NOTES
PAPULOSQUAMOUS DISORDERS

GENERALLY, WHAT ARE THEY?

PATHOLOGY & CAUSES

- Heterogeneous skin disorders; scaly papules, plaques
  - *Papule:* circumscribed, solid elevation of skin < 1cm/0.39in
  - *Plaque:* broad papule/confluence of papules ≥ 1cm/0.39in
  - *Scale:* dry/greasy laminated masses of keratin

CAUSES
- Inflammation

SIGNS & SYMPTOMS
- See individual disorders

DIAGNOSIS

OTHER DIAGNOSTICS
- Rash patterns

TREATMENT
- May spontaneously resolve

MEDICATIONS
- Topical (e.g. corticosteroids), nonsteroidal anti-inflammatory drugs (NSAIDs), antihistamines
- Immunosuppressants, retinoids (e.g. acitretin)

OTHER INTERVENTIONS
- Phototherapy, colloid baths

LICHEN PLANUS

osms.it/lichen-planus

PATHOLOGY & CAUSES
- Self-limiting chronic dermatosis
- Multifactorial pathogenesis
  - Environmental factors → genetic aberrations of immune system
  - CD8+ T cells respond to altered antigens in basal epidermidis/ dermoepidermal junction
  - *Causal agent identified:* lichenoid reaction (e.g. drugs)
- Chronic inflammation in mucosal lesions → squamous cell carcinoma

SIGNS & SYMPTOMS
- Shiny, flat-topped, pink-purple, polygonal papules coalesce, form plaques with red scales
- Wickham striae (pathognomonic)
  - Interspersed grey-white lace-like pattern of lines

- Symmetrical peripheral distribution, esp. on flexural surfaces (e.g. wrists, elbows, ankles, shins)
- Severe pruritus
- Koebner phenomenon
  - Skin lesions induced by local trauma
- Nail involvement
  - 10% of individuals; subungual thickening/hyperpigmentation, thinning/ridging/ grooving of nail plate, pterygium formation, onycholysis
- Mucosal involvement
- Oral mucosa
  - Asymptomatic/burning sensation,severe pain
  - Mostly bilateral, inner cheeks
  - Various types may coexist; oral variant of Wickham's striae, erosive/ulcerative, papular, plaque-like, atrophic, bullous
  - Possible secondary *Candida* infections
- Esophageal mucosa
  - Dysphagia/odynophagia
- Genital mucosa (glans penis, vulva/vagina)
  - Lower urinary tract symptoms, dyspareunia, itching in individuals who are biologically female

MNEMONIC: 6 Ps

Clinical presentation of lichen planus

Planar
Purple
Polygonal
Pruritic
Papules
Plaques

DIAGNOSIS

LAB RESULTS

- Typical microscopic features
  - *Acanthosis:* epidermidis thickening
  - *Interface dermatitis:* continuous infiltrate of lymphocytes along dermoepidermal junction → sawtoothing (dermoepidermal interface with zig-zag contour)
  - Basal keratinocytes degenerate, appear like stratum spinosum cells (squamatization)/undergo necrosis, become incorporated into inflamed papillary dermis (Civatte bodies)

OTHER DIAGNOSTICS

- Rash pattern distinctive at skin examination
- Skin biopsy
  - Rule out secondary malignancies

TREATMENT

- Cutaneous lesions spontaneously resolve in nine months, longer for mucosal lesions
  - Leaves area of hyperpigmentation

MEDICATIONS

- Reduce symptoms, shorten duration
- Antihistamines (pruritus), corticosteroids
- Retinoids, immunosuppressants

OTHER INTERVENTIONS

- Occlusive dressings
- Phototherapy
  - Ultraviolet A radiation

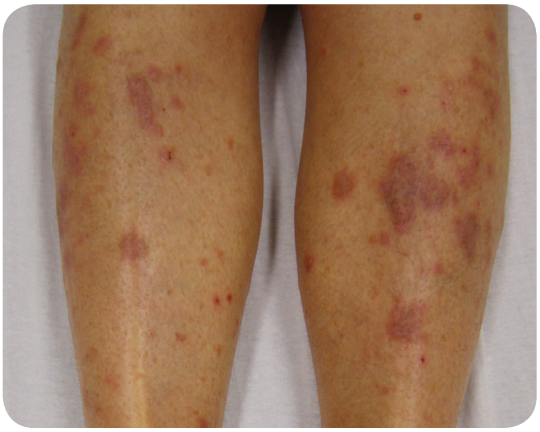

Figure 6.1 Lesions on the shins of an individual with lichen planus.

