hypohidrosis, dry skin with keratosis pilaris, scaling and crusting of the scalp, onycholysis and subungual hyperkeratosis, hypoplastic enamel of teeth *Oral Surg 39:71–86, 1975*
- ED with cataracts and hearing defects

Ichthyosis follicularis with atrichia and photophobia (IFAP) – collodion membrane and erythema at birth; generalized follicular keratoses, non-scarring alopecia, keratotic papules of elbows, knees, fingers, extensor surfaces, xerosis; punctate keratitis *BJD 142:157–162, 2000; Am J Med Genet 85:365–368, 1999; AD 125:103–106, 1989; Dermatologica 177:341–347, 1988*

Keratosis follicularis spinulosa decalvans – X-linked dominant and autosomal dominant; alopecia, xerosis, thickened nails, photophobia, spiny follicular papules (keratosis pilaris), scalp pustules, palmoplantar keratoderma *Ped Derm 22:170–174, 2005*

MELAS syndrome – mitochondrial encephalomyopathy with lactic acidosis – scaly itchy diffuse erythema with xerosis *JAAD 41:469–473, 1999*

Mucoepithelial dysplasia (gap junction disease) – dry rough skin

NERDS syndrome *Dermatology 191:133–138, 1995*

Pseudohypoparathyroidism – dry, scaly, hyperkeratotic puffy skin; multiple subcutaneous osteomas, collagenoma *BJD 143:1122–1124, 2000*

Schwachman's syndrome – neutropenia, malabsorption, failure to thrive; generalized xerosis, follicular hyperkeratosis, widespread dermatitis, palmoplantar hyperkeratosis *Ped Derm 9:57–61, 1992; Arch Dis Child 55:531–547, 1980; J Pediatr 65:645–663, 1964*

Scleroatrophic and keratotic dermatosis of limbs (scleroatrophic syndrome of Huriez) – autosomal dominant; scleroatrophy of hands, sclerodactyly, palmoplantar keratoderma, xerosis, hypoplastic nails *BJD 143:1091–1096, 2000; BJD 134:512–518, 1996; Bull Soc Fr Dermatol Syphiligr 70:24–28, 1963;* dry hands and feet; 50% of patients with hypohidrosis *Ped Derm 15:207–209, 1998*

Short stature, mental retardation, facial dysmorphism, short webbed neck, skin changes, congenital heart disease – xerosis, dermatitis, low-set ears, umbilical hernia *Clin Dysmorphol 5:321–327, 1996*

Tricho-odonto-onychodysplasia syndrome – multiple melanocytic nevi, freckles, generalized hypotrichosis, parietal alopecia, brittle nails, xerosis, supernumerary nipples, palmoplantar hyperkeratosis, enamel hypoplasia, deficient frontoparietal bone *JAAD 29:373–388, 1993; Am J Med Genet 15:67–70, 1983*

Turner's syndrome *JAAD 36:1002–1004, 1996*

Xeroderma pigmentosum

## TRAUMA

Excessive cleansing

Radiation therapy *Ghatan p.267, 2002, Second Edition*

Reflex sympathetic dystrophy *AD 127:1541–1544, 1991*

## VASCULAR DISEASES

Arteriosclerosis – xerosis as part of distal trophic changes *Rook p.2231, 1998, Sixth Edition*

Edema, acute of legs – xerosis with erythema craquele *BJD 145:355–357, 2001*

Venous stasis *Ghatan p.267, 2002, Second Edition*

# YELLOW NAIL SYNDROME

***JAAD 28:792–794, 1993***

## NON-RESPIRATORY FEATURES

Absence of serum IgA

AIDS *JAAD 13:731–736, 1985*

Cardiac insufficiency

Cutaneous T-cell lymphoma

D-penicillamine therapy *Acta DV (Stockh) 63:554–555, 1983*

Hashimoto's thyroiditis

Hypoalbuminemia

Hypogammaglobulinemia

Hypothroidism

IgM

Lymphocytopenia

Macroglobulinemia

Malabsorption; ascites

Mental retardation

Nephrotic syndrome

Rheumatoid arthritis

Raynaud's

Sleep apnea

Thyrotoxicosis

Unequal breast size

Unilateral kidney hypoplasia

# YELLOW TO SKIN-COLORED PAPULES OF THE NECK

## DRUG REACTIONS

Corticosteroid acne

Penicillamine

## EXOGENOUS AGENTS

Saltpeter-induced pseudoxanthoma elasticum *Acta DV 58:323–327, 1978*

## INFECTIONS

Cryptococcosis in AIDS *BJD 121:665–667, 1989*

Histoplasmosis *Infect Dis Clin North Am 2:841, 1988*

Leishmaniasis – Old World leishmaniasis or leishmaniasis recidivans *BJD 74:127–131, 1962*

Molluscum contagiosum

*Mycobacterium tuberculosis* – lichen scrofulosorum *AD 124:1421, 1988;* lupus vulgaris *JAAD 6:101, 1982*

Syphilis – papular syphilid *JAMA 249:3069, 1983*

Verrucae planae

## INFILTRATIVE DISORDERS

Amyloidosis *AD 121:498, 1985*

Amyloid elastosis

Benign cephalic histiocytosis *AD 122:1038, 1986*

Colloid milium *AD 105:684, 1972*

Langerhans cell histiocytosis

Scleromyxedema (papular mucinosis)

Papular xanthoma *JAAD 22:1052, 1992*

Plane xanthomas – normolipemic plane xanthomas *AD 114:425–431, 1978; BJD 93:407–415, 1975*

Xanthoma disseminatum (Montgomery's syndrome) *AD Syphilol 208:373, 1938*

## INFLAMMATORY DISEASES

Sarcoid, papular *AD 123:1557, 1987*

## METABOLIC DISEASES

Hyperphosphatemia

Pseudoxanthoma elasticum-like lesions with hyperphosphatemia *Am J Med 83:1157–1162, 1987*

Osteitis deformans (Paget's disease of bone)

Osteoectasia

Pseudoxanthoma elasticum-like changes with osteoectasia *Clin Exp Derm 7:605–609, 1982*

Xanthoma papuloeruptivum *JAAD 13:1, 1985*

## NEOPLASTIC DISEASES

Acrochordon

Actinic keratosis

Basal cell carcinoma

Clear cell hidradenoma (eccrine acrospiroma) *Cancer 23:641, 1969*

Connective tissue nevi *JAAD 3:441, 1980;* eruptive collagenoma *JID 76:284, 1981*

Dermatofibromas

Eccrine angiomatous hamartoma *Ped Derm 14:401–402, 1997*

Eccrine spiradenoma *JID 46:347, 1966*

Elastoma – juvenile elastoma

Juvenile xanthogranuloma *Cutis 11:499–501, 1973*

Leiomyomas

Melanoma – amelanotic melanoma

Merkel cell carcinoma

Metastases – from oral cavity, lung, breast *JAAD 33:161, 1995*

Milia *AD 120:300, 1984*

Mucoid milia

Neurofibromas

Nevus sebaceus *JAAD 18:429, 1988*

Sebaceous epithelioma *AD 89:711, 1964*

Sebaceous adenoma

Squamous cell carcinoma

Syringomas, including eruptive syringomas *Rook p.1712–1713, 1998, Sixth Edition; AD 121:756, 1985*

Trichoepitheliomas, multiple *AD 68:517, 1953*

### PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma *JAAD 3:257, 1980*

### PRIMARY CUTANEOUS DISEASES

Benign symmetric lipomatosis (Madelung's disease) *South Med J 79:1023, 1986*

Closed comedones

Cutis laxa *Acta Paediatr Scand 67:775–780, 1978*

Elastosis perforans serpiginosa

Granuloma annulare, disseminated

Lichen nitidus

Lichen spinulosis

Pseudoxanthoma elasticum *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988*

Perforating pseudoxanthoma elasticum *AD 121:1321, 1985*

Pseudoxanthoma elasticum and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977*

### SYNDROMES

Birt–Hogg–Dube syndrome

Buschke–Ollendorf syndrome

Cowden's disease

Ehlers–Danlos syndrome

Hunter's syndrome – dermal nodules

Muir–Torre syndrome *JAAD 10:803, 1984*

Multicentric reticulohistiocytosis *Oral Surg Oral Med Oral Pathol 65:721–725, 1988*

Niemann–Pick disease *Ann Intern Med 82:257, 1975*

Steatocystoma multiplex

### VASCULAR DISORDERS

Lymphangioma circumscriptum

## YELLOW PAPULES AND/OR PLAQUES

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

CREST syndrome with cutaneous plate-like calcinosis

Lupus erythematosis – systemic lupus with nodular episcleritis

Morphea

Relapsing polychondritis – normolipemic plane xanthomas in relapsing polychondritis *Acta DV 74:221–223, 1994*

Rheumatoid arthritis – rheumatoid neutrophilic dermatitis *AD 133:757–760, 1997*

Urticaria with jaundice – 'yellow hives'

### CONGENITAL LESIONS

Aplasia cutis congenita

Rudimentary meningocoele (primary cutaneous meningioma) – yellow plaque of scalp *Ped Derm 15:388–389, 1998*

Sebaceous gland hyperplasia of the newborn *Rook p.452, 1998, Sixth Edition*

### DRUGS

Calcium chloride extravasation – calcinosis cutis *AD 124:922–925, 1988*

Corticosteroid atrophy

Cyclosporine – sebaceous hyperplasias *Dermatologica 172:24–30, 1986*

Indomethacin – eruptive xanthomas *AD 139:1045–1048, 2003; Acta DV 55:489–492, 1975*

Olanzapine – eruptive xanthomas *AD 139:1045–1048, 2003*

Penicillamine *JAAD 30:103–107, 1994;* pseudoxanthoma elasticum-like changes *Dermatology 184:12–18, 1992*

Ritonavir – hyperlipidemia with xanthomas *JAAD 52:S86–89, 2005*

### EXOGENOUS AGENTS

Acquired pseudoxanthoma elasticum – farmers exposed to saltpeter (calcium-ammonium-nitrate salts); antecubital fossa; yellow macules and papules *JAAD 51:1–21, 2004; Acta DV 78:153–154, 1998; Acta DV 58:319–321, 1978*

Exogenous calcium – EEG or EMG paste *Ped Derm 15:27–30, 1998; AD 89:360–363, 1964*

Carotenemia – carrots, green vegetables

Titanium dioxide-induced plane xanthoma-like lesions *AD 121:656–658, 1985*

### INFECTIONS

Adiaspiromycosis – cutaneous adiaspiromycosis (*Chrysosporium* species) – hyperpigmented plaque with white–yellow papules, ulcerated nodules, hyperkeratotic nodules, crusted nodules, multilobulated nodules *JAAD S113–117, 2004*

