

Dermatopathology *We've Only Just Begun!*

Inflammatory Algorithms

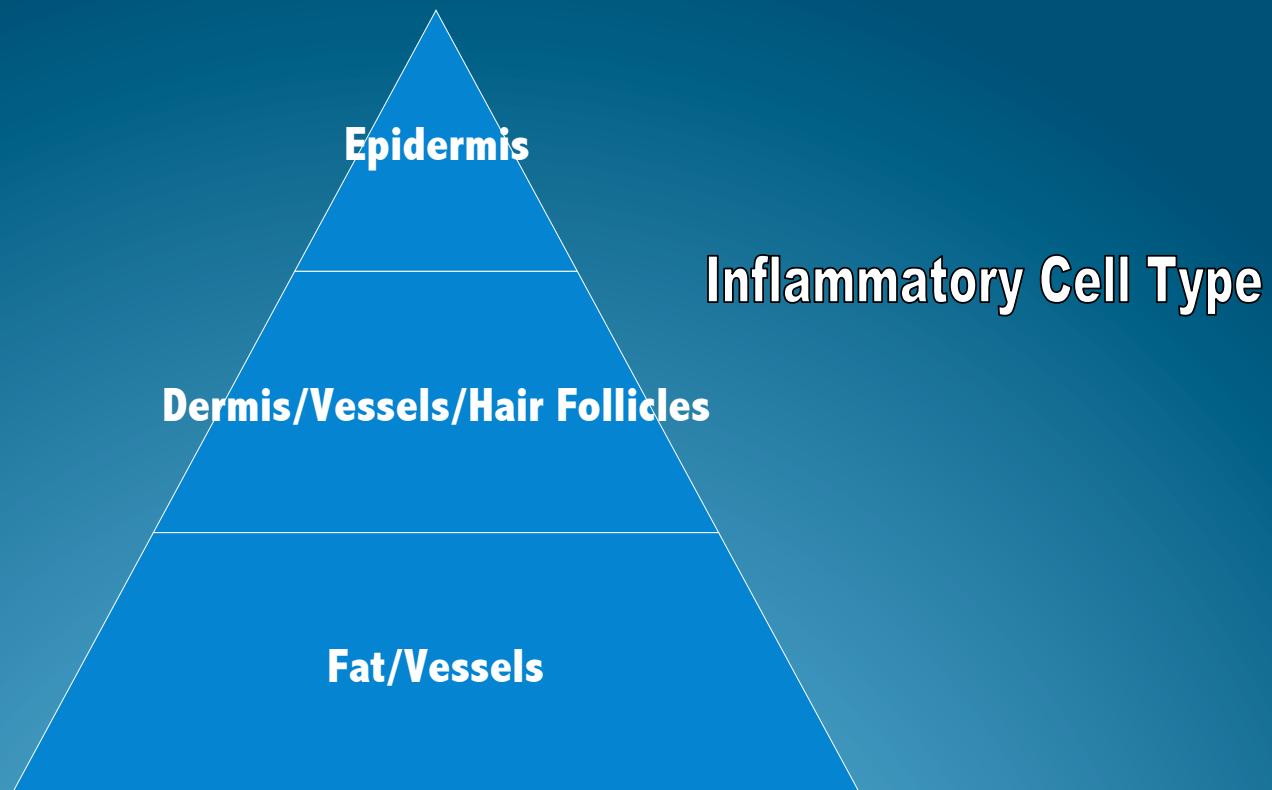
Paul K. Shitabata, M.D.
Dermatopathology Institute

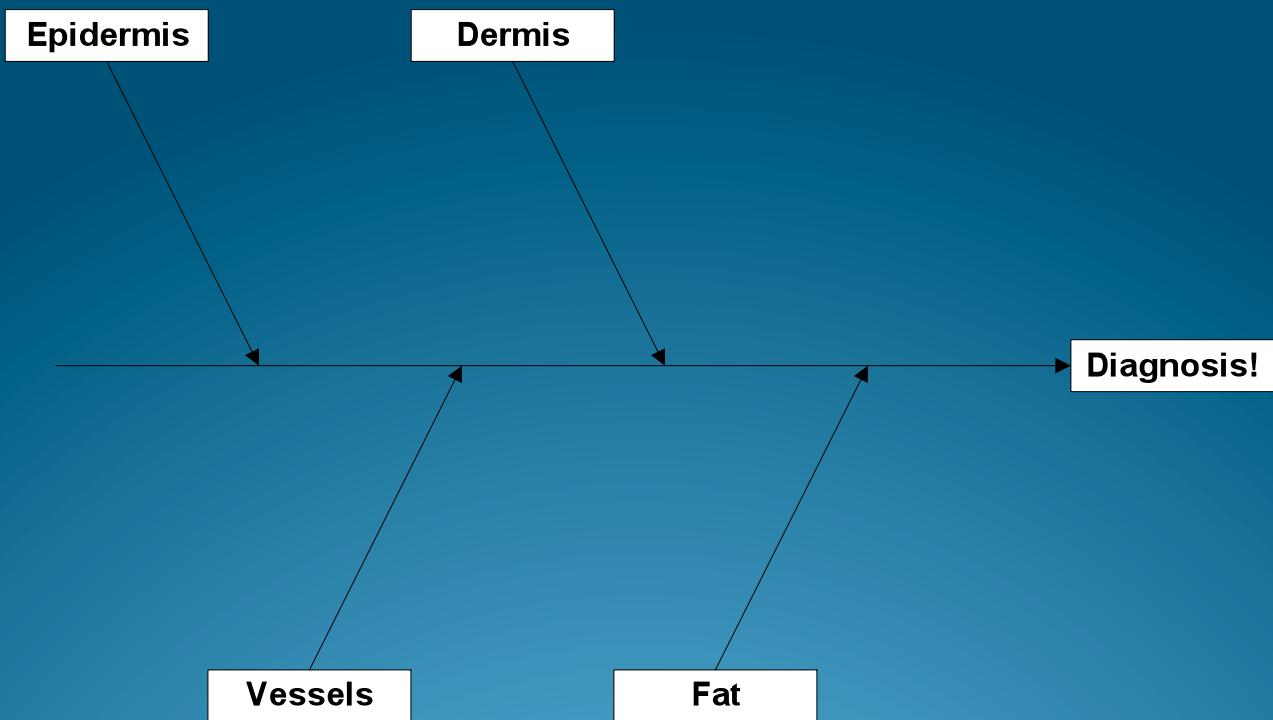
Patterns

Less Specific

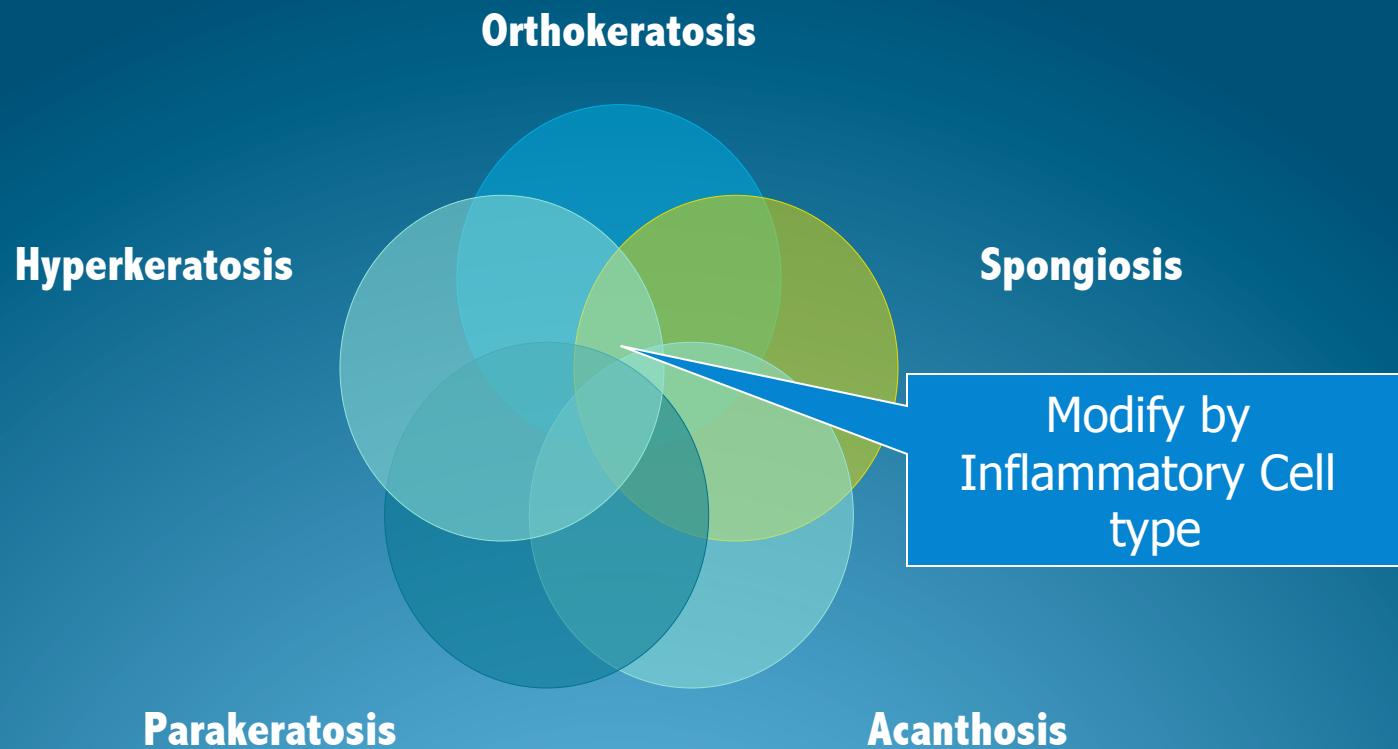


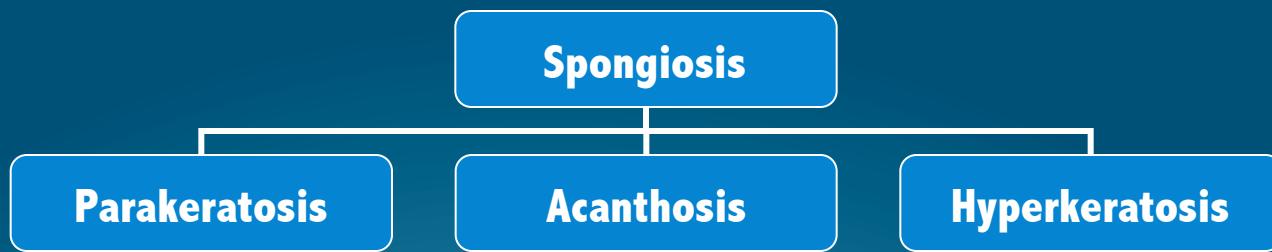
More Specific

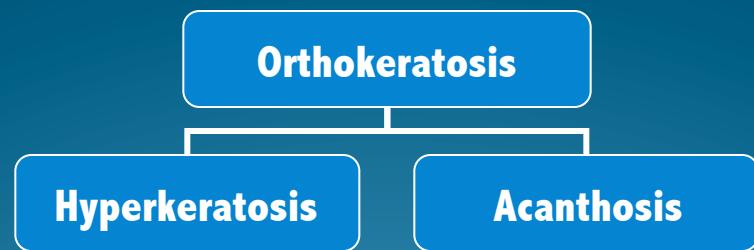




Epidermal Reaction Patterns







Epidermal/Dermal Reaction Patterns

- Superficial perivascular
- Superficial and deep perivascular
- Nodular and diffuse
- Intraepidermal vesicular and pustular
- Subepidermal vesicular