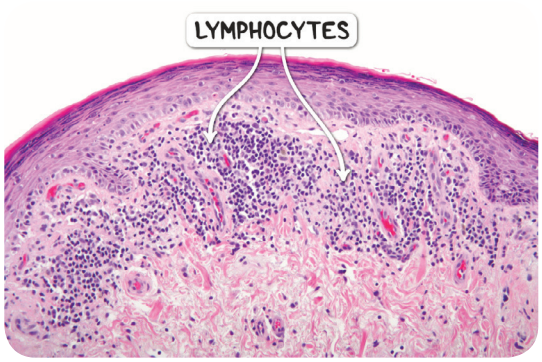

Figure 6.2 The histological appearance of lichen planus. There is a lymphocytic infiltrate at the junction between the dermis and epidermis which is known as interface dermatitis.

PITYRIASIS ROSEA

osms.it/pityriasis-rosea

PATHOLOGY & CAUSES

- Self-limiting acute dermatosis
- Unknown etiology; may be viral in origin, related to human herpesvirus 7 (*HHV7*)

SIGNS & SYMPTOMS

- Upper respiratory tract infection may precede rash
- "Herald patch"
  - Solitary oval red plaque, usually located on trunk
  - First skin lesion
  - Spreads with central clearing, fading in 2–10 days
- 1–2 weeks after herald patch, multiple round/oval pink (white individuals of European descent)/dark brown (black individuals of sub-Saharan African descent) plaques with central scale appear
- Trunk, neck, upper arms, thighs; "Christmas tree" progression
  - Across chest, then rib-line
- Pruritus
- Systemic
  - Low-grade fever, headache, nausea, fatigue

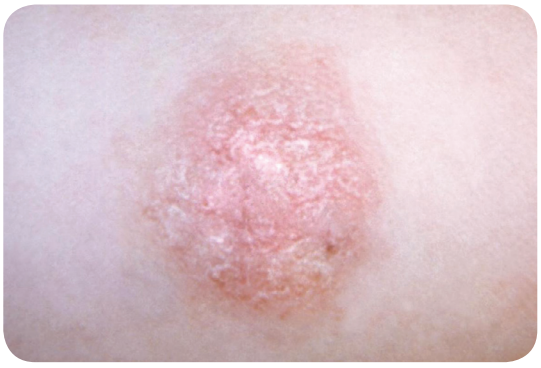

Figure 6.3 A herald patch is often seen at the onset of pityriasis rosea. It is a slightly raised, erythematous patch with superficial scaling.

DIAGNOSIS

LAB RESULTS

- Skin biopsy (rare)
- Microscopic features
  - *Dyskeratosis:* abnormal premature keratinization
  - Extravasated erythrocytes within dermal papillae