Favus – scutulum of favus

Hepatitis B – urticaria with jaundice (yellow hives)

Leishmaniasis *JAAD 34:257–272, 1996*

Lyme borreliosis – acrodermatitis chronica atrophicans; small yellow papules or nodules *JAAD 49:363–392, 2003*

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960;* lichen scrofulosorum – yellow–brown papules

Scutular favus-like tinea cruris et pedis *JAAD 34:1086–1087, 1996*

### INFILTRATIVE DISEASES

Amyloid elastosis – neck, axillae, flexor surfaces, trunk and groin *AD 121:498–502, 1985*

Amyloidosis *NEJM 349:583–596, 2003; JAAD 18:19–25, 1988; AD 122:1425–1430, 1986; AD 121:498, 1985;* xanthoma-like

lesions *BJ Clin Pract 27:271–273, 1973;* lichen amyloidosis; familial lichen amyloidosis

Benign cephalic histiocytosis *Ped Derm 11:164–167, 1994; Am J Dermatopathol 15:315–319, 1993*

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991; AD 105:684, 1972;* juvenile colloid milium – yellow facial plaques; eyelids, nose, gingiva, conjunctiva *JAAD 49:1185–1188, 2003; Clin Exp Dermatol 25:138–140, 2000*

Focal cutaneous mucinosis

Generalized eruptive histiocytosis *JAAD 50:116–120, 2004; JAAD 17:449–454, 1987*

Langerhans cell histiocytosis – xanthoma-like lesions *JAAD 34:688–689, 1996;* yellow–red–brown papules *Curr Prob Derm VI:1–24, 1994*

Mastocytosis – solitary mastocytoma *AD 84:806–815, 1961*; urticaria pigmentosa; xanthelasmoidea (infiltrative diffuse cutaneous mastocytosis) *BJD 144:355–358, 2001; AD 112:1270–1271, 1976*; bullous mastocytosis; cutaneous mastocytosis simulating tuberous xanthomas *Przegl Dermatol 77:40–46, 1990 (Polish)*

Papular xanthoma *Ped Derm 15:65–67, 1998; Ped Derm 10:139–141, 1993; JAAD 22:1052, 1992; JAAD 22:1052–1056, 1990*

Verruciform xanthoma *JAAD 42:343–347, 2000; Am J Surg Pathol 22:479–487, 1998;* of scrotum – yellow cauliflower-like appearance *J Dermatol 16:397–401, 1989;* verruciform xanthoma of toes in patient with Milroy's disease due to persistent leg edema *Ped Derm 20:44–47, 2003;* disseminated verruciform xanthoma *BJD 151:717–719, 2004*

Xanthogranuloma – juvenile xanthogranuloma *Rook p.2324, 1998, Sixth Edition;* generalized lichenoid juvenile xanthogranuloma – face, neck, scalp, upper trunk *BJD 126:66–70, 1992*

Xanthoma disseminatum (Montgomery's syndrome) – red–yellow–brown papules and nodules of flexural surfaces, trunk, face, proximal extremities and oral mucosa; become confluent into xanthomatous plaques; verrucous plaques *NEJM 338:1138–1143, 1998; Clin Invest 7:233–238, 1993; JAAD 23:341–346, 1990; AD Syphilol 37:373–402, 1938*

## INFLAMMATORY DISEASES

Lipogranulomas – orbital lipogranulomas – yellow eyelid papules *JAAD 37:839–842, 1997*

Malacoplakia *JAAD 34:325–332, 1996*

Rosai–Dorfman disease (sinus histiocytosis with massive lymphadenopathy) – xanthoma-like lesions with yellow papules and nodules; cervical lymphadenopathy; also axillary, inguinal, and mediastinal adenopathy *Int J Derm 37:271–174, 1998; Am J Dermatopathol 17:384–388, 1995; Semin Diagn Pathol 7:19–73, 1990*

Cancer 30:1174–1188, 1972

Sarcoidosis *Rook p.2691, 1998, Sixth Edition; AD 123:1557, 1987*

## METABOLIC

Amyloidosis – hereditary apolipoprotein A1 amyloidosis – yellow papules *BJD 152:250–257, 2005*

Benign monoclonal gammopathies – normolipemic plane xanthomas *JAAD 49:119–122, 2003*

Calcinosis cutis – secondary to subcutaneous calcium heparin injections *JAAD 50:210–214, 2004;* cutaneous calculus *BJD 75:1–11, 1963;* idiopathic calcinosis of the scrotum; calcinosis cutis following intravenous calcium infusion

Cerebrotendinous xanthomatosis – autosomal recessive; tendon (Achilles tendon) and tuberous xanthomas *Ped Derm 17:447–449, 2000*

Chylous ascites – xanthomas secondary to chylous ascites *JAAD 51:75–78, 2004*

Cryoglobulinemia – normolipemic plane xanthomas *JAAD 49:119–122, 2003*

Gout *Cutis 48:445–451, 1991; Ann Rheum Dis 29:461–468, 1970*

Hypercholesterolemia, familial – tuberous xanthomas *Ped Derm 17:447–449, 2000*

Hyperphosphatemia – pseudoxanthoma elasticum-like lesions *Am J Med 83:1157–1162, 1987*

Marginal cysts of eyelids – occluded glands of Moll; painless white or yellow cyst of lower eyelid close to lacrimal punctum *Rook p.2987, 1998, Sixth Edition*

Myxedema; hypothyroidism

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Osteitis deformans (Paget's disease of bone) *Ann Intern Med 82:257, 1975*

Osteoma cutis, primary *Cutis 68:103–106, 2001*

Porphyria – porphyria cutanea tarda with sclerodermoid lesions

Pretibial myxedema *Rook p.2707, 1998, Sixth Edition*

Pseudogout – pseudotophi (calcium pyrophosphate) *Rook p.2653, 1998, Sixth Edition*

Retention cyst from glands of Zeis *Rook p.2987, 1998, Sixth Edition*

Sitosterolemia – tuberous and tendon xanthomas *Ped Derm 17:447–449, 2000*

Tangier's disease – enlarged yellow tonsils (alpha-lipoprotein deficiency)

Tendinous xanthomas
- Cerebrotendinous xanthomatosis – mutation in sterol 27-hydroxylase; increased serum cholestarol and urinary bile alcohols; normal serum cholesterol *JAAD 45:292–295, 2001*
- Phytosterolemia (beta sitosterolemia)
- Familial hypercholesterolemia
- Familial combined hyperlipidemia
- Familial type III hyperlipoproteinemia

Tuberous xanthoma *Rook p.2605, 1998, Sixth Edition*
- Alagille syndrome
- Familial combined hyperlipidemia
- Familial hypercholesterolemia *Ped Derm 17:447–449, 2000*
- Familial type III hyperlipoproteinemia
- Cerebrotendinous xanthomatosis
- Phytosterolemia

Xanthelasmas *Rook p.2605, 1998, Sixth Edition*
- Cerebrotendinous xanthomatosis *JAAD 45:292–295, 2001*
- Familial hypercholesterolemia (decrease LDL receptors)
- Phytosterolemia
- Familial type III hyperlipoproteinemia (abnormal apoprotein E)
- Sitosterolemia

Xanthomas
- Diffuse plane xanthomas – normolipemic, apolipoprotein A-1 deficiency
- Familial hypercholesterolemia
- Niemann–Pick disease
- Plane xanthomas – normolipemic plane xanthomas *AD 114:425–431, 1978; BJD 93:407–415, 1975*

Xanthoma striatum palmare
  Familial type III hyperlipoproteinemia

Eruptive xanthomas *Cutis 50:31–32, 1992*
  Familial hypertriglyceridemias (TypeV)
  Familial lipoprotein lipase deficiency (apolipoprotein C II deficiency)
  Familial combined hyperlipidemia (increased plasma apo-beta lipoprotein)
  Familial type III hyperlipoproteinemia
  HAART therapy – protease inhibitors *Ped Infect Dis 21:259–260, 2002; J Infect Dis 42:181–188, 2001; AIDS 12:1393–1394, 1998*

Xanthoma papuloeruptivum *JAAD 13:1, 1985*

## NEOPLASTIC

Atypical lymphoid infiltrate (hyperplasia) – xanthelasma-like periorbital plaque *JAAD 37:839–842, 1997*

Basal cell carcinoma, including morpheaform basal cell carcinoma of the eyelid – papule *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.25, 1999*

Basaloid follicular hamartoma – yellow plaque *AD 129:915–917, 1993*

Benign cephalic histiocytosis *AD 120:650–655, 1984*

Cellular neurothekomae *Ped Derm 12:191–194, 1995*

Chalazion – yellow, skin-colored or red papule or nodule *Ophthalmology 87:218–221, 1980; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins, 1999, p.165*

Cholesterotic fibrous histiocytoma *AD 126:506–508, 1990*

Connective tissue nevus (collagenomas) including eruptive collagenomas *JID 76:284, 1981; BJD 72:217–220, 1960;* familial cutaneous collagenomas *Ped Derm 21:33–38, 2004*

Dermatofibroma, xanthomatous

Dermatofibrosarcoma protuberans *JAAD 35:355–374, 1996*

Eccrine angiomatous hamartoma – vascular nodule; macule, red plaque, acral nodule of infants or neonates; painful, red, purple, blue, yellow, brown, skin-colored *JAAD 47:429–435, 2002; JAAD 37:523–549, 1997; Ped Derm 13:139–142, 1996*

Elastoma – face, abdomen, trunk, buttock, thigh, scrotum *JAAD 51:1–21, 2004;* Dubreuilh elastoma – thick yellow plaque of face, neck, or chest mistaken for basal cell carcinoma *JAAD 32:1016–1024, 1995*

Epidermal nevus

Epidermoid cyst *Rook p.1667, 1998, Sixth Edition*

Eruptive vellus hair cysts – skin-colored, red, white, blue, yellow eyelid papules *Ped Derm 19:26–27, 2002*

Fibroepithelioma of Pinkus

Fordyce spots *Rook p.3060, 1998, Sixth Edition; BJD 121:669–670, 1989*

Generalized eruptive histiocytosis

Leiomyomas

Leiomyosarcoma – blue–black; also red, brown, yellow or hypopigmented *JAAD 46:477–490, 2002*