**No Epidermal Changes
Perivascular
Intestinal**

*Modify by Inflammatory Cell Type

Superficial/Deep

**Epidermal Changes
Spongiosis
Ballooning
Psoriasiform/Lichenoid**

**Epidermal Changes
Interface**

Modify by Inflammatory Cell Type

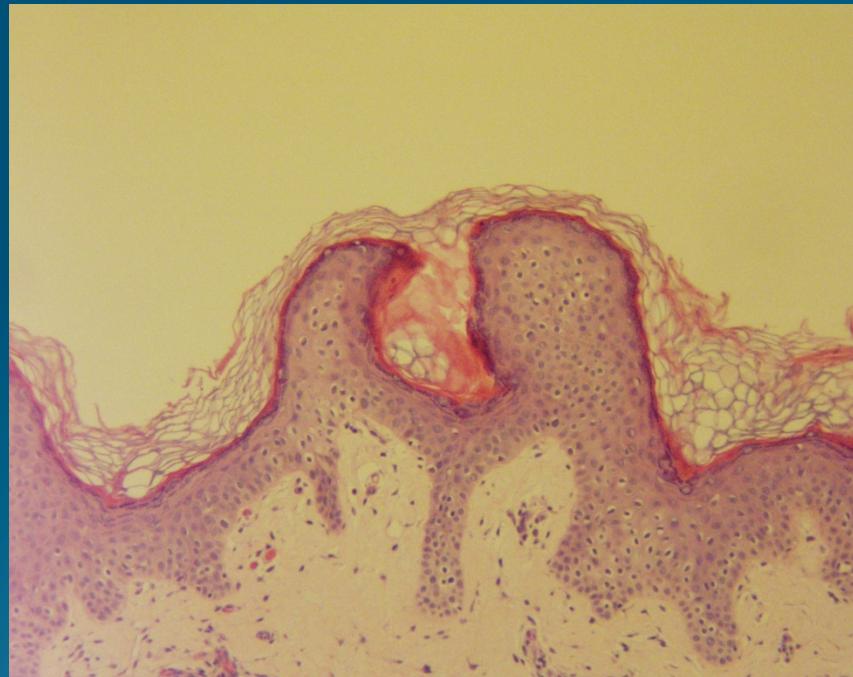
Lichenoid/Interface

Spongiotic

Psoriasiform

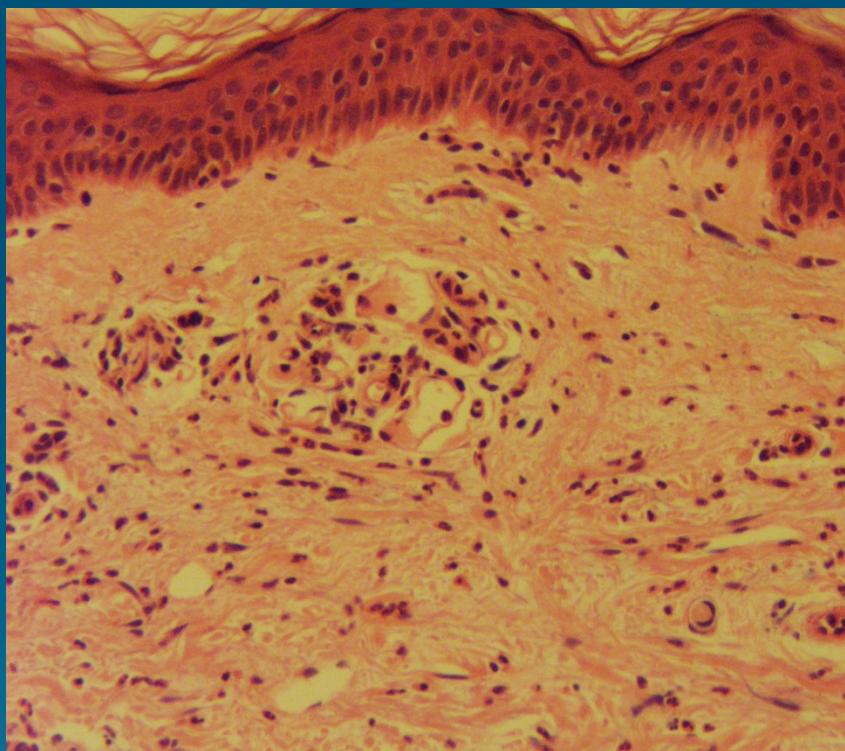
Psoriasiform Lichenoid

Superficial Perivascular No Epidermal Changes



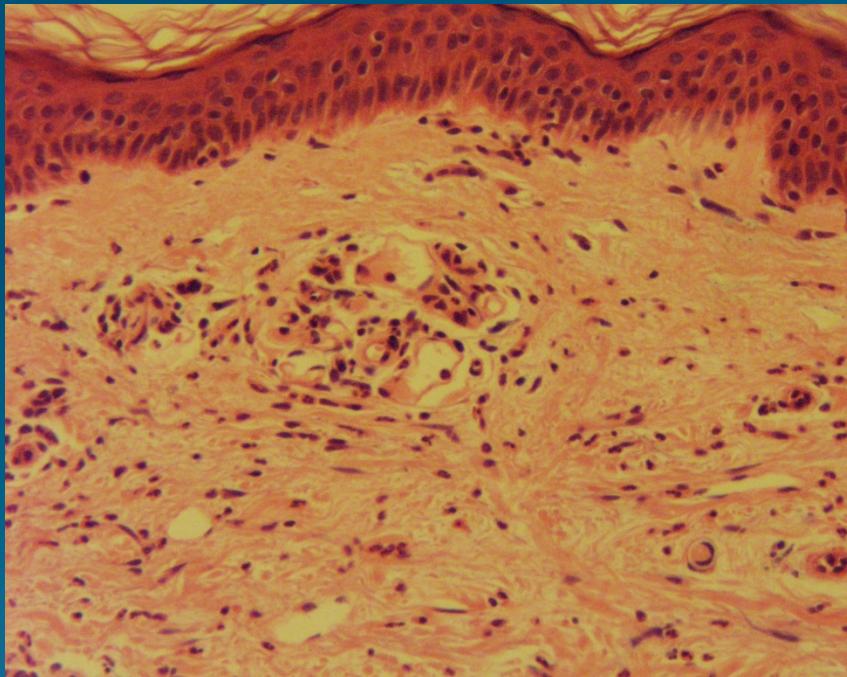
- **Tinea versicolor**
Dermatophytosis
Erythrasma
Pitted keratolysis
Vitiligo
Schamberg's disease
Viral exanthems
Drug eruption (one type)
Urticaria, late
Erythema figuratum, superficial

Superficial Perivascular/Interstitial No Epidermal Changes



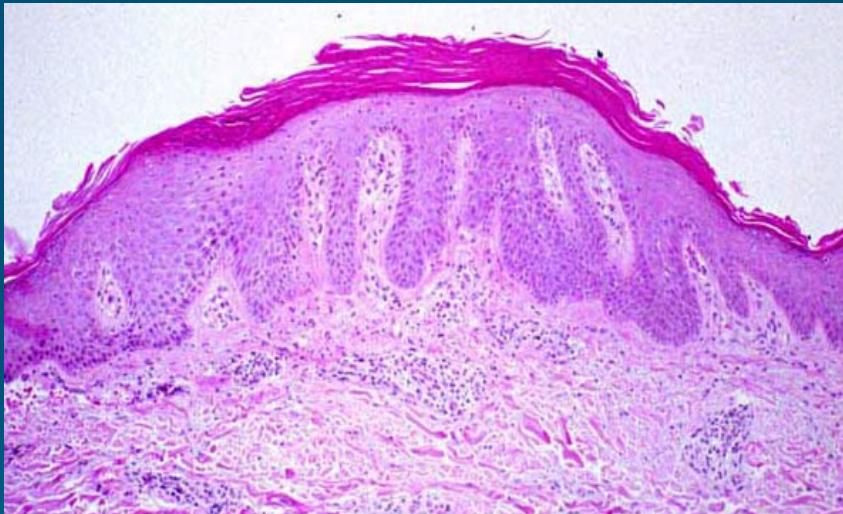
- Schamberg's disease
PUPPP
- Dermatitis herpetiformis
Linear IgA dermatosis
Dermatitis herpetiformis-like drug eruptions
Acute discoid lupus erythematosus/SLE
Leukocytoclastic vasculitis
Erythema marginatum

Superficial Perivascular/Interstitial No Epidermal Changes



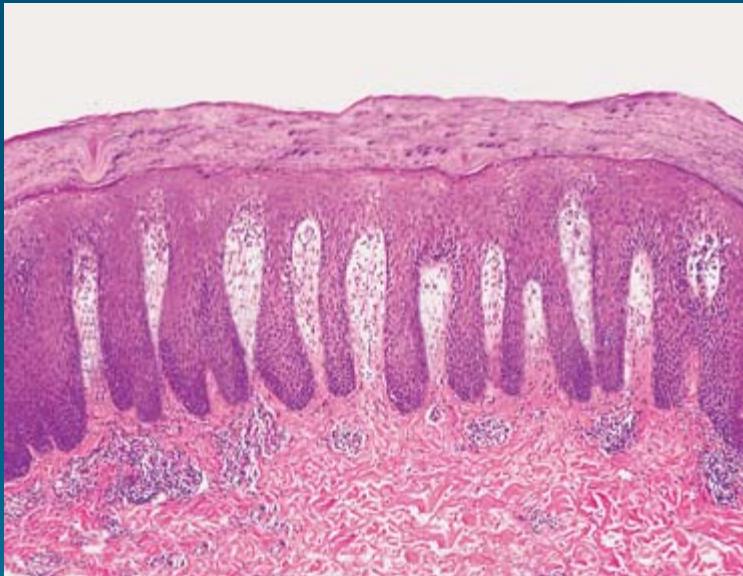
- **Bullous pemphigoid/Herpes gestationis, urticarial Pemphigus vulgaris, urticarial Arthropod PUPPP**
- **Urticaria**
- **Postinflammatory pigmentary alteration**
- **Macular amyloidosis**
- **Urticaria pigmentosa**
- **Brachioradial pruritis**

Superficial Perivascular Psoriasiform



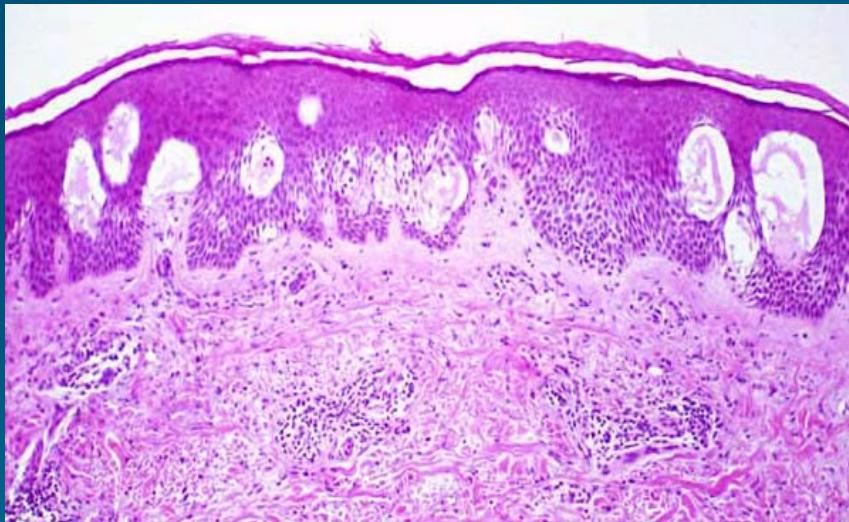
- **Psoriasis**
Allergic contact dermatitis
Nummular dermatitis
Dyshidrotic dermatitis
Pityriasis rubra pilaris
Seborrheic dermatitis

Superficial Perivascular Psoriasiform



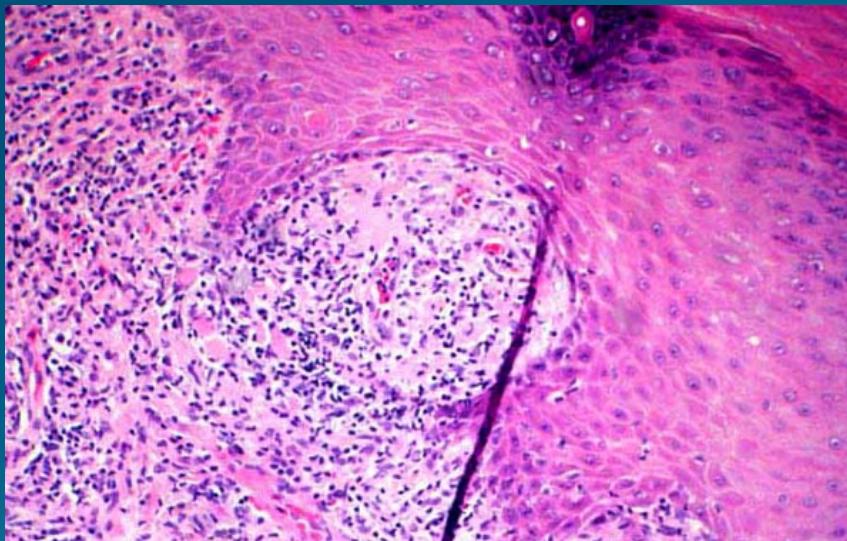
- **Dermatophytosis**
Candidiasis
- **Lichen simplex**
chronicus
Prurigo nodularis
Acanthoma fissuratum
Pressure papule from
prosthesis
Surfer's nodules
Chondrodermatitis
nodularis helicis