OTHER DIAGNOSTICS

- Rash pattern
  - Distinctive at skin examination

TREATMENT

- May spontaneously disappear in 6–8 weeks

MEDICATIONS

- Antihistamines for pruritis

OTHER INTERVENTIONS

- May spontaneously disappear in 6–8 weeks
- Colloid baths for pruritis

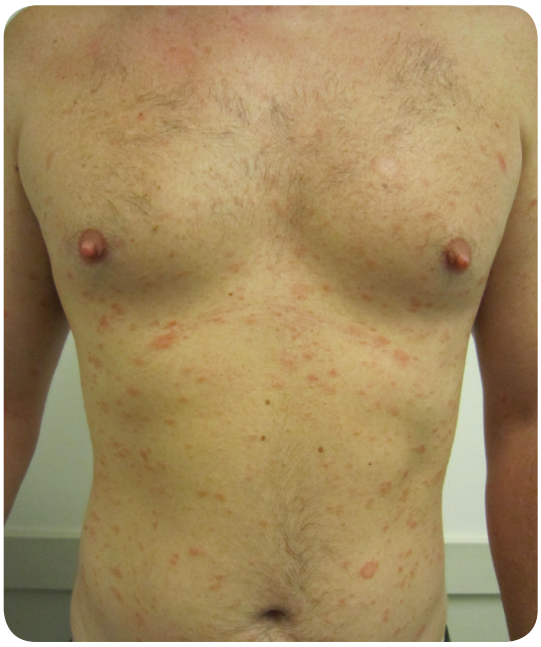

Figure 6.4 The clinical appearance of pityriasis rosea on the torso of an adult male.

PSORIASIS

osms.it/psoriasis

PATHOLOGY & CAUSES

- Chronic dermatosis of skin, nails, joints
- Multifactorial pathogenesis
  - Environmental factors → genetic abnormalities of immune system
  - $CD4^+$ TH1, TH17, $CD8^+$ T cells collect in epidermis, secrete cytokines (e.g. IFN-gamma, TNF-alpha, IL-17, IL-22), growth factors → abnormal microenvironment ("cytokine soup") accelerates keratinocyte proliferation → defective keratinization, epidermal thickening
- Unpredictable progression with spontaneous remissions, sudden exacerbations (e.g. may worsen in winter—lack of sun, humidity)
  - Skin abrasion, infection, drugs (e.g. lithium, beta blockers, chloroquine), psychosocial stress → exacerbations
- 10–15% of individuals develop psoriatic arthritis
  - Inflammatory cells in joint tissue → synoviocyte proliferation
  - Surrounding connective tissue also involved (e.g. enthesitis)

TYPES

- Plaque psoriasis, AKA vulgar psoriasis; 90%
- Guttate (eruptive), inverse (flexural), pustular, erythrodermic

SIGNS & SYMPTOMS

- Plaque
  - Pink, salmon-colored papules/plaques covered by loosely adherent silver-white scales
  - Any area of body, esp. extensor surfaces (e.g. knees, elbows), lumbosacral area, scalp, glans penis
  - Itching is mild/absent
- Nail involvement in 30% of individuals
  - Subungual thickening
  - Yellow-brown discolorations of nail plate (resembling oil slicks)
  - Crumbling/ridging/pitting of nail plate
  - *Onycholysis:* separation of nail plate from bed
- Guttate (eruptive)
  - Drop-like appearance, associated with group A streptococcus
- Inverse (flexural)
  - Skin folds
- Pustular
  - Blisters filled with non-infectious pus
- Erythrodermic
  - Total body inflammation, skin exfoliation, severe itching, swelling, pain; ability to regulate temperature, perform barrier functions impaired; possibly fatal
  - May develop from any type (e.g. plaque during corticosteroid rebound phenomenon)
- Auspitz sign
  - Pinpoint bleeding appears when scale removed
- Koebner phenomenon
  - Characteristic skin lesions induced by local trauma
- Psoriatic arthritis
  - *Inflammatory arthritis:* pain, red overlying area, swelling, hot to touch
  - Frequently occurs after onset of rash
  - Asymmetric peripheral oligoarthritis; joints of hands, feet most affected, followed by sacroiliac bone, spine
  - Fusiform swelling of digits (dactylitis); aka "sausage digits"
  - Aggressive disease with joint damage, malformations not common

DIAGNOSIS

DIAGNOSTIC IMAGING

- For psoriatic arthritis

X-ray

- Erosive changes, "fluffy" periostitis, presence of new bone formation

MRI

- Inflammation in adjacent bone marrow and soft tissues

LAB RESULTS

- Skin biopsy (rare)
- Acanthosis
  - Epidermidis thickening
- Parakeratosis
  - Keratinization (retention of nuclei in stratum corneum)
- Neoangiogenesis with tortuous blood vessels below stratum corneum
- Accumulation of neutrophils in superficial epidermis (spongiform pustules), in stratum corneum (Munro microabscesses)
- Clinical diagnosis
  - Psoriasis features, clinical pattern of joint involvement
- Confirmation
  - Elevated inflammatory markers, negative rheumatoid factor (RF), anti-cyclic citrullinated peptide antibody (anti-CCP)