Lymphoma – papular xanthomatosis *JAAD 26:828–832, 1992;* dystrophic xanthoma in cutaneous T-cell lymphoma (CTCL) *AD 123:91–94, 1987;* xanthomatous CTCL *AD 128:1499–1502, 1992;* B-cell lymphoma – xanthomatous infiltration of the neck *Eur J Derm 10:481–483, 2000*

Metastases – oral cavity, lung, breast *JAAD 33:161, 1995*

Microcystic adnexal carcinoma *Derm Surg 27:979–984, 2001; JAAD 29:840–845, 1993; AD 122:286–289, 1986*

Mobile encapsulated lipoma

Neurilemmoma (schwannoma) – yellowish nodules of head and neck *Rook p.2363, 1998, Sixth Edition*

Nevus lipomatosis superficialis *Cutis 72:237–238, 2003; Int J Dermatol 14:273–276, 1975*

Nevus sebaceus *JAAD 18:429, 1988*

Oncocytoma – benign tumor of oxyphil epithelial cells; bright red or yellow papule of eyelid *Arch Ophthalmol 102:263–265, 1984*

Osteochondroma – white–yellow nodule *Derm Surg 27:591–593, 2001*

Pilomatrixomas

Progressive nodular histiocytomas – yellow-brown papules *BJD 146:138–140, 2002; BJD 143:678–679, 2000; JAAD 29:278–280, 1993; AD 114:1505–1508, 1978*

Reticulohistiocytoma – yellow papule *JAAD 46:801, 2002*

Sebaceous adenoma *J Cutan Pathol 11:396–414, 1984;* introral *J Ral Surg 26:593–595, 1968*

Sebaceous carcinoma *Br J Ophthalmol 82:1049–1055, 1998; Br J Plast Surg 48:93–96, 1995; JAAD 25:685–690, 1991; J Derm Surg Oncol 11:260–264, 1985*

Sebaceous epithelioma *JAAD 34:47–50, 1996; AD 89:711, 1964*

Sebaceous hyperplasia of the face *Rook p.1982, 1998, Sixth Edition*; of the vulva *Obstet Gynecol 68:63S-65S, 1986*

Seborrheic keratosis

Smooth muscle hamartoma

Spitz nevus

Syringomas, including eruptive syringomas *AD 121:756, 1985*

Trichoepithelioma – single or multiple *AD 68:517, 1953*

## PARANEOPLASTIC DISORDERS

Eruptive xanthogranulomas and hematologic malignancies *JAAD 50:976–978, 2004*

Necrobiotic xanthogranuloma with paraproteinemia – yellow–red plaques; prominent periorbital lesions *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.141, 1999; JAAD 29:466–469, 1993; AD 125:287–292, 1992; JAAD 3:257–270, 1983*

Normolipemic plane xanthomas – multiple myeloma; Castleman's syndrome *JAAD 39:439–442, 1998; JAAD 26:105–109, 1991;* non-Hodgkin's lymphoma *JAAD 49:119–122, 2003;* paraproteinemia *JAAD 49:119–122, 2003*

## PHOTODERMATOSES

Actinic granuloma

Dermatoheliosis (solar or actinic elastosis) (sun damage; basophilic alteration of collagen) *JAAD 51:1–21, 2004; Rook p.2027, 1998, Sixth Edition*

Dubreuhl's elastoma *JAAD 32:1016–1024, 1995*

Favre–Racouchot syndrome (nodular elastosis with cysts and comedones) *JAAD 51:1–21, 2004*

Keratoelastoidosis marginalis (degenerative collagenous plaques of the hands) *JAAD 51:1–21, 2004*; *AD 82:362–366, 1960*

Solar elastotic bands – forearms *JAAD 15:650–656, 1986*

## PRIMARY CUTANEOUS DISEASE

Atopic dermatitis – normolipemic papular xanthomas in erythrodermic atopic dermatitis *JAAD 32:326–333, 1995*

Elastosis perforans serpiginosa with pseudoxanthoma elasticum-like changes in Moya–Moya disease (bilateral stenosis and occlusion of basa intracranial vessels and carotid arteries) *BJD 153:431–434, 2005*

Erythema elevatum diutinum *Medicine (Baltimore) 56:443–455, 1977; BJD 67:121–145, 1955*

Focal acral hyperkeratosis – yellow papules on lateral aspect of palms *AD 132:1365, 1368, 1996*

Fordyce spots (ectopic sebaceous glands) – yellow papules of buccal mucosa, lip, penile shaft *Rook p.1982, 1998, Sixth Edition;* areola of nipple *J Dermatol 21:524–526, 1994*

Granuloma annulare – disseminated *Rook p.2300–2301, 1998, Sixth Edition; JAAD 3:217–230, 1980;* perforating granuloma annulare *BJD 147:1026–1028, 2002*

Hereditary papulotranslucent acrokeratoderma *Cutis 61:29–30, 1998*

Late-onset focal dermal elastosis – yellow papules of thighs and lower abdomen; peau d'orange appearance of neck, thighs, groin, axillae, antecubital and popliteal fossae in older men *JAAD 51:1–21, 2004; BJD 133:303–305, 1995*

Lichen planus of the palms and soles *Rook p.1904–1912, 1998, Sixth Edition*

Linear focal elastosis – linear yellow bands of lumbosacral area, lower legs, or face in older men *BJD 145:188–190, 2001; JAAD 36:301–303, 1997; AD 127:1365–1368, 1991;*

Papular elastorrhexis *AD 123:433–434, 1987*

Periumbilical perforating pseudoxanthoma elasticum – yellow macules and papules *JAAD 51:1–21, 2004; JAAD 26:642–644, 1992; AD 115:300–303, 1979*

Pingueculae

Waxy keratoses of childhood (disseminated hypopigmented keratoses) – generalized dome-shaped yellow or skin-colored keratotic papules *Ped Derm 18:415–416, 2001; Clin Exp Dermatol 19:173–176, 1994*

Xanthoerythroderma perstans *JAAD 36:301–303, 1997; Cutis 60:41–42, 1997*

## SYNDROMES

Alagille syndrome – obstructive cholestatic liver disease – tendinous, planar, and tuberous xanthomas; xanthomas of palmar creases, extensor fingers, nape of neck; growth retardation, delayed puberty *Ped Derm 22:11–14, 2005; Ped Derm 17:447–449, 2000*

Benign symmetric lipomatosis (Madelung's disease) *SMJ 79:1023, 1986*

Birt Hogg–Dube syndrome – fibrofolliculomas – autosomal dominant; white or yellow facial and nose papules *AD 135:1195–1202, 1999; AD 133:1161–1166, 1997; JAAD 16:452–457, 1987*

Buschke–Ollendorff syndrome (dermatofibrosis lenticularis disseminata) – connective tissue nevi and osteopoikilosis; single or multiple yellow, white, or skin-colored papules, nodules, plaques of extremities; skin-colored to yellow papules *Ped Derm 22:133–137, 2005; JAAD 49:1163–1166, 2003; JAAD 48:600–601, 2003; BJD 144:890–893, 2001;* juvenile elastoma; large yellowish nodules and plaques *Clin Exp Dermatol 7:109–113, 1982*

CHILD syndrome – congenital hemidysplasia, ichthyosis, limb defects, ichthyosiform erythroderma with verruciform xanthoma, linear eruptions, and hypopigmented bands; fingertip nodules (verruciform xanthomas) *JAAD 50:S31–33, 2004; Ped Derm 15:360–366, 1998;* xanthomatous pattern *Dermatologica 180:263–266, 1990*

Congenital self-healing reticulohistiocytosis *JAAD 11:447–454, 1984*

Cowden's syndrome

Ehlers–Danlos syndrome

Encephalocranial lipomatosis – linear yellow papules of forehead extending to eyelids; ophthalmologic manifestations; seizures, mental retardation; mandibular or maxillary ossifying fibromas and odontomas *Ped Derm 22:206–209, 2005*; alopecia, scalp nodules, skin-colored nodules, facial and eyelid papules – lipomas and fibrolipomas *JAAD 37:102–104, 1998; JAAD 32:387–389, 1995*

Farber's disease (lipogranulomatosis) – xanthoma-like papules of face and hands *Textbook of Neonatal Dermatology, p.445, 2001*

Francois syndrome (idiopathic carpotarsal osteolysis) – xanthoma-like nodules of hands, elbows, and face, gingival hyperplasia, osteochondrodystrophy, bilateral corneal dystrophy

Goltz's syndrome (focal dermal hypoplasia) – asymmetric linear and reticulated streaks of atrophy and telangiectasia; yellow–red nodules; raspberry-like papillomas of lips, perineum, acrally, at perineum, buccal mucosa; xerosis; scalp and pubic hair sparse and brittle; short stature; asymmetric face; syndactyly, polydactyly; ocular, dental, and skeletal abnormalities with osteopathia striata of long bones *JAAD 25:879–881, 1991*

Hereditary progressive mucinous histiocytosis – yellow dome-shaped papules of face, gingiva, hard palate *BJD 141:1101–1105, 1999*

Lipoid granulomatosis – Erdheim–Chester disease – periorbital yellow papules *JAAD 37:839–842, 1997*

Lipoid proteinosis – yellow–white papules of tongue, lips, pharynx *Int J Derm 39:203–204, 2000;* xanthoma-like nodules of elbows *Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Muir–Torre syndrome – autosomal dominant; sebaceous adenomas, sebaceous carcinomas, keratoacanthomas *Cutis 75:149–155, 2005*; Curr *Prob Derm 14:41–70, 2002; BJD 136:913–917, 1997; JAAD 33:90–104, 1995; JAAD 10:803–817, 1984; AD 98:549–551, 1968; Br J Surg 54:191–195, 1967*

Multicentric reticulohistiocytosis – yellow papules and plaques *Rook p.2325–2326, 1998, Sixth Edition; Oral Surg Oral Med Oral Pathol 65:721–725, 1988*; *Pathology 17:601–608, 1985; JAAD 11:713–723, 1984; AD 97:543–547, 1968*

Multiple mucosal neuroma syndrome (MEN IIB) – yellow to skin-colored papules and nodules of oral mucosa, tongue, eyelids, conjunctivae *JAAD 36:296–300, 1997; Oral Surg 51:516–523, 1981; J Pediatr 86:77–83, 1975; Am J Med 31:163–166, 1961*

Niemann–Pick disease – autosomal recessive; sphingomyelinase deficiency; waxy induration with transient xanthomas overlying enlarged cervical lymph nodes *Medicine 37:1–95, 1958*

Oculocutaneous albinism

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus (nevus sebaceus) and a papular speckled lentiginous nevus *Skin and Allergy News, page 34, Sept 2000*