Superficial Perivascular Spongiotic Psoriasiform



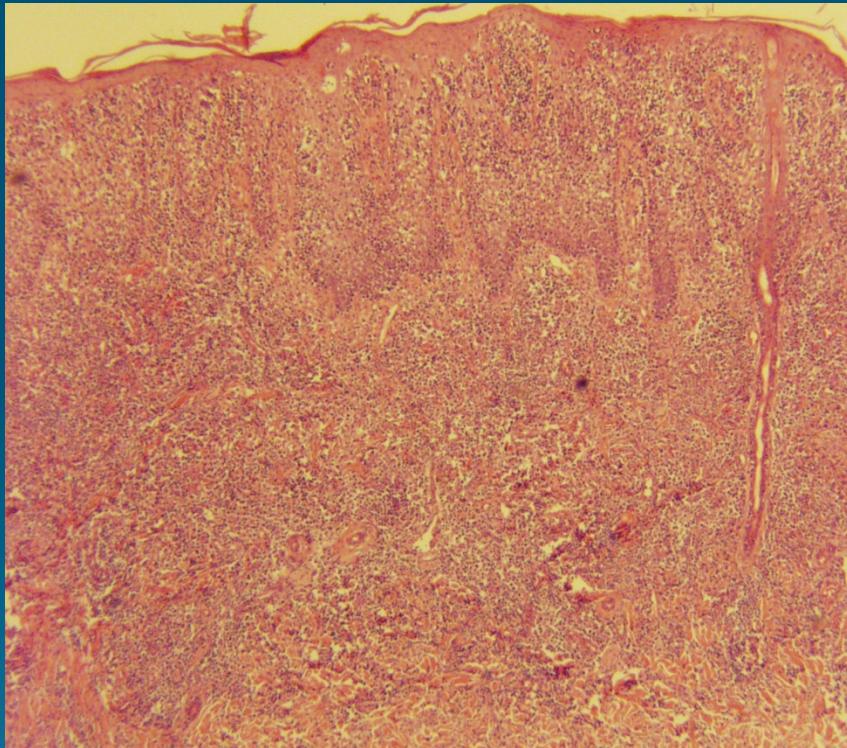
- Allergic contact dermatitis
- Nummular dermatitis
Dyshidrotic dermatitis
Id reaction
Seborrheic dermatitis
- Nonbullous congenital ichthyosiform erythroderma
Lichen striatus

Superficial Perivascular Lichenoid/Interface



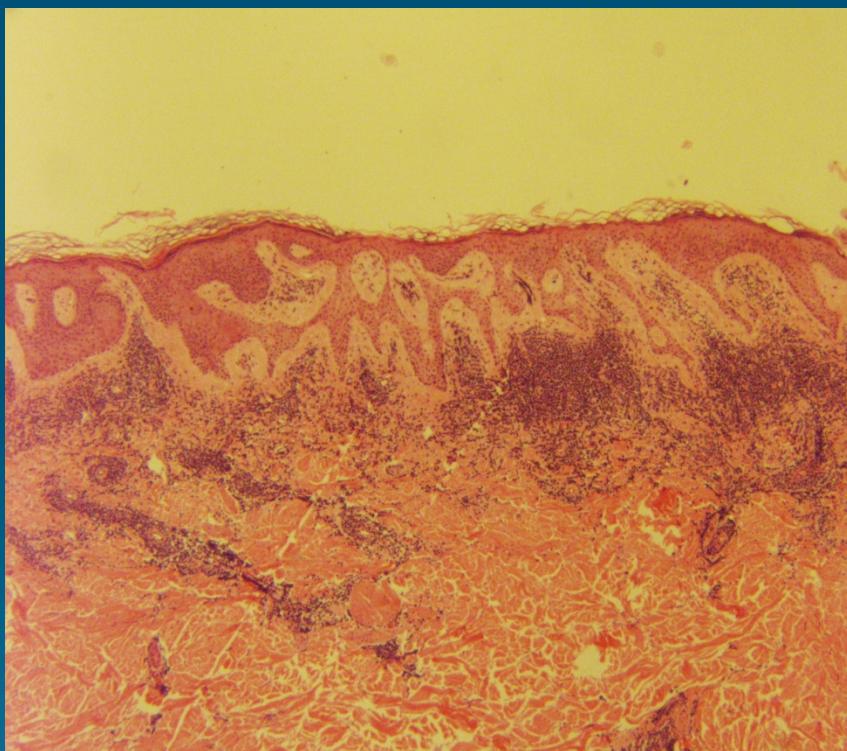
- Lichen planus
Lichenoid drug
Pityriasis lichenoides
chronica
- DLE
Dermatomyositis
GVH
EM

Superficial Perivascular Psoriasiform/Lichenoid



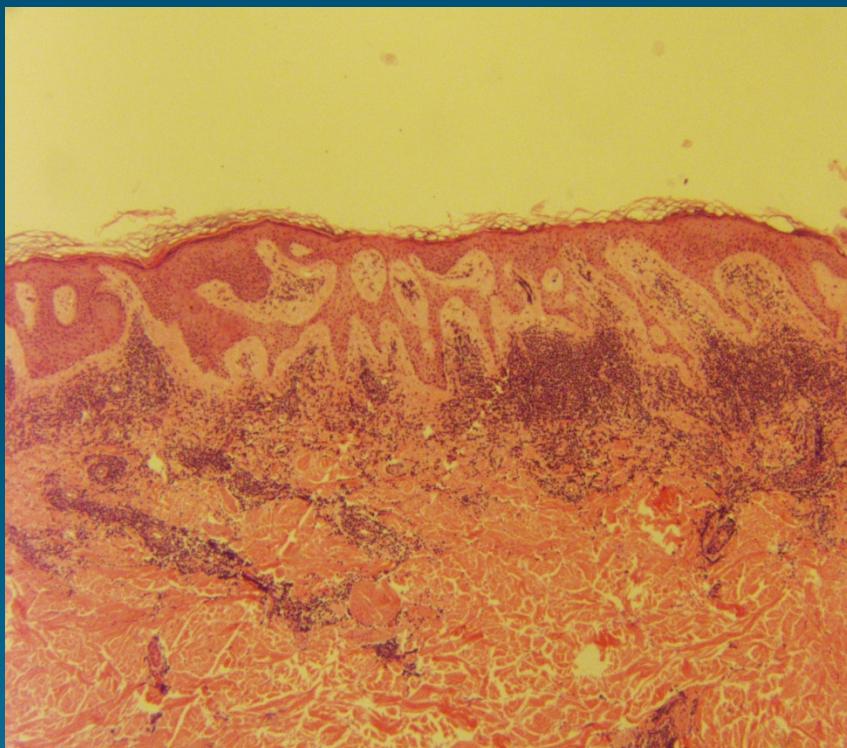
- Lichen striatus
Bullous pemphigoid
Herpes gestationis,
urticarial
- Mycosis fungoides

Superficial/Deep No Epidermal Changes



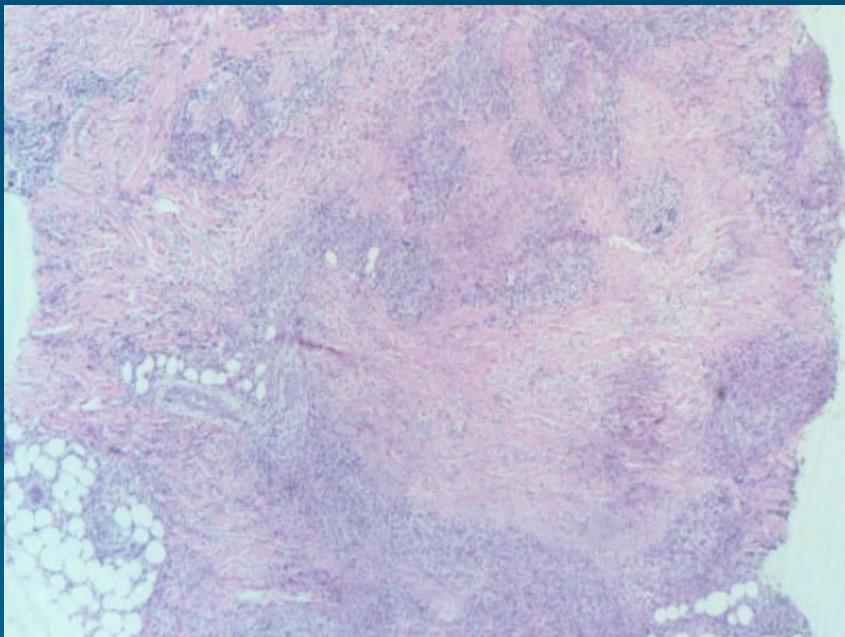
- **Polymorphous light eruption,
early**
Erythema figuratum
Erythema chronicum migrans
Pernio
- **Erythema nodosum**
PMLE
DLE, tumid
CLL
- **B-cell lymphoma**

Superficial/Deep No Epidermal Changes



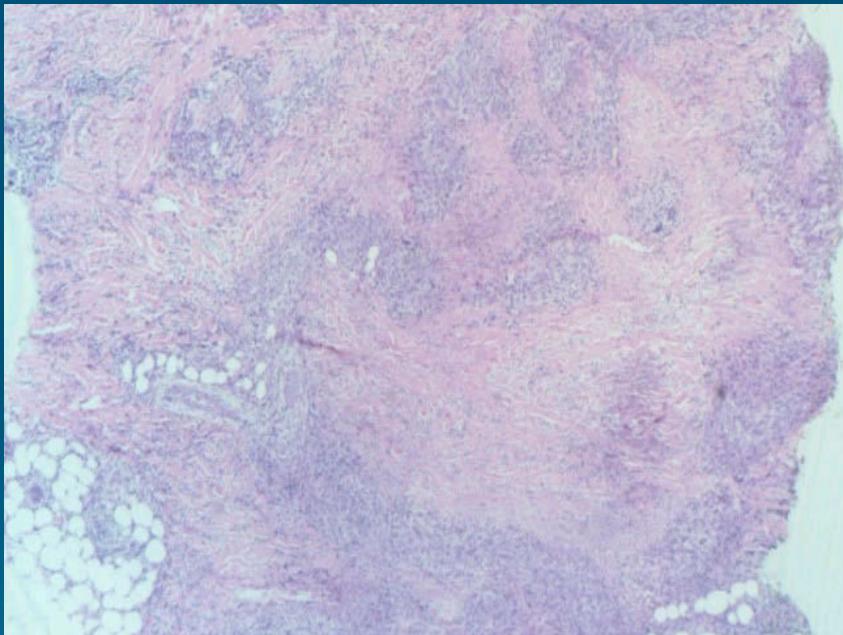
- Arthropod insult
- Erythema chronicum migrans
- Scleroderma
- Leprosy, indeterminate

Superficial/Deep Perivascular and Interstitial



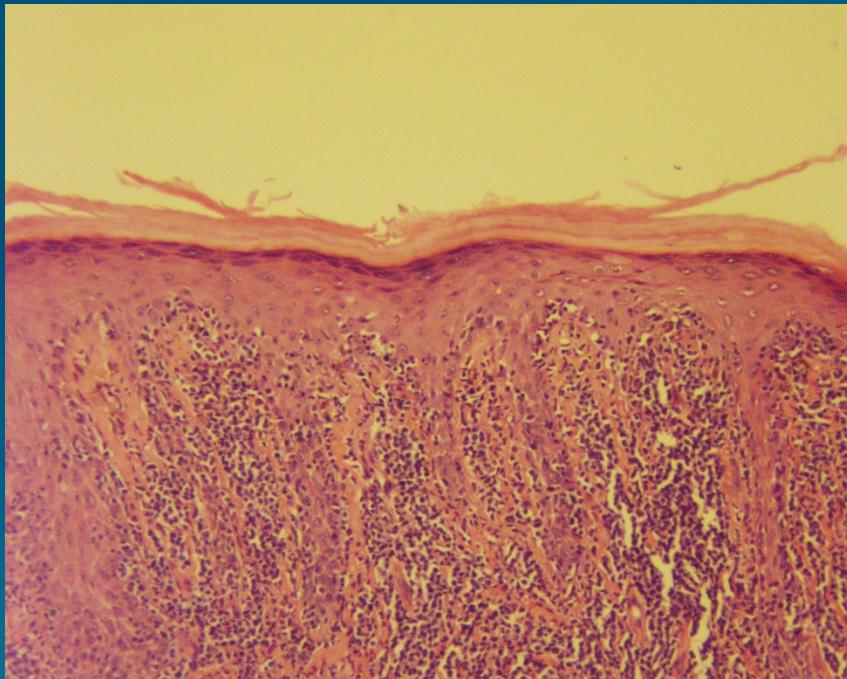
- Suppurative folliculitis, periphery
- Neutrophilic eccrine hidradenitis
- Flea bite
- Cellulitis
- Erythropoietic protoporphyrria
- Arthropod
- Erythema chronicum migrans
- Well's syndrome