OTHER DIAGNOSTICS

- Rash pattern
  - Distinctive at skin examination
- Differentiation from rheumatoid arthritis
  - Minority show polyarthritic pattern with no skin lesions; note asymmetry, distal interphalangeal joint involvement, mild joint destruction

TREATMENT

- No definitive cure
- Avoid triggers

MEDICATIONS

- Topical corticosteroids → anti-inflammatory, antiproliferative
- Vitamin D derivatives (calcipotriene, calcipotriol) → limit keratinocyte proliferation
- Anthralin → suppresses proliferation
- Combination therapy is most effective (e.g. betamethasone dipropionate + calcipotriene)
- Affected area > 10%, unsuccessful topical treatment, involves face, hands, genitals
- Immunosuppressant
  - Methotrexate, cyclosporine
- Systemic retinoids
  - Acitretin → inhibits pro-inflammatory cytokines
- Biologic therapy
  - Anti-TNF (infliximab, etanercept, adalimumab), T-cells (alefacept), IL-12/23 (ustekinumab)
- NSAIDs, immunosuppressant/biologic therapy
  - For psoriatic arthritis

OTHER INTERVENTIONS

- Topical
  - Coal tar → inhibits cellular mitotic activity, proliferation
  - Moisturizers, emollients
- Phototherapy
  - Ultraviolet A radiation
  - Often combined with topical tar/ systemic acitretin/psoralen/methoxsalen
  - Immunosuppressive, antiproliferative

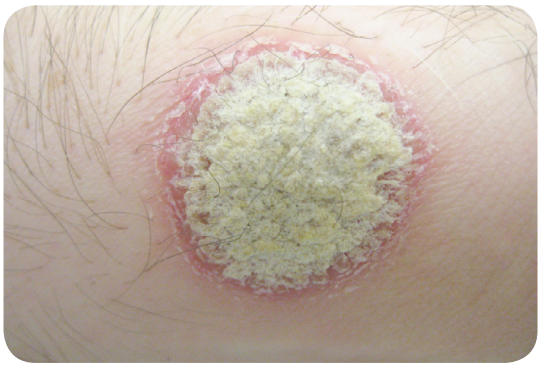

Figure 6.5 A large psoriatic plaque on the upper limb.

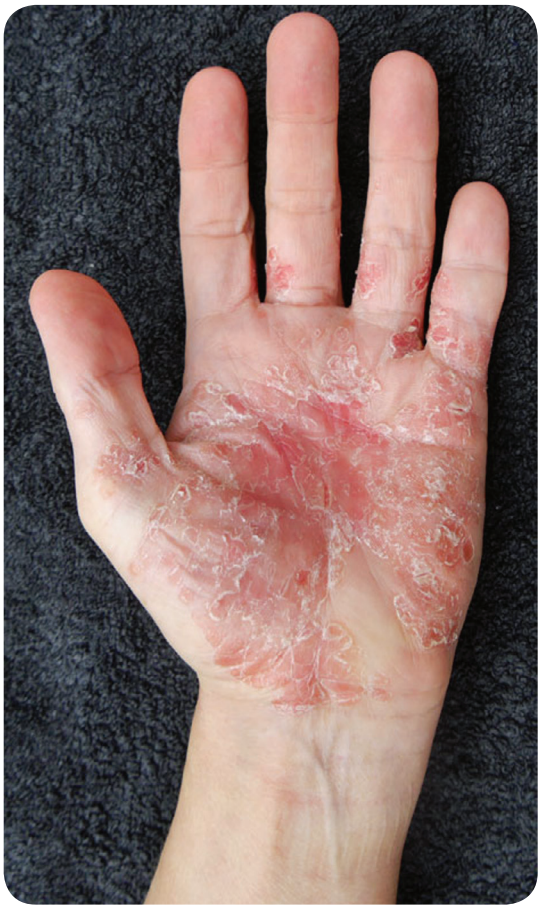

Figure 6.6 Psoriasis affecting the hand.