Proteus syndrome – sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face,

limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983* Pseudoxanthoma elasticum *AD 124:1559, 1988; JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999*; PXE and acrosclerosis *Proc Roy Soc Med 70:567–570, 1977*

Pseudoxanthoma elasticum-like lesions
- Beta thalassemia *JAAD 44:33–39, 2001*
- Calcinosis – idiopathic, tumoral calcinosis, calciphylaxis *JAAD 44:33–39, 2001*
- Cutis laxa *JAAD 44:33–39, 2001*
- Focal dermal elastolysis *JAAD 27:113–115, 1992*
- Hyperphosphatemia *JAAD 44:33–39, 2001*
- Periumbilical perforating PXE *AD 132:224–225, 227–228, 1996; JAAD 19:384–388, 1988; AD 121:1321, 1985*
- PXE-like lesions in eosinophilia myalgia syndrome *JAAD 24:657–658, 1991*
- PXE-like papillary dermal elastolysis (upper dermal elastolysis) – yellow papules of neck with coarse furrows or wrinkles *JAAD 51:165–185, 2004; AD 136:791–796, 2000; JAAD 26:648–650, 1992*
- PXE-like papillary mid-dermal elastolysis – yellowish–white papules resembling PXE on neck and supraclavicular areas of elderly people (photoaging) *JAAD 47:S189–192, 2002; JAAD 28:938–942, 1993; JAAD 26:648–650, 1992*
- Saltpeter ingestion *JAAD 44:33–39, 2001*
- Elastosis perforans serpiginosa with PXE

Refsum's disease – melanocytic nevi may be yellow due to lipids

Rothmund–Thomson syndrome – calcinosis cutis *JAAD 33:693–706, 1995*

Steatocystoma multiplex

Xanthogranulomas – syndrome of juvenile xanthogranuloma, neurofibromatosis type I, and juvenile chronic myelogenous leukemia *JAAD 36:355–367, 1997; Cutis 11:499–501, 1973;* in the adult *Clin Exp Dermatol 18:462–463, 1993*

Yellow nail syndrome

### TOXINS

Arsenical keratoses of palms *Cancer 312–339, 1968*

Eosinophilia myalgia syndrome – L-tryptophan; PXE-like lesions *JAAD 24:657–658, 1991; Dermatologica 183:57–61, 1991*

Toxic oil syndrome – rapeseed oil denatured with aniline; early see morbilliform exanthem then yellow or brown papules *JAAD 18:313–324, 1988*

### TRAUMA

Piezogenic pedal papules *AD 106:597–598, 1972*

### VASCULAR DISEASES

Angioendotheliomatosis *JAAD 13:903–908, 1985*

Angiosarcoma – yellow plaques of eyelids *JAAD 34:308–310, 1996*

Chylous lymphedema – xanthomas of toes and feet *BJD 146:134–137, 2002*

Lymphangioma circumscriptum

Lymphedema – xanthomas associated with lymphedema *JAMA 211:1372–1374, 1970*

Wegener's granulomatosis – yellow eyelid papules (florid xanthelasmata) *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.167, 1999; JAAD 37:839–842, 1997; Br J Ophthalmol 79:453–456, 1995*

## YELLOW PLAQUE

### CONGENITAL DISORDERS

Nasal dermoid cyst – congenital ill-defined yellow plaque *Ped Derm Soc Annual Meeting, July, 2005*

### DRUG-INDUCED

Corticosteroid atrophy

Penicillamine *JAAD 30:103–107, 1994*

### EXOGENOUS AGENTS

Exogenous calcium – EEG or EMG paste *AD 89:360–363, 1964*

Saltpeter – acquired pseudoxanthoma elasticum – farmers exposed to saltpeter (calcium-ammonium-nitrate salts); antecubital fossa; yellow macules and papules *JAAD 51:1–21, 2004; Acta DV 78:153–154, 1998; Acta DV 58:319–321, 1978*

Titanium dioxide-induced plane xanthoma-like lesions *AD 121:656–658, 1985*

### INFECTIONS AND INFESTATIONS

*Mycobacterium tuberculosis* – lupus vulgaris; starts as red–brown plaque, enlarges with serpiginous margin or as discoid plaques; apple-jelly nodules; tumor-like forms – deeply infiltrative; soft smooth nodules or red–yellow hypertrophic plaque; head, neck, around nose, extremities, trunk *Int J Dermatol 26:578–581, 1987; Acta Tuberc Scand 39 (Suppl 49):1–137, 1960*

### INFILTRATIVE DISEASES

Amyloidosis – xanthoma-like lesions *BJ Clin Pract 27:271–273, 1973;* plane xanthoma-like dermatosis in primary systemic amyloidosis (amyloid elastosis) *BJD 148:154–159, 2003*

Colloid milium *Clin Exp Dermatol 18:347–350, 1993; BJD 125:80–81, 1991;* juvenile colloid milium – yellow facial plaques *JAAD 49:1185–1188, 2003*

Mastocytosis – xanthelasmoidea *BJD 144:355–358, 2001; Med Chir Trans 66:329–347, 1883*

Verruciform xanthoma of scrotum – yellow cauliflower-like appearance *J Dermatol 16:397–401, 1989*

Xanthogranuloma – juvenile xanthogranuloma *JAAD 36:355–367, 1997*

### INFLAMMATORY DISEASES

Sarcoidosis – necrobiosis lipoidica-like lesions *J Dermatol 25:653–656, 1998*

### METABOLIC

Calcinosis cutis – yellow reticulated plaques *JAAD 49:1131–1136, 2003*

Necrobiosis lipoidica diabeticorum *Int J Derm 33:605–617, 1994; JAAD 18:530–537, 1988*

Osteoma cutis – ulcerating yellow–white plaques *BJD 146:1075–1080, 2002*

Plane xanthomas – normolipemic plane xanthomas *AD 114:425–431, 1978; BJD 93:407–415, 1975;* normolipemic plane xanthomas in AIDS *BJD 142:571–573, 2000; Am J Surg Pathol 21:54–549, 1997;* associated with type III dysbetalipoproteinemia *Rook p.2605, 1998, Sixth Edition*

Pretibial myxedema *Rook p.2707, 1998, Sixth Edition*

Xanthelasma *Rook p.2605, 1998, Sixth Edition*

### NEOPLASTIC

Atypical lymphoid infiltrate (hyperplasia) – xanthelasma-like periorbital plaque *JAAD 37:839–842, 1997*

Basaloid follicular hamartoma – yellow plaque *AD 129:915–917, 1993*

Connective tissue nevus

Epidermal nevus

Lymphoma – $CD30^+$ T-cell lymphoma – yellow plaque after radiotherapy *JAAD 48:S28–30, 2003*

Microcystic adnexal tumor – yellow plaque *Sem Cut Med Surg 21:159–165, 2002; Derm Surg 27:979–984, 2001*

Nevus sebaceus *BJD 82:99–117, 1970*

Seborrheic keratosis

### PARANEOPLASTIC DISEASES

Necrobiotic xanthogranuloma with paraproteinemia *Medicine* (*Baltimore*) *65:376–388, 1986; BJD 113:339–343, 1985; JAAD 3:257–270, 1980*

### PRIMARY CUTANEOUS DISEASES

Linear focal elastosis – yellow linear bands on lower back of elderly men *JAAD 20:633–636, 1989; JAAD 36:301–303, 1997*

Pityriasis rubra pilaris – hyperkeratotic yellow palms and soles *Rook p.1541, 1998, Sixth Edition*

### SYNDROMES

Encephalocranial lipomatosis – lipomas with overlying alopecia, scalp nodules, skin-colored nodules, facial and eyelid papules and nodules; lipomas and fibrolipomas; organoid nevi (nevus sebaceus) *JAAD 47:S196–200, 2002*

Neutrophilic dermatosis (pustular vasculitis) of the dorsal hands – variant of Sweet's syndrome – ulcerated yellow plaque *AD 138:361–365, 2002*

Proteus syndrome – port wine stains, subcutaneous hemangiomas and lymphangiomas, lymphangioma circumscriptum, hemihypertrophy of the face, limbs, trunk; macrodactyly, cerebriform hypertrophy of palmar and/or plantar surfaces, macrocephaly; verrucous epidermal nevi, sebaceous nevi with hyper- or hypopigmentation *Am J Med Genet 27:99–117, 1987;* vascular nevi, soft subcutaneous masses; lipodystrophy, café au lait macules, linear and whorled macular pigmentation *Am J Med Genet 27:87–97, 1987; Pediatrics 76:984–989, 1985; Eur J Pediatr 140:5–12, 1983*

Pseudoxanthoma elasticum – linear and reticulated yellow papules and plaques *JAAD 42:324–328, 2000; Dermatology 199:3–7, 1999; AD 124:1559, 1988*

### VASCULAR DISORDERS

Acquired progressive lymphangioma – brown, red, violaceous, yellow, or apple-jelly plaque; plantar red plaques *JAAD 49:S250–251, 2003*

Chylous reflux – from dilated chylous vesicles (lymphatics); yellow/cream-colored verrucous plaques *Rook p.2296, 1998, Sixth Edition*

## YELLOW SKIN

***Cutis 412:100–102, 1988***

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Morphea

Rheumatoid arthritis *Ghatan p.172, 2002, Second Edition*

Urticaria with jaundice *Cutis 70:41–44, 2002*

### DRUG-INDUCED

Atabrine (mepacrine) – greenish–yellow pigmentation of face, hands, feet; then diffuse *Am J Med Sci 192:645–650, 1936*

Gold therapy – yellow nails *BJD 145:855–856, 2001*

Penicillamine – yellow nails *Ghatan p.79, 2002, Second Edition*

Quinacrine *Cutis 71:441–442, 448, 2003*

### EXOGENOUS AGENTS

Acriflavine

Amphotericin B – yellow nails *Ghatan p.79, 2002, Second Edition*

Aniline dye – yellow stain *AD 121:1022–1027, 1985*

Anthralin – yellow hair *Rook p.2965, 1998, Sixth Edition*

Carotenemia – carrots, squash, spinach *JAAD 43:1–16, 2000; JAMA 73:1743–1745, 1919;* beta carotene – yellow skin; yellow nails *Ghatan p.79, 2002, Second Edition*

Cigarette smoke – yellow hair *Rook p.2965, 1998, Sixth Edition;* yellow forelock; yellow–brown fingers

Dinitrophenols *Cutis 71:441–442, 448, 2003*

Fluorescein by intravenous injection *Cutis 63:103–106, 1999*

Insecticides – yellow lunulae
- Dinitroorthocresol
- Diquat and paraquat

Kava dermopathy – xerosis with scaly yellow pigmentation *JAAD 53:S105–107, 2005; JAAD 31:89, 1994*