Superficial/Deep Perivascular and Interstitial



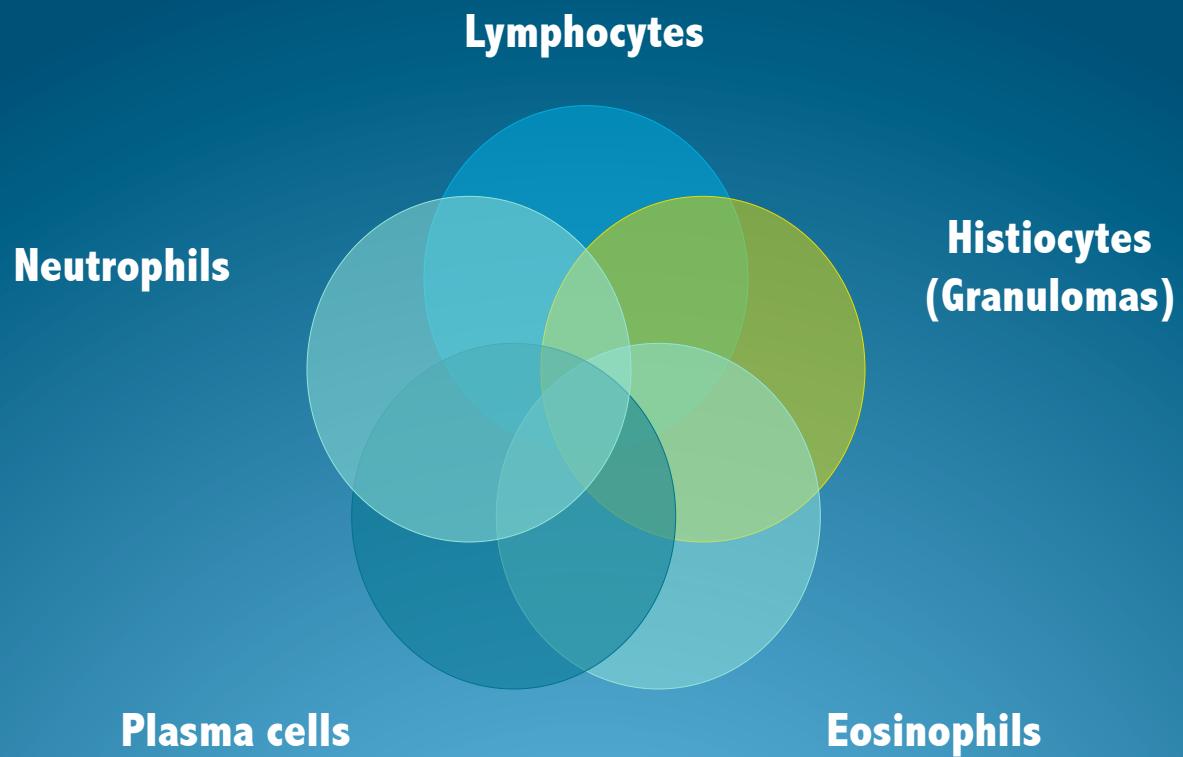
- **Granuloma annulare**
- **Necrobiosis lipoidica**
- **Interstitial granulomatous dermatitis with arthritis**
- **Mycosis fungoides, granulomatous**

Superficial/Deep Epidermal Lichenoid-Interface

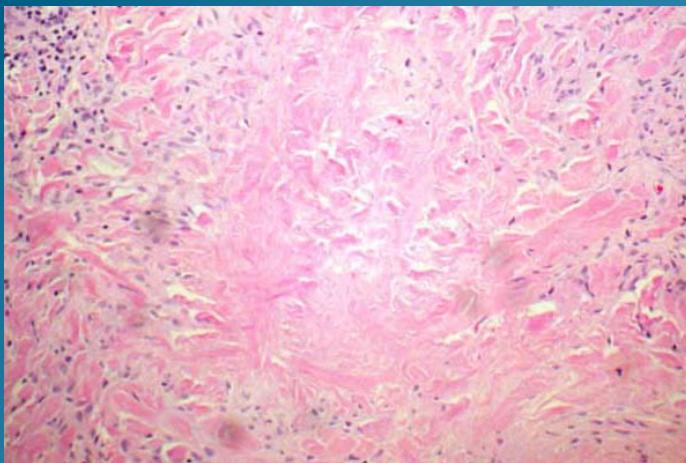
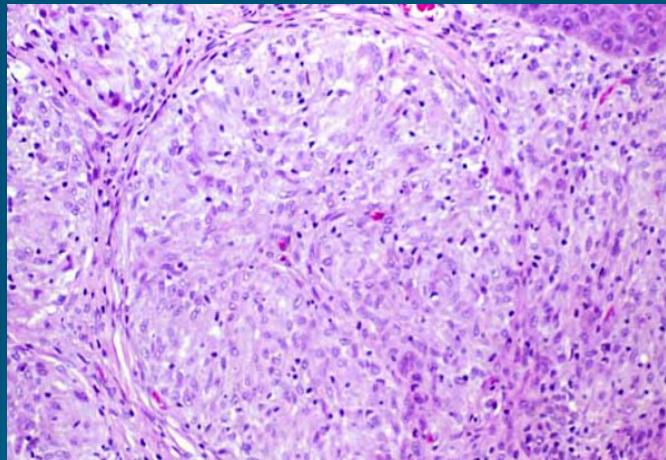


- PLEVA
Fixed drug eruption
Dermatophytosis
- LyP
GVH
DLE
- Acrodermatitis chronica atrophicans
- Mycosis fungoides,
plaque

Nodular/Diffuse Dermatitis

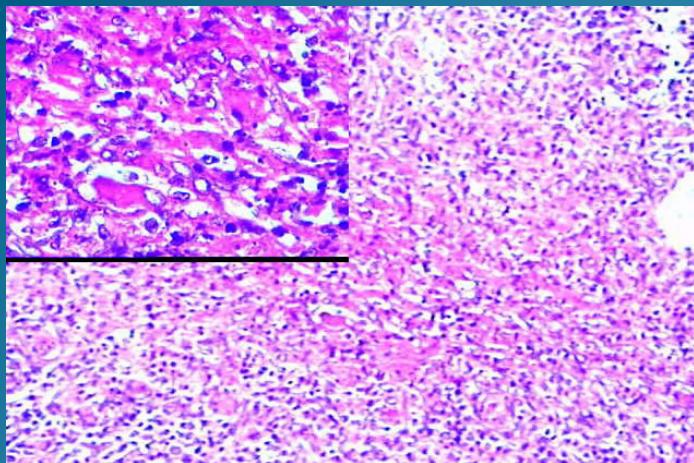
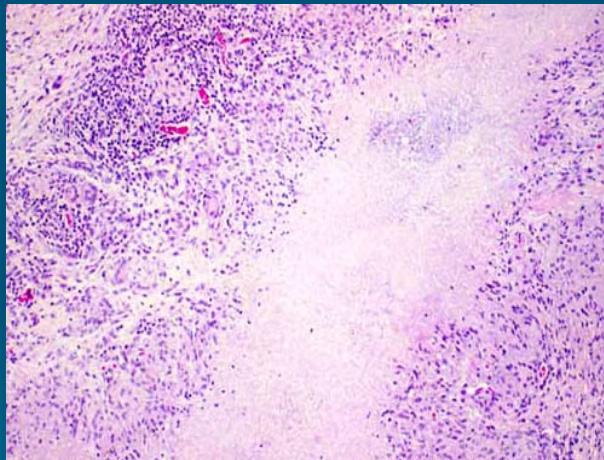


Nodular/Diffuse Dermatitis



- Histiocytes
(Granulomas)
 - Sarcoidal
 - Tuberculoid
 - Palisaded
 - Suppurative

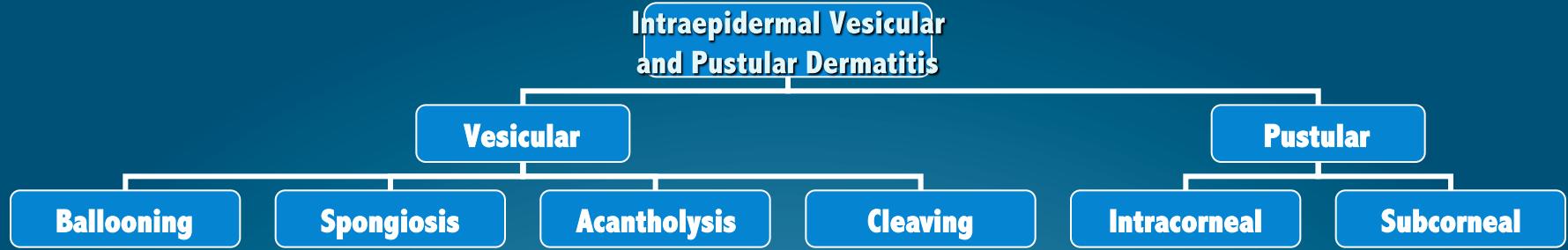
Nodular/Diffuse Dermatitis



- Histiocytes
(Granulomas)
 - Tuberculoid
 - Suppurative

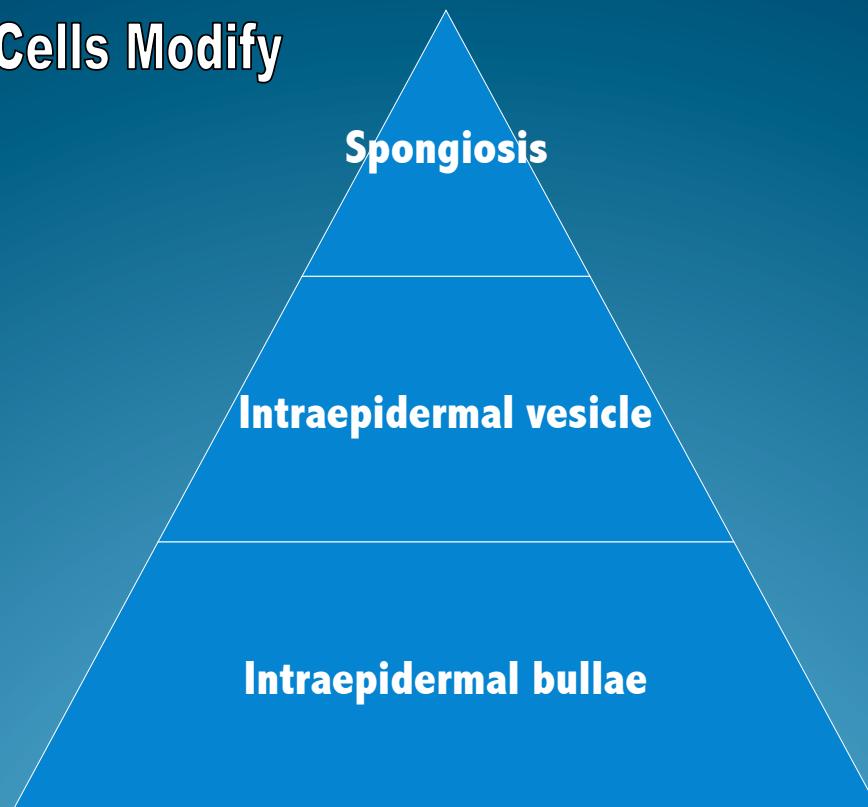
Nodular/Diffuse Dermatitis

Cell Type	Diagnosis
Neutrophils	Sweets
Eosinophils	Well's, Hypersensitivity
Plasma cells	Lyme disease
Histiocytes	Granulomatous diseases
Mixed	Granuloma faciale

