Inflammatory Dermatoses – Think Like a Clinician

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Think like a Clinician

• “If it scales scrape it.” = “If it scales and you don’t know what it is, PAS it.”

Think like a Clinician

• Try to picture the clinical lesion based on the histologic findings
Normal basketweave corneum = acute process

Compact corneum = chronic process

What is the timing of this lesion?
Upper corneum normal, lower compact = 1 - 2 weeks duration

What is the timing of this lesion?

Alternating basketweave and compact parakeratotic corneum = intermittent
Thick irregular corneum and acanthosis/papillomatosis = verrucous lesion

Parakeratosis = scale

Exception: Furfuraceous scale
Spongiosis = eczema

Spongiosis = eczema

Spongiotic conditions usually = pink in white skin, hypopigmented in dark skin
Vacuolar interface = pink

Lichenoid interface usually = violaceous

Interface + melanoderma = marked hyperpigmentation or mottled hyper/hypopigmentation
Serum = crusting

PEH = epithelial hyperplasia clinically

Papillary dermal fibrosis = chronicity
Watch out for clinical names

- Names are often “misnomers”
  - Mycosis fungoides
  - Granuloma faciale
  - Eosinophilic fasciitis

A Lymph in Every Hole

- MF
- PLEVA
- PLC
- BLK
- MF-like histology in BLK
- Fixed drug
Each lesion is acute.
What is the timing this lesion?

A lymph in every hole

Large lymphocytes in epidermis
Lymphs in the Eccrine Coil

- Lupus
- Lymphoma
- Lichen Striatus

Lymphs in the Eccrine Coil

- PMLE
- Unilateral laterothoracic exanthem
- Jessner's
- GVHD
- Pernio
- Arthropod reaction
- Lymphocytic eccrine hidradenitis
- Aicardi-Goutieres Syndrome
Dermatomyositis:
Looks like LE
May be atrophic or lichenoid

DM vs. LE

- Pruritus
- Knuckles (vs. interphalangeal)
- Heliotrope
- Shawl
- Extensors
- Nail folds: dilatation and dropout (vs. glomeruloid loops)
Syphilis
Take-Home Points

- Specimens with ≤5 features more likely to
  - be from the trunk (61.1% of cases with ≤5 features vs 34.4% overall)
  - demonstrate rete ridge effacement (44.8% vs 19.8%)
  - have pityriasis rosea (33.3% vs 17.2%) or drug eruption (33.3% vs 10.9%) in the clinical differential
Take-Home Points

• An interstitial inflammatory pattern was the most common characteristic of specimens with ≤5 features (present in 75.9%).
• Cases with only two diagnostic features demonstrated an interstitial pattern with either endothelial swelling or lymphocytes with ample cytoplasm.
Acute corneum

Necrosis out of proportion to lymphocytes
Fixed drug eruption

Acute corneum

Necrotic keratinocytes

Papillary dermal fibrosis

Eosinophils

Perivascular melanin

Eosinophils
Nodular and Diffuse Dermatoses

- Necrotic keratinocytes
- Epithelial disorder
- Vacuolar interface dermatitis
Sweet's syndrome

Massive papillary dermal edema
Nodular and diffuse neutrophilic infiltrate
Karyorrhexis
Leishmaniasis

Nodular and diffuse infiltrate of histiocytes and plasma cells

Intracellular organisms

Periphery of vacuole
Leprosy

Hansen’s disease

Perivascular and periadnexal histiocyte, granulomas, globi
Granuloma annulare

- Palisaded or patchy interstitial histiocytic infiltrate with mucin
Necrobiosis lipoidica

Layered granulomas with pale devitalized collagen
Rheumatoid nodule: Palisaded granuloma with fibrin

DDX: “Deep” GA
Sarcoidosis

Nodular non-caseating
“naked” granulomas
Xanthogranulomas

- Juvenile
- Adult
- Necrobiotic

Nodular and diffuse histiocytes
Epithelioid
Langhans
Touton
Xanthogranulomas

Necrobiotic

Nodules
Xanthogranuloma
Devitalized collagen
Cholesterol clefts
Paraproteinemia
Xanthomas

Foamy histiocytes
Fibrosis → tuberous
Extracellular lipid → eruptive

Eruptive xanthomas:
Diabetes, hypothyroidism

Apooprotein C-II:
Type I and some Type V

Apooprotein E-II:
Type III
Tuberous xanthomas
Tendon Xanthomas

Palmar Crease Xanthomas (Type III)
Apooprotein E2
Normolipemic planar xanthoma: Association with paraproteinemia and myeloma

Rosacea and acne agminata
Rosacea
- Patchy perifollicular lymphohistiocytic
- Ectasia
- Fibrosis

Lupus erythematosus
- Vacuolar or lichenoid interface dermatitis
- Patchy perivascular and periadnexal lymphoid infiltrate
- Nodular SQ infiltrate
- Lymphoid aggregates in eccrine coil
Lupus erythematosus

- Compact hyperkeratosis
- Follicular plugging
- BMZ thickening
- Dermal mucin

Acute Cutaneous Lupus

- Malar
- Pink
- Non-scarring
- ds-DNA
- Penicillamine

Subacute Cutaneous Lupus

- Trunk, face, extremities
- Pink
- Annular or psoriasiform
- Ro (SSA), La (SSB)
- Neonatal LE
- Thiazide diuretics
Acral Lupus

- Lichenoid clinically
- Lichenoid histology
- Linear immunoglobulin
- SCC in longstanding lesions
Morphea:
Nodular lymphoid infiltrates
Periadnexal, SQ
Hyalinized collagen
Lupus destroys elastic fibers

Morphea preserves elastic fibers

Psuedomonas sepsis: Nodular gray aggregates Surround infarcts
Cellulitis and necrotizing fasciitis
Neutrophilic infiltrate
Mastocytosis
Spongiotic with RBCs in epidermis
Pityriasis rosea
Pigmenting purpura (Dukas)

Interface with RBCs in epidermis
Pityriasis lichenoides
Pigmenting purpura (Gougerot-Blum)