Lycopene – tomatoes, rose hips, bittersweet berries; deep orange *JAAD 43:1–16, 2000; NEJM 262:263–269, 1960*

Man–Tan palms (dihydroxyacetone)

Nail hardener

Nail polish *Rook p.2866, 1998, Sixth Edition*

Nicotine – yellow nails *Ghatan p.79, 2002, Second Edition*

Picric acid – yellow skin and hair *Cutis 71:441–442, 448, 2003; Rook p.2965, 1998, Sixth Edition*

Resorcin – stains hair yellow *Rook p.2965, 1998, Sixth Edition*

Saffron *Cutis 71:441–442, 448, 2003*

Santonin

Tar – yellow nails *Ghatan p.79, 2002, Second Edition*

Tetracycline – yellow nails, lunulae *Ghatan p.79,80, 2002, Second Edition*

Tetryl acid

Trinitrotoluene *Rook p.2965, 1998, Sixth Edition*

### INFECTIONS AND INFESTATIONS

*Candida albicans* – yellow nails *Ghatan p.79, 2002, Second Edition*

Hepatitis B – urticaria with jaundice (yellow hives)

Millipedes – yellow–brown stain on contact

Onychomycosis – yellow nails *Ghatan p.79, 2002, Second Edition*

### INFILTRATIVE DISEASES

Colloid milium

Mastocytosis, including urticaria pigmentosum; diffuse cutaneous mastocytosis (xanthelasmoidea) (pseudoxanthomatous mastocytosis) *BJD 65:296–297, 1963*

### METABOLIC DISEASES

Carotenemia – food faddists, hyperlipidemia, diabetes, chronic renal disease, hypothyroidism *Rook p.1810,2656, 1998, Sixth Edition*

Diabetes mellitus – carotenemia *Cutis 71:441–442,448, 2003*

Gaucher's disease type I – yellow–brown pigmentation

Hyperbilirubinemia (jaundice) *JAAD 43:1–16, 2000;* yellow nails *Ghatan p.79, 2002, Second Edition*

Hyperlipidemia

Hypopituitarism – yellow tinge to skin with pallor *Rook p.2704–2705, 1998, Sixth Edition;* Sheehan's syndrome – yellow, dry skin *Rook p.2914, 1998, Sixth Edition*

Hypothyroidism; myxedema – ivory yellow skin color *JAAD 26:885–902, 1992;* carotenemia prominent on palms and soles and nasolabial folds *JAAD 48:641–659, 2003;* congenital hypothyroidism

Lycopenia

Necrobiosis lipoidica diabeticorum

Riboflavinemia *NEJM 294:177–183, 1976*

Uremia *Ghatan p.177, 2002, Second Edition*

Vitamin A intoxication – yellow–orange skin *JAAD 4:675–682, 1982*

Vitamin $B_{12}$ deficiency

### NEOPLASTIC DISEASES

Nevus lipomatosis superficialis

### PARANEOPLASTIC DISEASES

Normolipemic plane xanthomas

Myeloma with xanthoderma – IgG lambda monoclonal anti-flavin antibody *NEJM 294:177–183, 1976*

### PHOTODERMATOSES

Nodular elastoidosis – yellow furrowed skin with large folds *Ghatan p.202, 2002, Second Edition*

### PRIMARY CUTANEOUS DISEASES

Aplasia cutis congenita

Collodion baby (lamellar desquamation of the newborn) *Rook p.1494, 1998, Sixth Edition*

Epidermolysis bullosa, junctional – letalis (atrophicans generalisata gravis, Herlitz type) – extensive blistering and erosions at birth; yellow teeth *Rook p.1828–1829, 1998, Sixth Edition*

Harlequin fetus (ichthyosis congenital fetalis) – severe non-bullous ichthyosiform erythroderma or mild erythrodermic ichthyosis *JAAD 212:335–339, 1989; Ped Derm 6:216–221, 1989; Int J Derm 21:347–348, 1982*

Linear focal elastosis *AD 127:1365–1368, 1991*

Pityriasis rubra pilaris – yellow tinge to skin; hyperkeratotic yellow palms and soles *Rook p.1541, 1998, Sixth Edition*

Unna–Thost palmoplantar keratoderma – diffuse non-epidermolytic palmoplantar keratoderma – autosomal dominant; mutations in keratin 16 *Hum Mol Genet 4:1875–1881, 1995;* mutation in keratin 1 *JID 103:764–769, 1994*

Xanthoerythroderma perstans *Cutis 60:41–42, 1997*

### PSYCHOCUTANEOUS DISORDERS

Anorexia nervosa – carotenemia *Rook p.2795, 1998, Sixth Edition*

### SYNDROMES

Alagille syndrome

Albinism – oculocutaneous albinism

Eosinophilia myalgia syndrome

Lipoid proteinosis *Rook p.2641, 1998, Sixth Edition; Acta Paediatr 85:1003–1005, 1996; JAAD 27:293–297, 1992*

Niemann–Pick disease

Osteogenesis imperfecta – yellow teeth *JAAD 46:161–183, 2002*

Pseudoxanthoma elasticum – cutaneous and oral yellow patches and plaques

ROMBO syndrome – yellow tone to skin

Sjögren–Larsson syndrome – ichthyosis, mental retardation, spastic diplegia, short stature, kyphoscoliosis, retinal changes, yellow pigmentation, intertrigo *JAAD 35:678–684, 1996*

Yellow nail syndrome *JAAD 22:608–611, 1990; BJD 76:153–157, 1964*

### TRAUMA

Post-surgical bile leakage – demarcation of yellow skin to flanks and groin bilaterally due to retroperitoneal bile leakage after cholecystectomy *Ann Intern Med 142:389–340, 2005*

### VASCULAR DISEASES

Ecchymoses, resolving

Lymphedema – yellow nails *Ghatan p.79, 2002, Second Edition*

## ZEBRA STRIPES (ZEBRA-LIKE PIGMENTATION)

### AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – cactus, biking pants, poison ivy

Bullous pemphigoid – erythema gyratum repens-like pemphigoid *BJD 96:343, 1977*

Dermatomyositis – centripetal flagellate erythema *J Rheumatol 26:692–695, 1999; Clin Exp Dermatol 21:440–441, 1996;* Wong type dermatomyositis

Still's disease in the adult – brown coalescent scaly papules; persistent psoriasiform papular lesions *JAAD 52:1003–1008, 2005*

## CONGENITAL DISORDERS

Dysmature or small-for-dates neonates vernix caseosa – 'crazed' with long transverse splits on the trunk which peels *Rook p.454, 1998, Sixth Edition*

Horizonatal neonatal linear hyperpigmentation of creases of abdomen and knees *Eichenfeld p.98, 2001*

## DRUG-INDUCED

Bleomycin – flagellate erythema and hyperpigmentation *Clin Exp Dermatol 16:216–217, 1991; AD 123:393–398, 1987; JAAD 13:464,1985*

Corticosteroid (topical)-induced striae *Rook p.2006–2007, 1998, Sixth Edition*

Docetaxel chemotherapy – transverse nail bands *AD 133:1466–1467, 1997*

5-Fluorouracil serpentine hyperpigmentation *JAAD 25:905-908, 1991*

## EXOGENOUS AGENTS

Aquagenic wrinkling of palms *Ped Derm 21:180, 2004*

Argon laser depigmentation after treatment of poikiloderma of Civatte *AD 121:714, 1985*

Collier's stripes

Coral dermatitis; Red sea coral granulomatous reaction *BJD 145:849–851, 2001*

Explosion tattoo *JAAD 50:479–480, 2004*

Gravel tattoo

Rubber – elastic biking suit depigmentation

Tefillin dermatitis *JAAD 32:812–813, 1995*

## INFECTIONS AND INFESTATIONS

Coelenterate envenomation – acute jellyfish stings (cnidarian envenomation); recurrent eruptions following coelenterate envenomation *The Clinical Management of Itching; Parthenon Publishing, p.xiii, 2000; JAAD 17:86–92, 1987*

Herpes simplex infection

Larva currens – *Strongyloides*

Lyme disease – recurrent erythema migrans *AD 129:709–716, 1993*

Oral hairy leukoplakia – AIDS-associated lesion; Epstein–Barr virus *JAAD 22:79–86, 1990;* also seen in immunosuppressed *BJD 124:483–486, 1991;* and immunocompetent patients *Oral Surg Oral Med Oral Pathol 74:332–333, 1992*

Syphilis – secondary syphilis mimicking oral hairy leukoplakia *JAAD 49:749–751, 2003*

## INFILTRATIVE DISEASES

Amyloidosis, macular *Rook p.2628–2630, 1998, Sixth Edition; AD 133:381–386, 1997; BJD 84:199–209, 1971;* primary systemic – linear striations of nails *Rook p.2633, 1998, Sixth Edition;* lichen amyloidosis

Lichen myxedematosis

Localized lichen myxedematosus (papular mucinosis) in morbid obesity *BJD 148:165–168, 2003*

Mastocytosis – diffuse cutaneous mastocytosis (xanthelasmoidea) (pseudoxanthomatous mastocytosis) – exaggeration of skin folds in axillae and inguinal creases *Rook p.2342, 1998, Sixth Edition; BJD 65:296–297, 1963*

Scleromyxedema – zebra stripe striations of forehead *JAAD 44:273–281, 2001; Rook p.2626–2617, 1998, Sixth Edition; JAAD 33:37–43, 1995*

Self-healing juvenile cutaneous mucinosis *Ann Derm Vener 107:51–57, 1980; JAAD 11:327–332, 1984*

## METABOLIC DISEASES

Acrodermatitis enteropathica or acquired zinc deficiency – linear bullae in palmar creases *Rook p.2670, 1998, Sixth Edition*

Calcinosis cutis – iatrogenic metastatic calcinosis cutis *Ped Derm 20:225–228, 2003*

Pregnancy – pigmentary demarcation lines of pregnancy *Cutis 38:263–266, 1986*

Pruritic urticarial papules and plaques of pregnancy *JAAD 39:933–939, 1998; JAAD 10:473–480, 1984; Clin Exp Dermatol 7:65–73, 1982; JAMA 241:1696–1699, 1979*

Scurvy in AIDS – petechial zebra stripes *JAAD 13:845–852, 1985*

## NEOPLASTIC DISEASES

Epidermal nevus, including epidermal nevus syndrome

Lymphoma – cutaneous T-cell lymphoma; small to medium-sized pleomorphic T-cell lymphoma *JAAD 46:531–535, 2002*