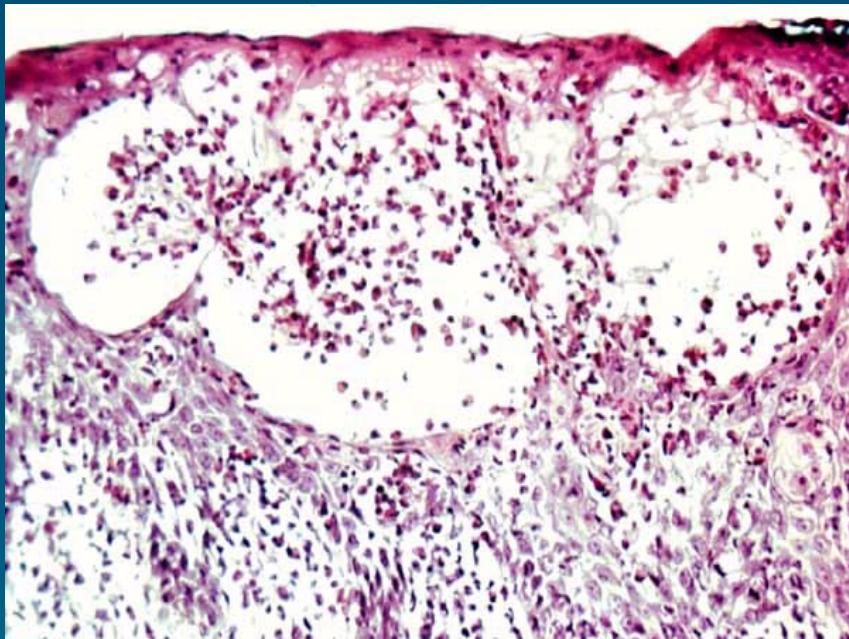


Intraepidermal Vesicular Dermatoses

Inflammatory Cells Modify

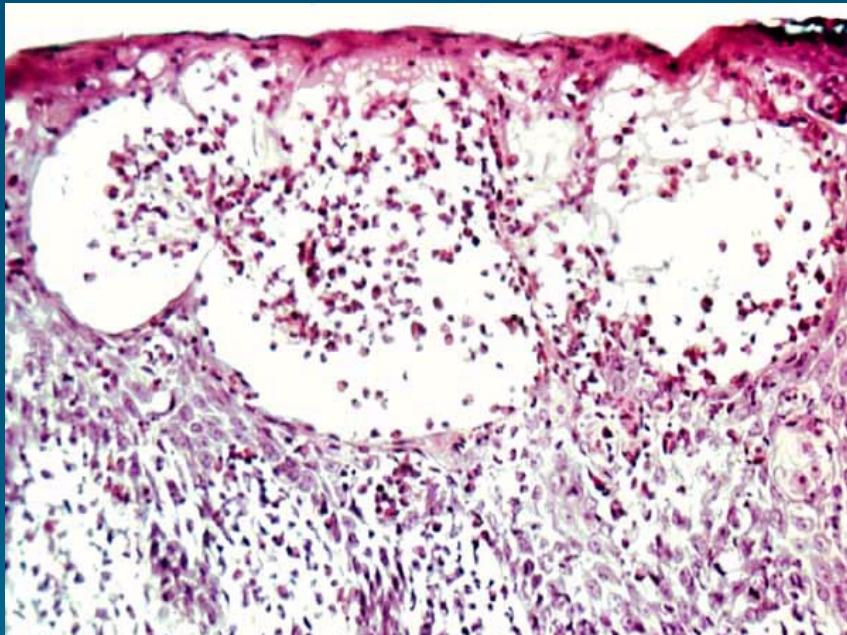


Intraepidermal Spongiosis



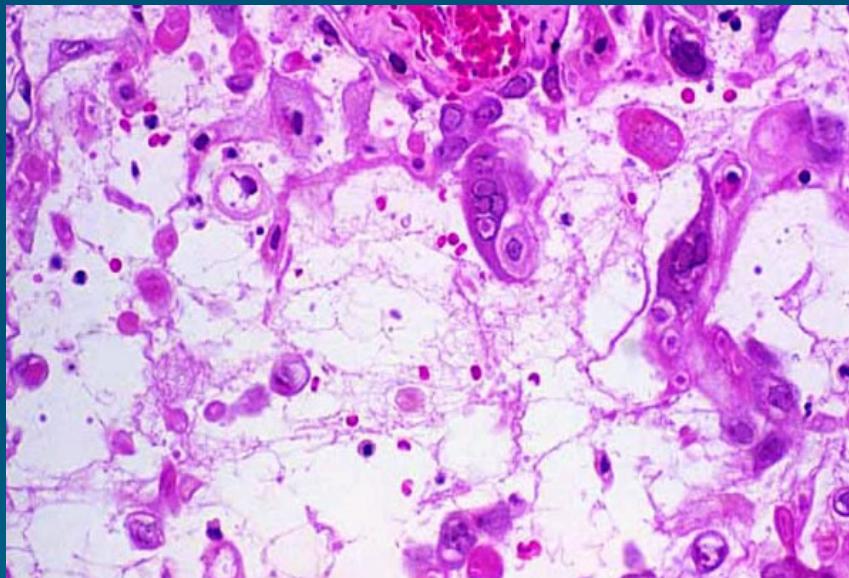
- Allergic contact dermatitis
Nummular dermatitis
Dyshidrotic dermatitis
- Id reaction
Photoallergic dermatitis,
early
Dermatophytosis
Miliaria rubra
Gianotti-Crosti syndrome
Pityriasis rosea
Erythema annulare
centrifugum
Seborrheic dermatitis
- Lichen striatus
Pityriasis alba
- Mycosis fungoides, macule/
patch

Intraepidermal Spongiosis



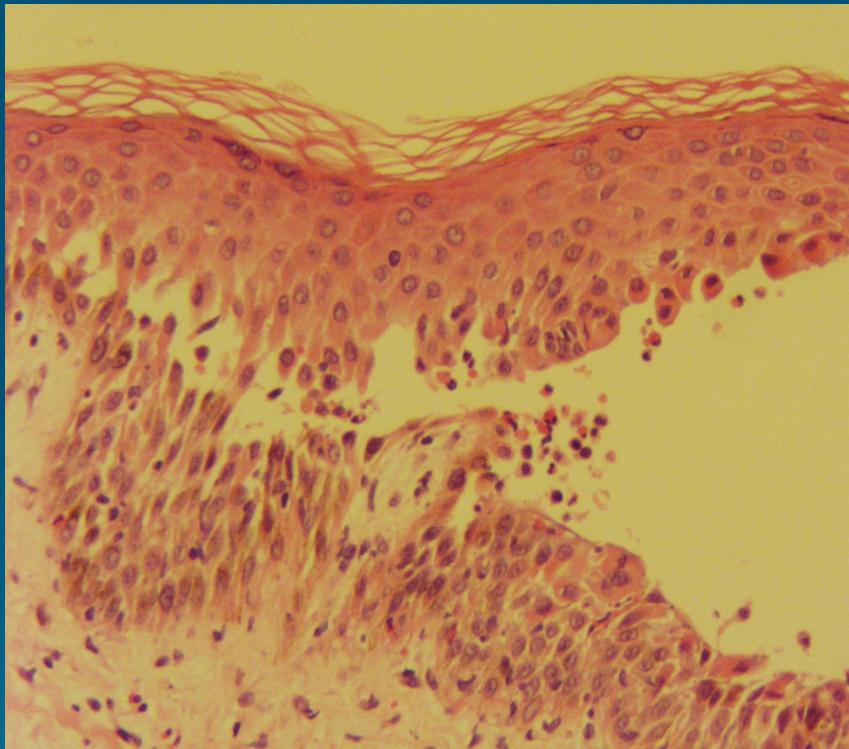
- PUPPP
Allergic contact dermatitis
Nummular dermatitis
Dyshidrotic dermatitis
- Id reaction
Bullous pemphigoid
Herpes gestationis
Pemphigus vulgaris,
urticarial
Incontinentia pigmenti
- Toxic erythema of newborn
Arthropod assault

Intraepidermal Ballooning



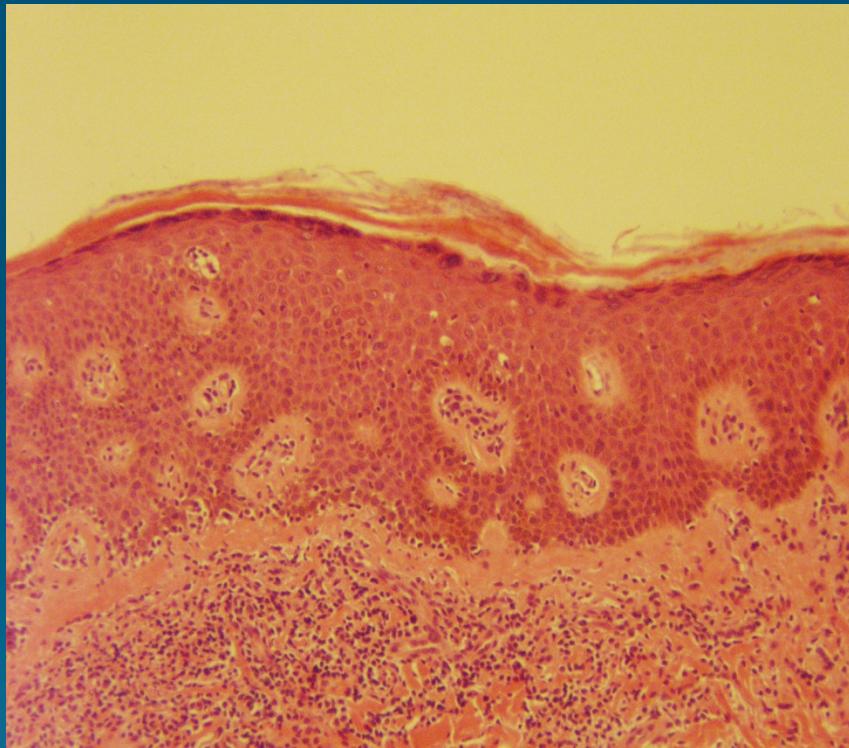
- Herpes
- Orf
- Parapox infection
- Measles
- Hydroa aestivale/
Hydroa vacciniforme

Intraepidermal with Acantholysis



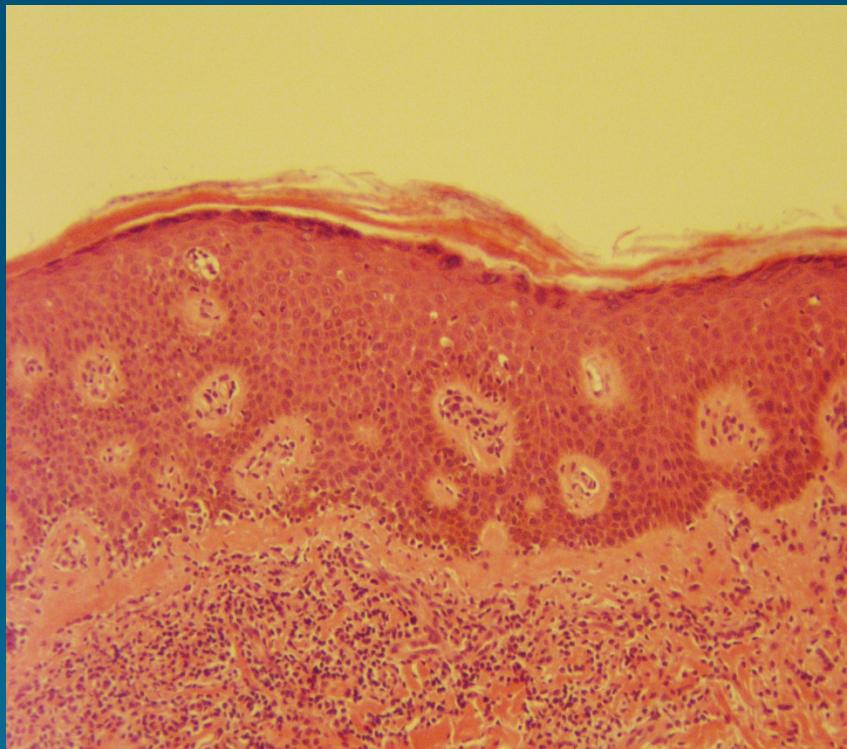
- Pemphigus vulgaris
Pemphigus vegetans
Pemphigus erythematosus
Pemphigus foliaceus
Fogo selvagem
- Grover's disease

Intraepidermal Spongiotic Psoriasiform/Lichenoid



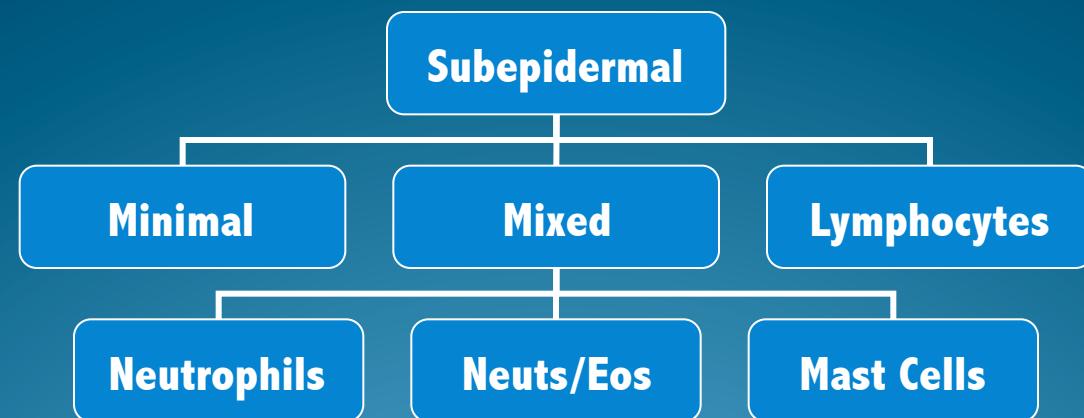
- Allergic contact dermatitis
- Nummular dermatitis
- Dyshidrotic dermatitis
- Id reaction
- Seborrheic dermatitis
- Nonbullous congenital ichthyosiform erythroderma
- Lichen striatus

Intraepidermal Spongiotic Psoriasiform/Lichenoid

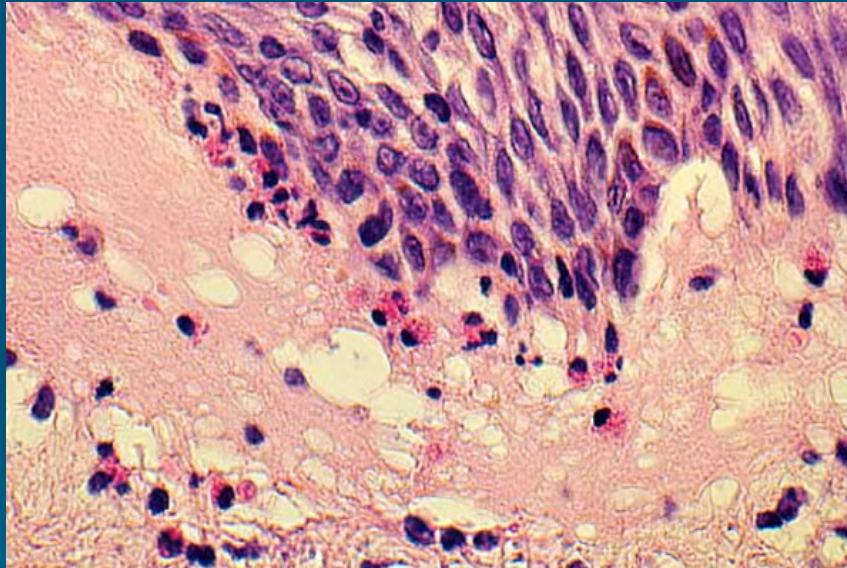


- **Lichen striatus**
- **Bullous pemphigoid**
- **Herpes gestationis, urticarial**
- **MF**