Seborrheic keratoses – eruptive linear seborrheic keratoses *JAAD 18:1316–1321, 1988*

Syringomas – peri-axillary *AD 140:1161–1166, 2004*

## PARANEOPLASTIC DISEASES

Erythema gyratum repens *JAAD 12:911–913, 1985*

Tripe palms *J Clin Oncol 7:669–678, 1989; JAAD 16:217–219, 1987*

## PHOTODERMATITIS

Berloque dermatitis

Cutis rhomboidalis nuchae

Phytophotodermatitis – linear and bullous lesions *Rook p.790, 1998, Sixth Edition;* meadow dermatitis (Umbelliferae) *Rook p.796, 1998, Sixth Edition*

Poikiloderma of Civatte

Striated beaded lines (dermatoheliosis) *JAAD 32:1016–1024, 1995*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans *JAAD 21:461–469, 1989*

Adolescent onset ichthyosiform erythroderma *BJD 144:1063–1066, 2001*

Confluent and reticulated papillomatosis

Congenital cutis laxa *Atlantic Dermatological Society Meeting May 1994*

Congenital ichthyosiform dermatosis with linear keratotic flexural papules and sclerosing palmoplantar keratoderma *AD 125:103–106, 1989*

Digitate dermatosis *Cutis 49:457–458, 1991*

Epidermolytic hyperkeratosis *Cutis 47:277–280, 1991*

Erythema cracquele (asteatotic dermatitis)

Harlequin ichthyosis *JAAD 21:999–1006, 1989*

Ichthyosis – X-linked ichthyosis

Juxta-clavicular beaded lines

Keratosis lichenoides chronica *JAAD 37:263–264, 1997*

Leukonychia striata

Lichen striatus *Rook p.670–671, 1998, Sixth Edition; Int J Dermatol 25:584–585, 1986*

Linear focal elastosis *BJD 145:188–190, 2001; JAAD 30:874–877, 1994; AD 127:1365–1368, 1991; JAAD 20:633–636, 1989*

Linear and whorled nevoid hypermelanosis

Mid-dermal elastolysis

Notalgia paresthetica

Papuloerythroderma of Ofuji *Clin Exp Dermatol 25:293–295, 2000; Clin Exp Dermatol 23:79–83, 1998; JAAD 26:499–501, 1992;* in CTCL *J Dermatol 25:185–189, 1998; JAAD 20:927–931, 1989*

Parakeratosis variegata (retiform parapsoriasis)

Pigmentary lines of the newborn *JAAD 28:893, 1993*

Pityriasis rubra pilaris

Poikiloderma vasculare atrophicans

Pseudoxanthoma elasticum

Psoriasis with tripe palms *Clin Exp Dermatol 5:181–189, 1980*

Raised limb bands *BJD 149:436–437, 2003; BJD 147:359–363, 2002*

Reticulated pigmented anomaly of the flexures (Dowling–Degos disease)

Striae distensae (striae atrophicans) *Rook p.2004,2008, 1998, Sixth Edition*

Striate palmoplantar keratoderma *Cutis 61:18–20, 1998*

Striped hyperpigmentation of the torso *Textbook of Neonatal Dermatology, p.379, 2001*

Terra firme

## PSYCHOCUTANEOUS DISEASES

Factitial dermatitis

Neurotic excoriations

## SYNDROMES

Basaloid follicular hamartoma syndrome – multiple skin-colored, red, and hyperpigmented papules of the face, neck chest, back, proximal extremities, and eyelids; syndrome includes milia-like cysts, comedones, sparse scalp hair, palmar pits, and parallel bands of papules of the neck (zebra stripes) *JAAD 43:189–206, 2000*

Beare–Stevenson cutis gyrata syndrome – localized redundant skin of scalp, forehead, face, neck, palms, and soles, acanthosis nigricans, craniofacial anomalies, anogenital anomalies, skin tags, and large umbilical stump; bifid uvula *Ped Derm 20:358–360, 2003; Am J Med Genet 44:82–89, 1992*

Buschke–Ollendorff syndrome – connective tissue nevi and osteopoikilosis; single or multiple yellow, white, or skin-colored papules, nodules, plaques of extremities; skin-colored to yellow papules *JAAD 49:1163–1166, 2003*

Conradi–Hünermann syndrome *AD 130:325–333, 1994; JAAD 21:248–256, 1989*

Cutis laxa type II – autosomal recessive; parallel strips of redundant skin of back *Ped Derm 21:167–170, 2004*

Goltz's syndrome – streaky telangiectatic atrophic patches

Hypotrichosis, striate, reticulated pitted palmoplantar keratoderma, acro-osteolysis, psoriasiform plaques, lingua plicata, ventricular arrhythmias, periodontitis *BJD 147:575–581, 2002*

Keratosis–ichthyosis–deafness (KID) syndrome – ichthyotic elbows *JAAD 19:1124–1126, 1988*

Multile endocrine neoplasia syndrome type 2A (MEN 2A) (multiple mucosal neuroma syndrome) – macular or lichen amyloidosis occur in more than one-third of patients with MEN 2A (Sipple's syndrome) *Clin Endocrinol 59:156–161, 2003;* linear cutaneous neuromas with striated pigment in Sipple's syndrome (MEN 2A) *J Cut Path 14:43, 1972*

Reticulated erythematous mucinosis (REM) syndrome

Sjögren–Larsson syndrome

Trichothiodystrophy – curly wood and tiger tails of hair under polarized light *AD 139:1189–1192, 2003;* also may be seen with loose anagen syndrome, argininosuccinicaciduria, pseudopili annulati; rarely seen in normal infants

## TOXINS

Eosinophilia myalgia syndrome – L-tryptophan

Mee's lines – arsenic poisoning *JAAD 50:258–261, 2004*

## TRAUMA

Child abuse – burn from heating grill *Rook p.954, 1998, Sixth Edition;* zebra stripe sparing of skin folds *AD 138:318–320, 2002*

Coin rubbing

Excoriations

Facial scarification and tattooing on Santa Catalina Island (Solomon Islands) *Cutis 60:201–202, 1997*

Frictional melanosis *Acta DV 1063, 1984*

Forceps marks of face *Eichenfeld p.106, 2001*

Nail habit tic deformity *Rook p.2839, 1998, Sixth Edition*

Scars

Splash burn

## VASCULAR

Hemosiderin staining

Lymphangitis

Lymphedema tarda

Sunburst varicosities and telangiectasia (arborizing telangiectasia) – thighs and calves *J Derm Surg Oncol 15:184–190, 1989*

Superior vena cava syndrome *AD 128:953–956, 1992*

# ZOSTERIFORM LESIONS/SEGMENTAL DISORDERS

## AUTOIMMUNE DISEASES, AND DISEASES OF IMMUNE DYSFUNCTION

Allergic contact dermatitis – poison ivy (unilateral); at site of healed herpes zoster *Int J Derm 34:341–348, 1995*

Graft vs. host disease, chronic – occurring on lesions of resolved herpes zoster *AD 138:924–934, 2002;* lichenoid *JAAD 38:369–392, 1998; AD 134:602–612, 1998; J Cutan Pathol 23:576–581, 1996;* linear lichenoid graft vs. host reaction *AD 130:1206–1207, 1994*; *South Med J 87:758–761, 1994*

Lupus erythematosus – discoid lupus erythematosus

Morphea, linear; including en coup de sabre – facial, truncal, and extremity hemiatrophy *Rook p.2504–2508, 1998, Sixth Edition;* at site of healed herpes zoster *JAAD 46:90–94, 2002*

Rheumatoid nodules *Int J Derm 27:645–646, 1988*

Scleroderma *AD 144:1215–1217, 1978*

## CONGENITAL LESIONS

Congenital segmental dermal melanocytosis *AD 128:521–525, 1992*

Congenital varicella syndrome – unilateral segmental scars, limb hypoplasia, low birth weight, mild mental retardation, cataract, chorioretinitis *Textbook of Neonatal Dermatology, p.206, 2001; Ped Derm 13:341–344, 1996; Lancet i:1547–1550, 1994; Helv Paed Acta 40:399–404, 1985*

## DEGENERATIVE DISEASES

Degenerative joint disease – dermatomal pruritus *J Dermatol 14:512–513, 1987*

## DRUG-INDUCED

5-bromodeoxyuridine – desquamative or erosive dermatitis from intra-arterial 5-bromodeoxyuridine and radiation *JAAD 21:1235–1240, 1989*

Methotrexate photorecall in old herpes zoster

## EXOGENOUS AGENTS

Drinking black tea – dermatomal pruritus *BJD 143:1355–1356, 2000*

## INFECTIONS AND INFESTATIONS

*Aspergillus flavus JAAD 38:488–490, 1998*

Bacillary angiomatosis *Tyring p.324, 2002*

Candidal sepsis

Cellulitis

Condyloma acuminata – at site of healed herpes simplex *Int J Derm 39:705–706, 2000*

Echovirus 6 – zoster-like eruption *AJDC 133:283–284, 1979*

Erysipelas

Furunculosis – at site of healed herpes zoster *Int J Derm 34:341–348, 1995*

Herpes simplex *Tyring p.311, 2002; Cutis 52:99–100, 1993*

Herpes zoster *Tyring p.125–129, 2002;* post-zoster hyperpigmentation; nodules *JAAD 32:908–911, 1995;* chronic ulcerating acyclovir-resistant varicella zoster *Scand J Infect Dis 27:623–625, 1995;* post-herpetic neuralgia; post-herpetic pruritus *Acta DV 76:45–47, 1996*

Eruptions occurring after herpes zoster *JAAD 24:429–433, 1991*
- Allergic contact dermatitis – poison ivy (unilateral); at site of healed herpes zoster *Int J Derm 34:341–348, 1995*
- Comedones (acneform eruption) *AD 133:1316–1317, 1997*
- Furunculosis
- Graft vs. host disease, chronic *AD 138:924–934, 2002*
- Granuloma annulare *JAAD 14:764–770, 1986; Cutis 34:177–179, 1984*
- Granulomatous vasculitis *JAAD 24:429–433, 1991*
- Kaposi's sarcoma *JAAD 18:448–451, 1988*
- Leishmaniasis *AD 133:1316–1317, 1997*
- Lichen planus *AD 38:615–618, 1938*
- Lichen simplex chronicus with syringomyelia *BJD 138:904–927, 1998*
- Lymphocytoplasmoid lymphoma
- Methotrexate photorecall
- Morphea *JAAD 46:90–94, 2002*
- Pseudolymphoma (lymphocytoma cutis) *JAAD 38:877–905, 1998; AD 130:661–663, 1994*
- Psoriasis *BJD 62:314–316, 1950*
- Sarcoidal granuloma *AD 119:788–789, 1983*
- Tinea facei (*Trichophyton rubrum*) *Cutis 60:51–52, 1997*
- Tuberculoid granuloma