Subepidermal Vesicular Dermatoses

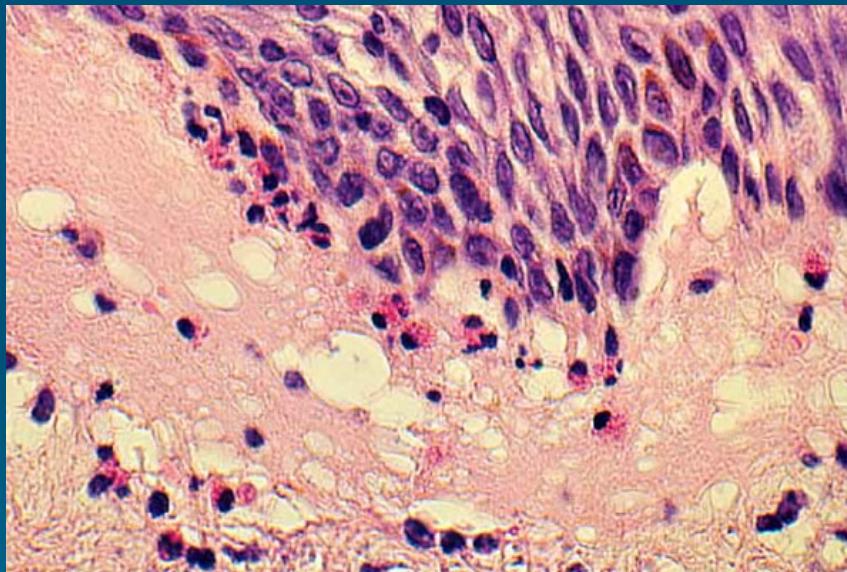


Subepidermal Vesicular Dermatoses



- **Bullous pemphigoid/Herpes gestationis**
- **Cicatricial pemphigoid**
- **Dermatitis herpetiformis/ Linear IgA disease**

Subepidermal Vesicular Dermatoses

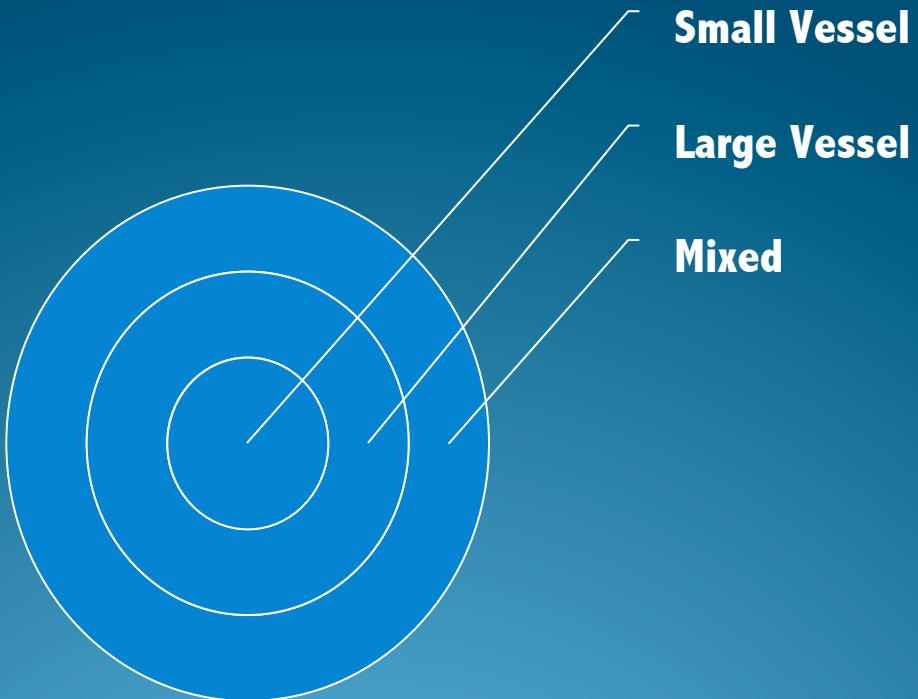


- EBA
- Bullous LE
- Bullous mastocytosis
- Bullous amyloidosis
- Drug reactions
- LP

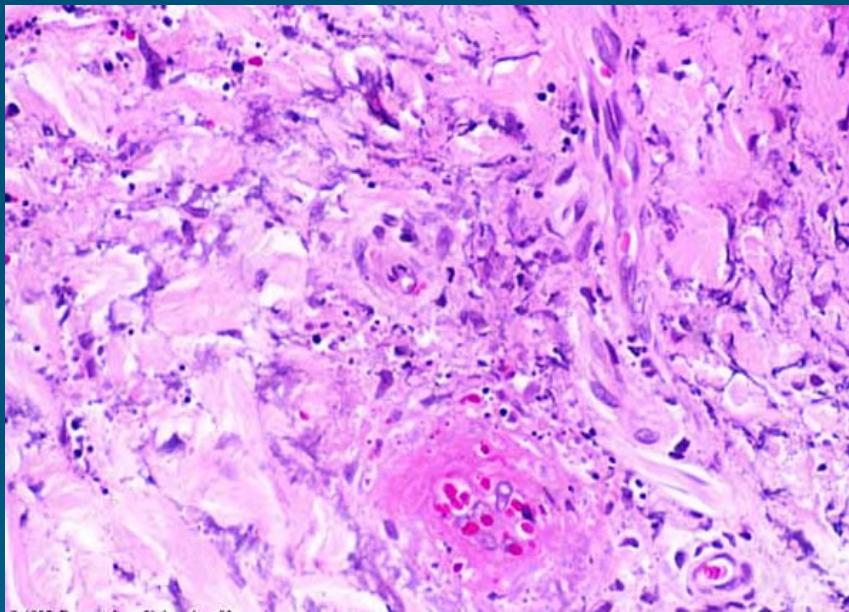
Special Categories

- Vasculitis
- Alopecia
- Folliculitis/Perifolliculitis
- Fibrosing dermatitis
- Panniculitis

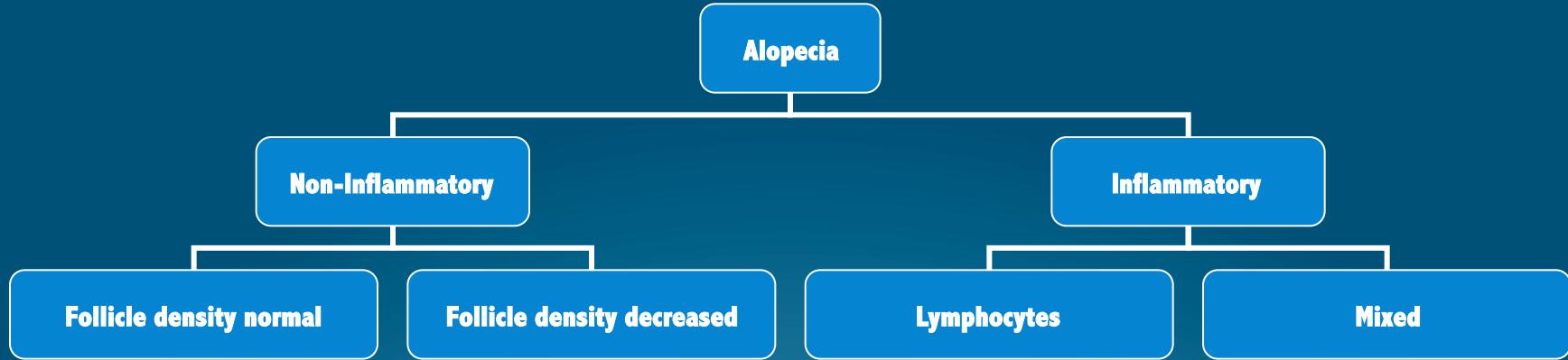
Vasculitis



Vasculitis

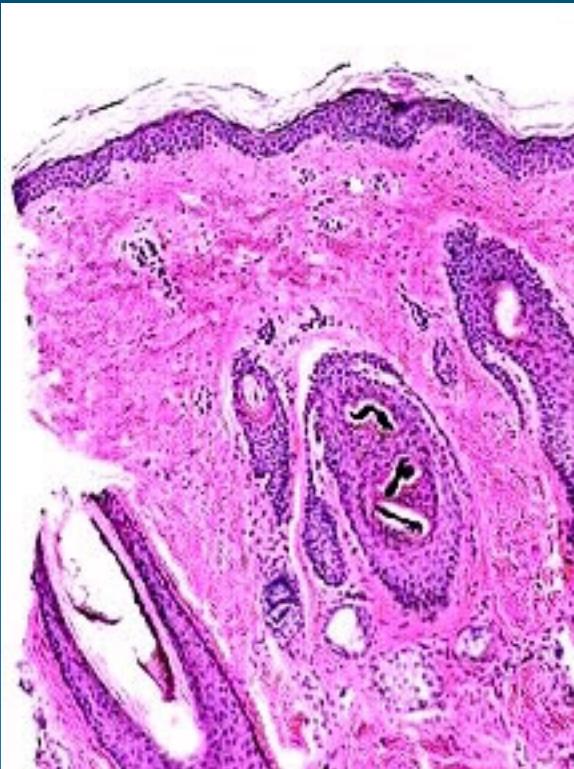


- Leukocytoclastic vasculitis
- Microscopic arteritis
- Polyarteritis nodosa
- Erythema induratum