Leishmaniasis *Clinics in Derm 14:425–431, 1996*

Leprosy – dermatomal hypopigmented macular lesions *Experientia 39:723–725, 1983*

Lymphangitis

Molluscum contagiosum

Phaeohyphomycosis (*Exserohilum rostratum*) mimicking hemorrhagic herpes zoster *JAAD 25:852–854, 1991*

Schistosomiasis – ectopic cutaneous granuloma – skin-colored papule, 2–3-mm; group to form mamillated plaques; nodules develop with overlying dark pigmentation, scale, and ulceration; zosteriform *Dermatol Clin 7:291–300, 1989; BJD 114:597–602, 1986*

Syphilis *BJD 64:97–103, 1952*

Tinea corporis

Tinea facei (*Trichophyton rubrum*) in healing herpes zoster lesions *Cutis 60:51–52, 1997; Int J Derm 24:539, 1985*

Tinea versicolor

Varicella – congenital varicella syndrome – unilateral segmental scars

Zygomycosis *JAAD 32:357–361, 1995*

## INFILTRATIVE DISEASES

Telangiectasia macularis eruptiva perstans – unilateral of face *JAAD 16:250–252, 1987;* unilateral *Actas Dermatosifiliogr 92:358–361, 2001; Int J Derm 32:123–124, 1993*

## INFLAMMATORY DISEASES

Granulomas in herpes zoster scars *Dermatologica 179:45–46, 1989*

Granulomatous nodules – after mastectomy for breast carcinoma *BJD 146:891–894, 2002*

Pseudolymphoma – at site of healed herpes zoster *AD 117:377, 1981*

Sarcoid *Arch Derm Research 119:788–789, 1983;* sarcoid in herpes zoster scars *AD 119:788–789, 1983*

Tuberculoid granulomas *JAAD 16:1261–1263, 1987*

Zosteriform pruritus – due to transverse myelitis *BJD 149:204–205, 2003*

## METABOLIC DISEASES

Mixed cryoglobulinemia – palpable purpura at site of previous herpes zoster *J Derm 28:256–258, 2001*

Xanthomas *AD 37:864–869, 1957; Arch Int Med 59:793–822, 1937*

## NEOPLASTIC DISEASES

Acantholytic dyskeratotic epidermal nevus *JAAD 39:301–304, 1998*

Achromic nevi *BJD 144:187–188, 2001; JAAD 39:330–333, 1998;* achromic nevus and agminated Spitz nevi simultaneously appearing *BJD 144:187–188, 2001*

Adnexal carcinoma *JAAD 32:854–857, 1995*

Agminated angiofibromas *Dermatology 195:176–178, 1997*

Basal cell carcinoma *JAAD 32:854–857, 1995; BJD 64:97–103, 1952;* multiple familial basal cell carcinomas, segmental *J Dermatol 27:434–439, 2000*

Basaloid follicular hamartoma – unilateral *BJD 146:1068–1070, 2002; J Eur Acad Dermatol Venereol 13:210–213, 1999*

Becker's nevus – dermatomal pigmentation

Blue nevi, acquired *JAAD 36:268–269, 1997*

Cervicothoracic syrinx and thoracic spinal cord tumor – dermatomal lichen simplex chronicus *Neurosurgery 30 (3):418–421, 1992*

Connective tissue nevus *Cutis 36:77–78, 1985*

Eccrine porocarcinoma *JAAD 32:854–857, 1995*

Eccrine spiradenomas *AD 138:973–978, 2002; Ped Derm 17:384–386, 2000; JAAD 2:259–261, 1980*

Epidermal nevus *Ghatan p.45, 2002, Second Edition*

Epithelioid sarcoma *Actas Dermosif 83:203–208, 1992*

Hair follicle hamartoma – unilateral *BJD 143:1103–1105, 2000*

Hemifacial mixed appendageal tumor *Ped Derm 3:405–409, 1986*

Kaposi's sarcoma *JAAD 32:854–857, 1995;* at site of healed herpes zoster *JAAD 18:448–451, 1988*

Keloids – following herpes zoster

Keratoacanthomas – multiple self-healing keratoacanthomas of Ferguson–Smith – one reported unilateral case *AD 74:525–532, 1956*

Leiomyomas *J Dermatol 28:759–761, 2001; Eur J Dermatol 10:590–592, 2000; JAAD 38:272–273, 1998*

Lentiginosis, segmental (unilateral lentiginosis, partial unilateral lentiginosis) *JAAD 44:387–390, 2001; JAAD 43:361–363, 2000; JAAD 29:693–695, 1993; Am J Dermatopathol 14:323–327, 1992;* with ocular involvement *JAAD 44:387–390, 2001*

Lentiginous nevus *BJD 98:693–698, 1978*

Leukemia cutis *BJD 143:773–779, 2000; JAAD 37:1022, 1997; JAAD 32:854–857, 1995; AD Syphilol 37:238–246, 1938*

Lymphomatoid papulosis *BJD 141:1125–1128, 1999*

Lymphoma – cutaneous T-cell lymphoma *Dermatology 205:176–179, 2002; Ped Derm 21:558–560, 2004; JAAD 32:127–128, 1995*; *Int J Derm 30:432–434, 1991;* primary cutaneous B-cell lymphoma *JAAD 41:884–886, 1999;* in herpes zoster scars *JAAD 41:884–886, 1999; Hautarzt 41:455–457, 1990; JAAD 22:130–131, 1990;* lymphoplasmacytoid lymphoma *JAAD 32:854–857, 1995;* B-cell lymphoma *BJD 142:180–182, 2000;* erythrodermic cutaneous T-cell lymphoma with sparing of site of healed herpes zoster *JAAD 123–126, 2004;* Hodgkin's disease *BJD 151:722–724, 2004*

Melanocytic nevi – congenital melanocytic nevus *BJD 133:315–316, 1995;* congenital agminated segmental nevi *BJD 133:315–316, 1995;* melanocytic nevi, nevi, and lentigines *AD 124:926–929, 1988;* atypical nevi *J Dermatol 18:649–653, 1991;* atypical nevi (quadrant distribution of atypical mole syndrome) *AD 124:926–930, 1988*

Melanoma *JAAD 32:854–857, 1995*

Metastases – breast *JAAD 43:733–751, 2000;* colon *BJD 142:182–183, 2000; Acta DV 79:90–91, 1999;* melanoma *Cutis 62:143–146, 1998;* squamous cell carcinoma *BJD 142:573–574, 2000;* lung, ovary, transitional cell carcinoma of the bladder, transitional cell carcinoma of the renal pelvis *JAAD 37:1008–1009, 1997; JAAD 31:284–286, 1994; BJD 45:418–423, 1933;* zosteriform erythema from metastatic transitional cell carcinoma *AD 122:1357–1358, 1986;* angiosarcoma *Int J Derm 23:404–407, 1984;* prostatic carcinoma metastases *AD 76:402–406, 1957; JAAD 32:854–857, 1995;* tonsillar adenocarcinoma *JAAD 32:854–857, 1995;* carcinoma telangiectoides

Mucinous nevus (nevus mucinosis (mucinous connective tissue nevus)) *BJD 148:1064–1066, 2003; JAAD 37:312–313, 1997; BJD 131:368–370, 1994;* congenital mucinous nevus *Ped Derm 20:229–231, 2003*

Neurilemmomas, agminated *JAAD 17:891–894, 1987*

Neurofibromas, regional eruptive *J Dermatol 24:198–201, 1997*

Nevus comedonicus *JAAD 21:1085–1088, 1989*

Nevus lipomatosis superficialis *Cutis 72:237–238, 2003; AD 128:1395–1400, 1992*

Nevus of Ito (nevus fuscoceruleus acromio-deltoideus) *Rook p.1731–1732,3256, 1998, Sixth Edition; Tohoku J Exp Med 60:10–20, 1954*

Nevus of Ota (nevus fuscoceruleus ophthalmomaxillaris) *JAAD 47:S257–259, 2002; Clin Dermatol 7:11–27, 1989; AD 85:195–208, 1962; BJD 67:317–319, 1955*

Nevus spilus – dermatomal pigmentation *Ped Derm 21:516–517, 2004; Curr Prob Derm VII:143–198, 1995*; *AD 107:902–905, 1973*

Pilomatrixoma *Wiad Lek 28:673–675, 1975 (Polish)*

Plasmacytoma *Int J Derm 29:562–565, 1990*

Porokeratosis of Mibelli *Dermatologica 155:340–349, 1977*

Porokeratotic eccrine ostial and dermal duct nevus *BJD 138:684–688, 1998*

Speckled lentiginous nevus (zosteriform lentiginous nevus) *Textbook of Neonatal Dermatology, p.383, 2001; JAAD 27:106–108, 1992; AD 107:902–905, 1973*

Spiradenomas *JAAD 2:59–61, 1980*

Spitz nevi, agminated *BJD 144:187–188, 2001*

Squamous cell carcinoma *Am J Dermatopathol 23:216–220, 2001; JAAD 32:854–7, 1995; J Derm Surg Oncol 10:718–720, 1984*

Syringocystadenoma papilliferum *Int J Derm 24:520–521, 1985*

Syringomas – unilateral *AD 117:308, 1981*

Trichoepithelioma *JAAD 13:927–930, 1986; AD 87:102–114, 1963*

## PHOTODERMATOSES

Favre–Racouchot syndrome – unilateral elastosis with cysts and comedones *Ann DV 121:721–723, 1994*

## PRIMARY CUTANEOUS DISEASES

Acanthosis nigricans, nevoid – unilateral and localized *Int J Dermatol 30:452–453, 1991*

Acne in irradiated area *AD 125:1005, 1989;* comedones – after herpes zoster *AD 133:1316–1317, 1997*

Atrophoderma of Moulin – unilateral acquired atrophic pigmented band-like lesions following Blaschko's lines *Ann DV 119:729–736, 1992*

Atrophoderma of Pasini and Pierini *JAAD 30:441–446, 1994; Int J Derm 29:281–283, 1990*

Atrophoderma vermiculatum *JAAD 43:310–312, 2000;* folliculitis ulerythematosa reticulata (atrophoderma vermiculata) – unilateral *Ped Derm 15:285–286, 1998*

Darier's disease (keratosis follicularis) – *Mt Sinai J Med 68:339–341, 2001;* segmental; mosaicism for ATP2A2 mutations *JID 115:1144–1147, 2000*