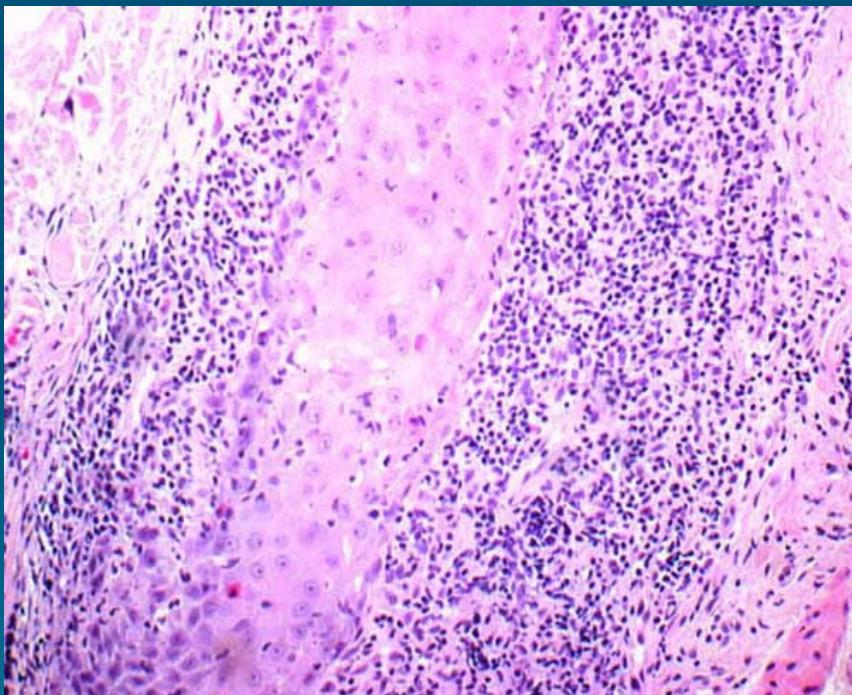
Alopecia

Non-Inflammatory

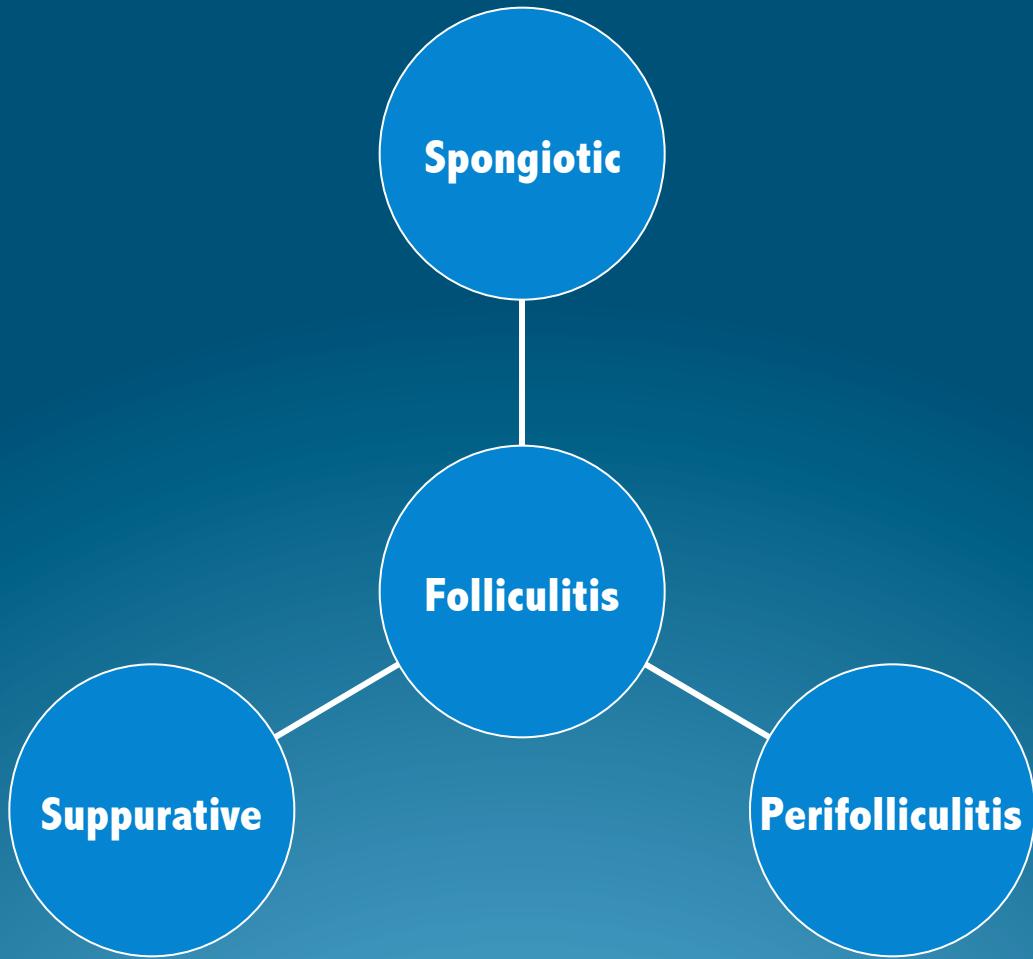


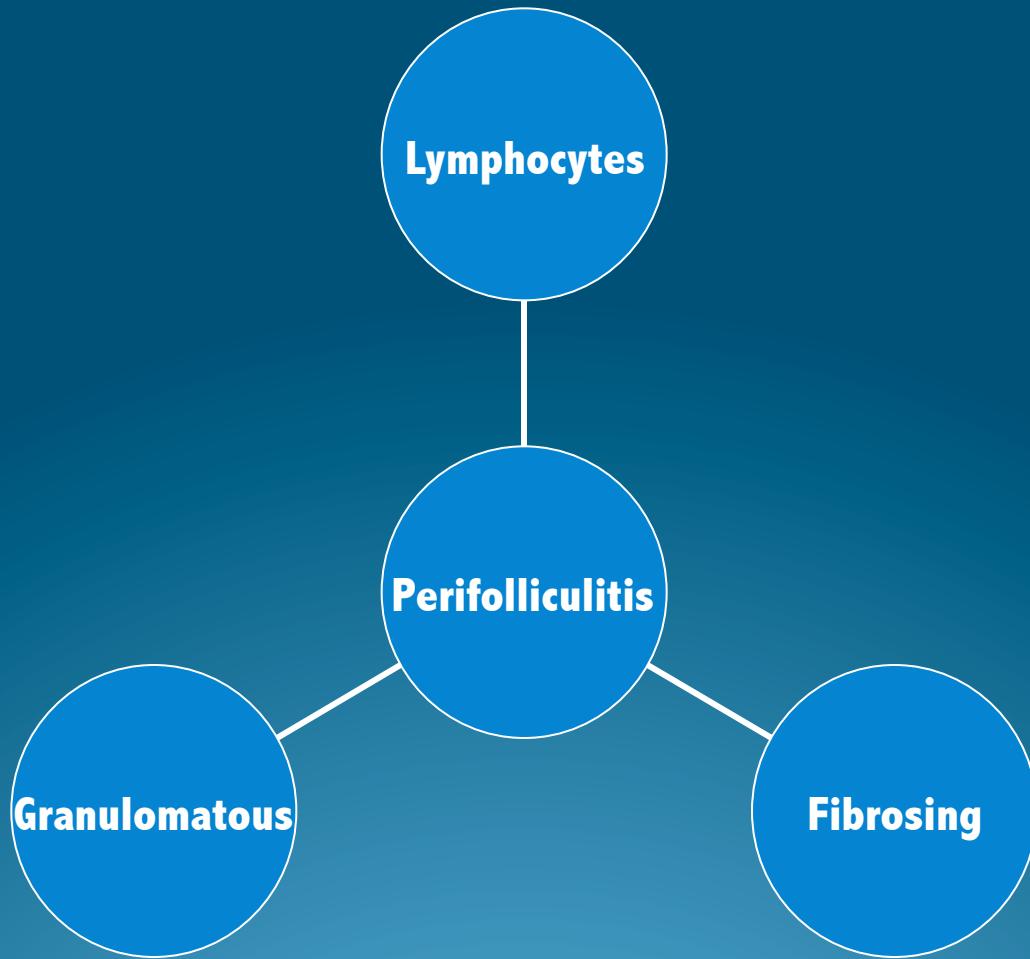
- Follicle density normal
 - Androgenic alopecia
 - Telogen effluvium
 - Trichotillomania
- Follicle density decreased
 - Traction alopecia

Alopecia Inflammatory

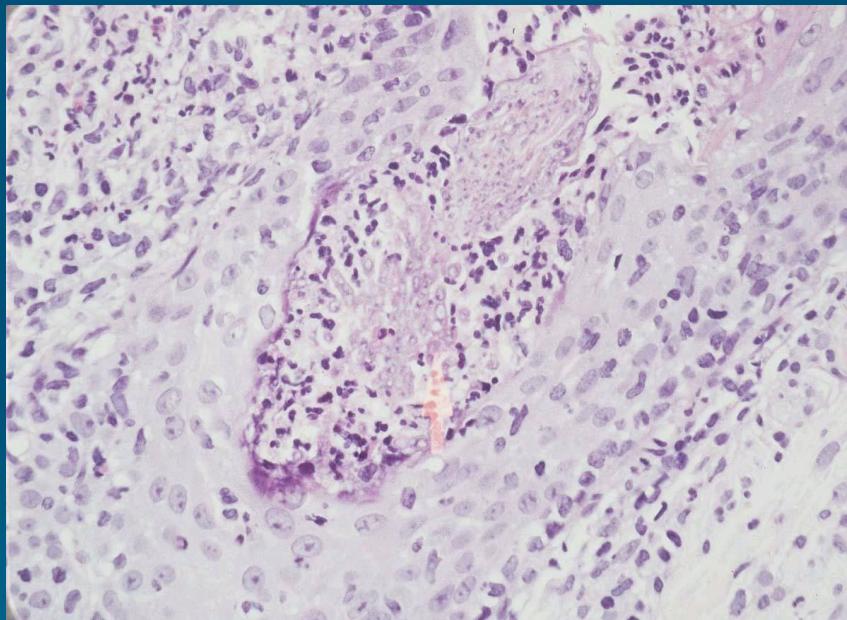


- **Alopecia areata**
Lichen planopilaris
DLE
Scleroderma
- **Folliculitis decalvans**
Tinea capitis
Majocchi's granuloma
Burns/Radiation
- **Syphilis**
- **Scar**
 - **LPP**
Scleroderma
DLE



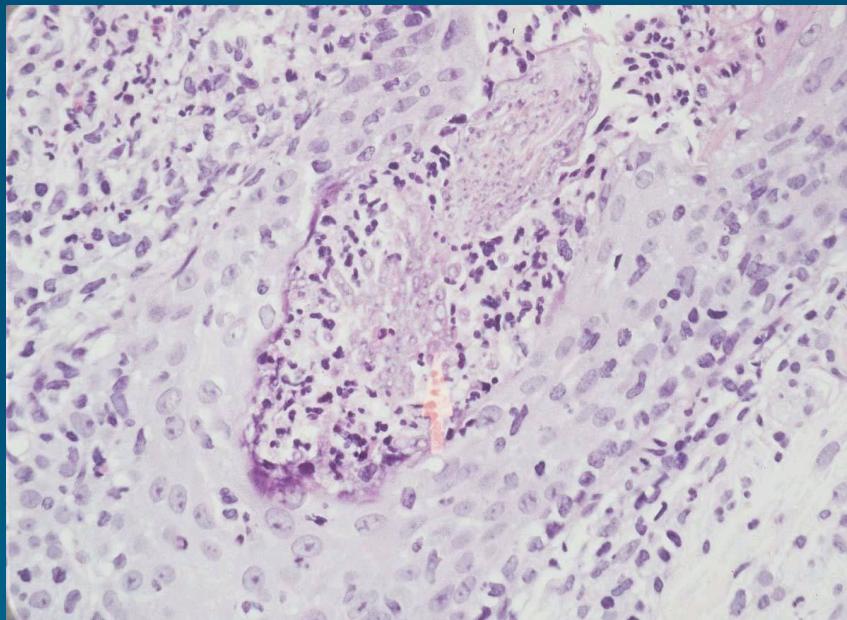


Folliculitis/Perifolliculitis



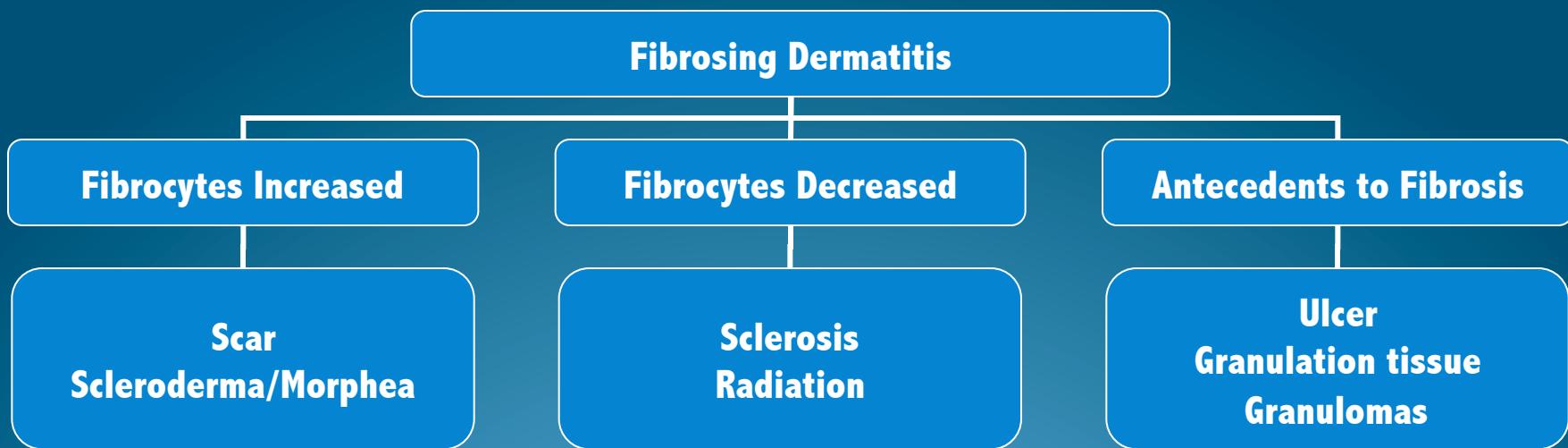
- Infectious (Staph, Strep, Dermatophytosis Endothrix/Ectothrix)
- **Acne vulgaris**
Acne rosacea
Perforating disorders