Eosinophilic dermatosis – at site of healed herpes zoster *BJD 137:465–466, 1997*

Familial progressive hyperpigmentation

Granuloma annulare *Int J Dermatol 31:672, 1992; JAAD 14:746–770, 1986;* perforating granuloma annulare in herpes zoster scars *JAAD 29:859–862, 1993*

Hailey–Hailey disease *JAAD 49:712–714, 2003; Eur J Dermatol 10:265–268, 2000*

Hyperkeratosis lenticularis perstans (Flegel's disease) *JAAD 39:655–657, 1998*

Hypermelanocytic guttate and macular segmental hypomelanosis *BJD 151:701–705, 2004*

Idiopathic unilateral circumscribed hyperhidrosis *AD 137:1241–1246, 2001; Ped Derm 17:25–28, 2000*

Keratosis pilaris *Ghatan p.45, 2002, Second Edition*

Lichen aureus *Cutis 69:145–148, 2002; Hautarzt 49:135–138, 1998; Int J Derm 30:654–657, 1991*

Lichen planus *J Dermatol 29:339–342, 2002; AD 142:836–837, 2000; Acta DV 77:491–492, 1997; Dermatology 192:375–377, 1996; AD 126:665–670, 1990;* lichen planus pigmentosus *J Dermatol 24:193–197, 1997;* at site of healed herpes zoster *AD 38:615–618, 1938*

Lichen simplex chronicus with syringomyelia *Neurosurgery 30:418–421, 1992;* at site of healed herpes zoster *BJD 138:904–927, 1998*

Lichen striatus *Rook p.670–671, 1998, Sixth Edition; Int J Dermatol 25:584–585, 1986*

Perioral dermatitis

Pigmentary mosaicism (Happle mosaic zosteriform pigmentation)

Pityriasis rosea – unilateral *Int J Dermatol 22:312–313, 1983*

Progressive cribriform and zosteriform hyperpigmentation *AD 114:98–99, 1978*

Progressive zosteriform macular pigmented lesions

Psoriasis – unilateral *Cutis 65:167–170, 2000; BJD 120:837–841, 1989;* at site of healed herpes zoster *BJD 62:314–316, 1950*

Reactive perforating collagenosis, acquired *JAAD 36:778–779, 1997*

Segmental pigment disorder *Acta DV 63:167–169, 1983*

Transient acantholytic dermatosis (Grover's disease) *JAAD 35:653–666, 1996; JAAD 29:797–798, 1993*

Unilateral hyperhidrosis of the trunk *Acta Med Scand 168:17–20, 1960*

Unilateral laterothoracic exanthem of childhood – scarlatiniform or dermatitic *AD 138:1371–1376, 2002; JAAD 34:979–984, 1996; JAAD 29:799–800, 1993; JAAD 27:693–696, 1992*

Vitiligo *JAAD 16:948–954, 1987*

Waxy keratoses of childhood – segmental *Ped Derm 18:415–416, 2001*

Zosteriform reticulate hyperpigmentation *BJD 121:280, 1989;* in children *BJD 117:503–17, 1987; AD 114:98–99, 1978;* unilateral dermatomal pigmentary dermatosis *Semin Cut Med Surg 16:72–80, 1997; JAAD 27:763–764, 1992*

## SYNDROMES

Alezzandrini's syndrome – unilateral degenerative retinitis, ipsilateral facial vitiligo, poliosis, with or without deafness *Ophthalmologica 147:409–419, 1964*

Ataxia telangiectasia – telangiectasias of bulbar conjunctivae, tip of nose, ears, antecubital and popliteal fossae, dorsal hands and feet; atrophy with mottled hypo- and hyperpigmentation, dermatomal CALMs, photosensitivity, canities, acanthosis nigricans, dermatitis; cutaneous granulomas present as papules or nodules, red plaques with atrophy or ulceration *JAAD 10:431–438, 1984*

Auriculotemporal syndrome (Frey syndrome) – zosteriform flush of the cheek *AD 133:1143–1145, 1997*

Beckwith–Wiedemann syndrome (Exomphalos–Macroglossia–Gigantism) (EMG) syndrome – autosomal dominant; zosteriform rash at birth, exomphalos, macroglossia, visceromegaly, facial nevus flammeus and gigantism; earlobe grooves, circular depressions of helices *JAAD 37:523–549, 1997; Am J Dis Child 122:515–519, 1971*

Buschke–Ollendorff syndrome – segmental connective tissue nevi and osteopoikilosis; single or multiple yellow, white, or skin-colored papules, nodules, plaques of extremities; skin-colored to yellow papules *JAAD 49:1163–1166, 2003*

CHILD syndrome – unilateral *Am J Med Genet 90:328–335, 2000*

Coats' disease – cutaneous telangiectasia or unilateral macular telangiectatic nevus with retinal telangiectasia *AD 108:413–415, 1973*

Cobb's syndrome (cutaneomeningospinal angiomatosis) – segmental port wine stain and vascular malformation of the spinal cord *AD 113:1587–1590, 1977; NEJM 281:1440–1444, 1969; Ann Surg 62:641–649, 1915*; port wine stain may be keratotic *Dermatologica 163:417–425, 1981;* segmental angiokeratoma-like lesions *Cutis 71:283–287, 2003*

Encephalocraniocutaneous lipomatosis – unilateral lesions *Ped Derm 10:164–168, 1993*

Fegeler syndrome – acquired port wine stain following trauma *Ped Derm 21:131–133, 2004*

McCune–Albright syndrome

Melorheostosis – cutaneous lesions resemble linear morphea overlying bony lesions (endosteal bony densities resembling candle wax) *BJD 86:297–301, 1972*

Neurofibromatosis, segmental *Hum Genet 114:284–290, 2004; Am J Med Genet 30:121A:132–135, 2003; Dermatol 204:296–297, 2002; Neurology 56:1433–1443, 2001; JAAD 37:864–869, 1997*; *Ped Derm 10:43–45, 1993; JAAD 23:866–869, 1990; AD 113:837–838, 1977*

Nevoid basal cell carcinoma syndrome; may be with comedones *JAAD 20:973–978, 1989; AD 100:187–190, 1969; BJD 74:20–23, 1962*

Phakomatosis pigmentokeratotica – coexistence of an organoid nevus (epidermal nevus) and a contralateral segmental lentiginous or papular speckled lentiginous nevus *Dermatology 194:77–79, 1997*

Romberg syndrome (facial hemiatrophy) – unilateral *Rook p.2016–2017, 1998, Sixth Edition; Arch Neurol 39:44–46, 1982*

Ross' syndrome – unilateral tonic pupils, generalized areflexia, progressive segmental anhidrosis with compensatory band of hyperhidrosis *Rook p.1993, 1998, Sixth Edition*

Tuberous sclerosis – unilateral agminated angiofibromas *JAAD 49:S164–166, 2003; Dermatology 195:176–178, 1997;* unilateral angiofibromas *JAAD 43:127–129, 2000*

Wallenberg's syndrome (trigeminal trophic syndrome)

Wiskott–Aldrich syndrome

Wyburn–Mason (Bonnet–Duchaume–Blanc) syndrome – unilateral salmon patch with punctate telangiectasias or port wine stain; unilateral retinal arteriovenous malformation, ipsilateral aneurysmal arteriovenous malformation of the brain *Am J Ophthalmol 75:224–291, 1973*

## TRAUMA

Electrical skin injury *Amer J Forensic Med and Pathol 12:222–226, 1991*

Ionizing radiation-induced pemphigus *AD 126:1319–1323, 1990*

Nodular solar degeneration – at site of healed herpes zoster *BJD 134:606, 1996*

## VASCULAR

Acral pseudolymphomatous angiokeratoma in children (APACHE) – unilateral multiple persistent papules on the hands and feet *JAAD 38:143–175, 1998*

Angiokeratoma circumscriptum *AD 117:138–139, 1981*

Angiosarcoma *JAAD 32:854–857, 1995; Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.125, 1999; Int J Derm 23:404–407, 1984*

Arteriovenous malformation

Cutis marmorata telangiectatica congenita *Ped Derm 8:329–331, 1991*

Glomangioma – segmental glomangiomas of leg *Bolognia p.1624, 2003;* hemi-facial *JAAD 45:239–245, 2001;* glomus tumors with linear trichilemmal cysts *Dermatology 200:75–77, 2000*

Glomerulovenous malformation *AD 140:971–976, 2004*

Granulomatous vasculitis – at site of healed herpes zoster *JAAD 33:268–269, 1994*

Harlequin color change – upper half of newborn pale, lower half deep red color *Rook p.452, 1998, Sixth Edition*

Hemangioma – diffuse hemangioma *AD 139:869–875, 2003*

Hemolymphangioma

Klippel–Trenaunay–Weber syndrome *Ghatan p.45, 2002, Second Edition*

Lymphangioma circumscriptum *AD 124:263–268, 1988; AD 114:394–396, 1978*

Pigmented purpuric eruptions (lichen aureus-like) *Int J Dermatol 30:654–655, 1991; Dermatologica 180:93–95, 1990; Hautarzt 40:373–375, 1989;* unilateral Schamberg's disease *Ped Derm 19:517–519, 2002; BJD 144:190–191, 2001*

Port wine stain (nevus flammeus) *Eyelid and Conjunctival Tumors, Shields JA and Shields CL, Lippincott Williams and Wilkins p.114, 1999*

Segmental hemangiomas of infancy with visceral hemangiomatosis *AD 140:591–596, 2004*

Segmental proliferating hemangioma

Sturge–Weber syndrome (encephalofacial angiomatosis) – facial port wine stain with homolateral leptomeningeal angiomatosis *Oral Surg Oral Med Oral Pathol 22:490–497, 1966*

Telangiectasia (unilateral dermatomal superficial telangiectasia) *J Dermatol 17:638–642, 1990*

Unilateral nevoid telangiectasia *JAAD 37:523–549, 1997; JAAD 8:468–477, 1983*

Vascular malformations, dermatomal – isolated *BJD 143:888–891, 2000*

Vascular malformations – syndromes
- Cobb syndrome – nevus flammeus with underlying spinal cord defect *JAAD 37:523–549, 1997; Dermatologica 163:417–425, 1981*
- Klippel–Trenaunay–Weber syndrome Cutis 60:127–132, 1997

Venous malformation (cavernous hemangiomatosis) *Dermatologica 161:347–354, 1980;* zosteriform venous malformations *AD 139:1409–1416, 2003; Dermatologica 161:347–354, 1980; AD 113:848–849, 1977*