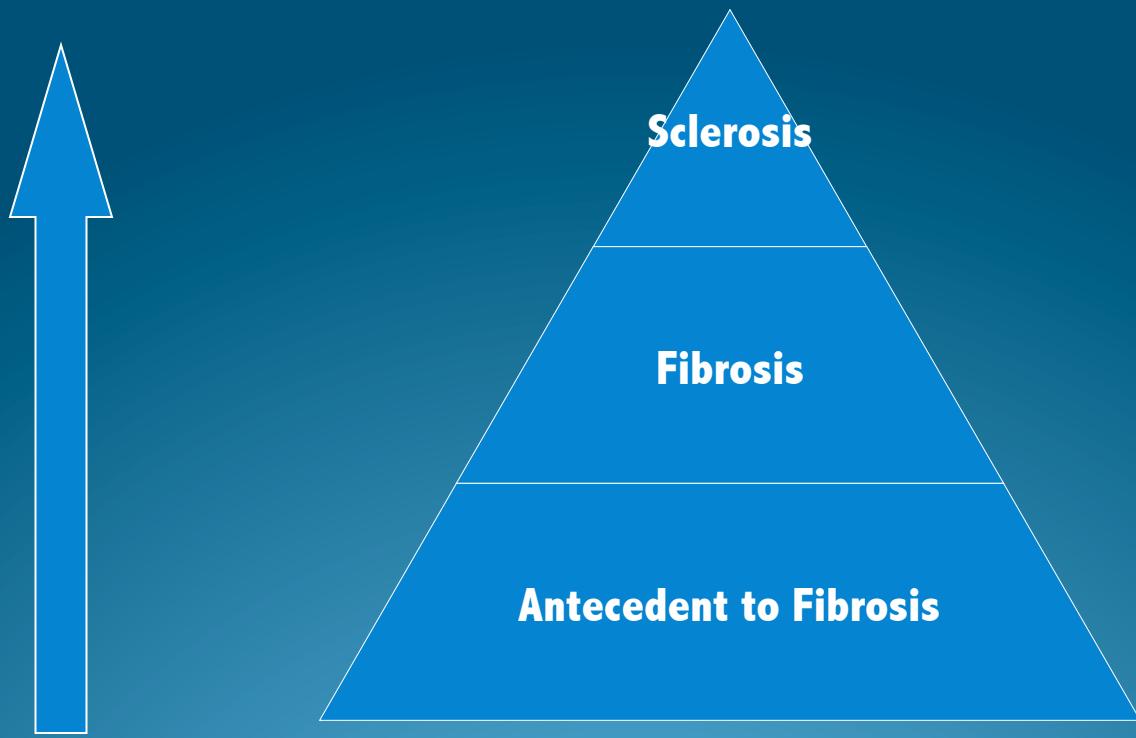
Folliculitis/Perifolliculitis



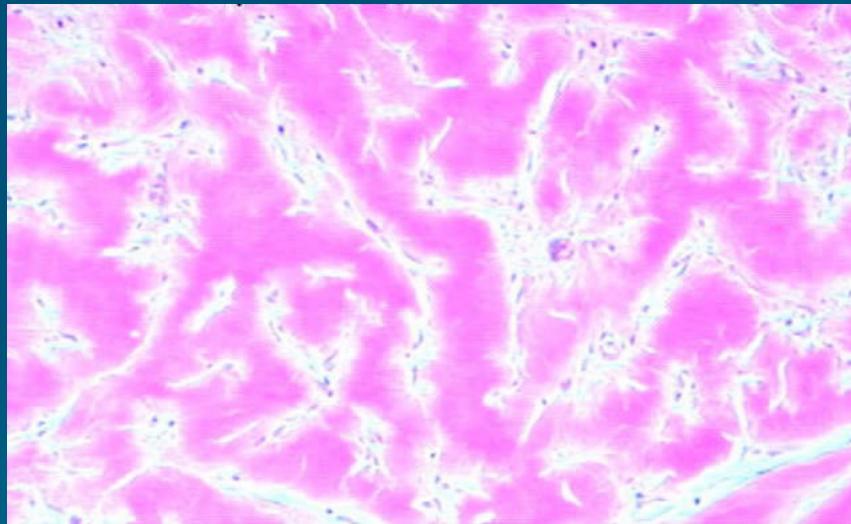
- Infundibulofolliculitis
Alopecia mucinosa
- Perifolliculitis
 - Scurvy
 - Lichen planopilaris
 - DLE
 - Rosacea
 - Keratosis pilaris

Fibrosing Dermatitis





Fibrosing Dermatitis



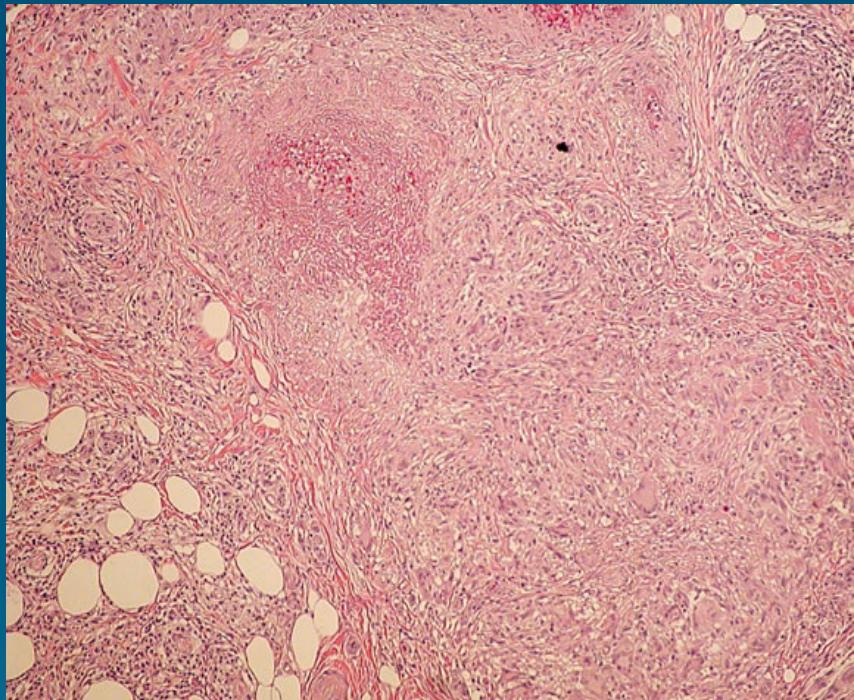
- Scar
- Chronic lymphedema
- Keloid
- Dermatofibroma
- Anetoderma
- Acrodermatitis chronica atrophicans
- LSEA/Morphea
- Radiation sclerosis

Panniculitis

Septal
With or without vasculitis

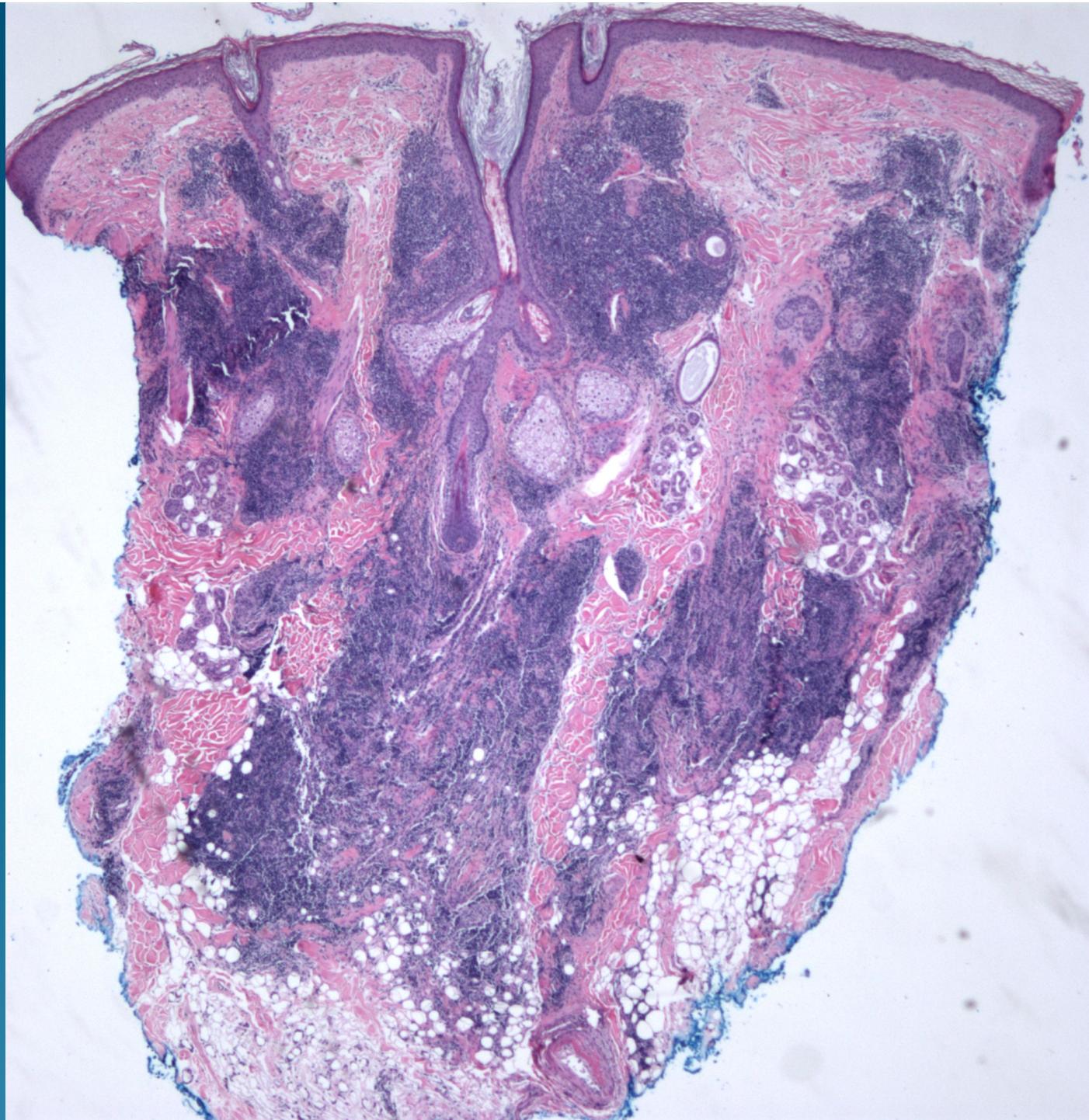
Lobular
With or without Vasculitis

Panniculitis

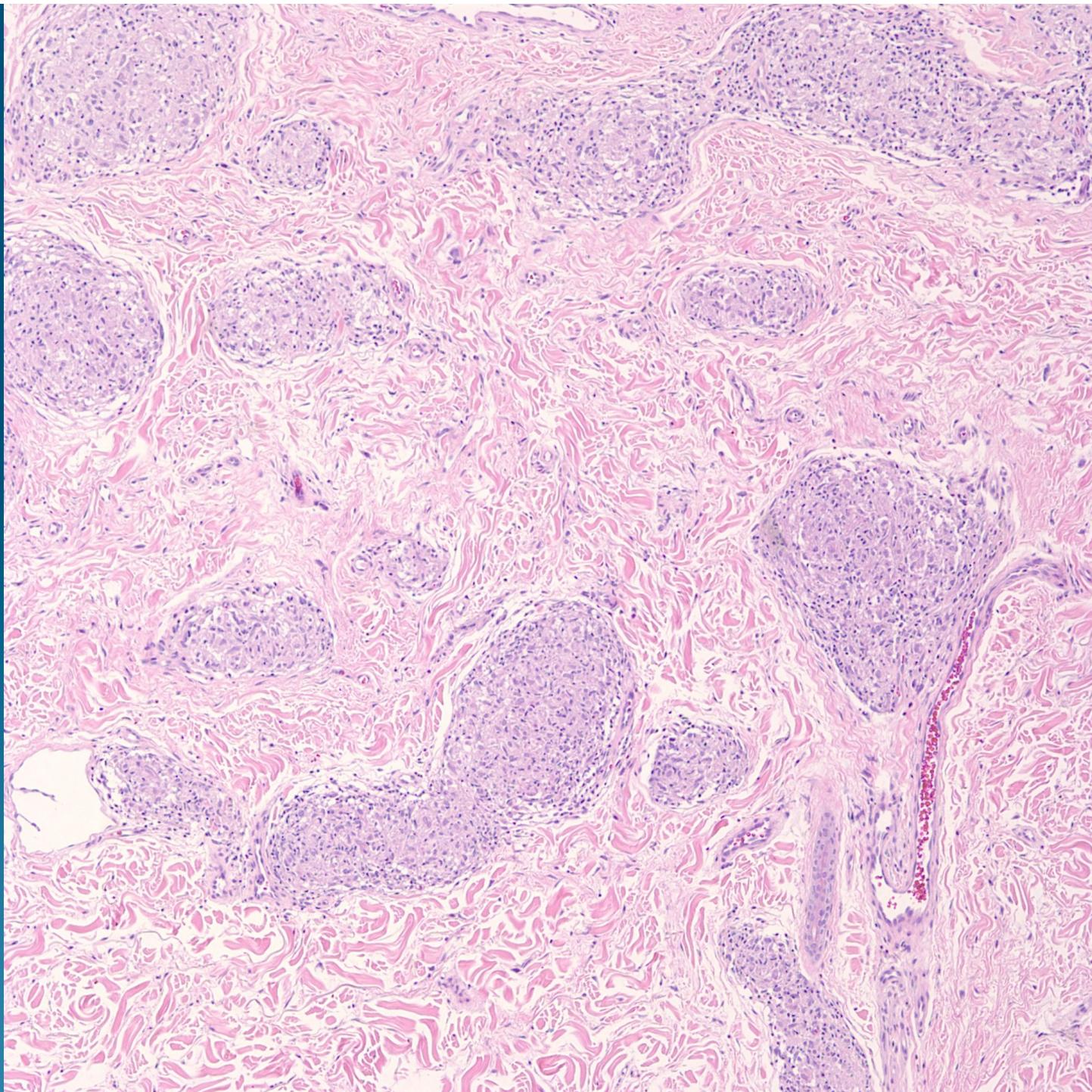


- Erythema nodosum
Erythema induratum
- Lupus panniculitis
Infectious
Pancreatic fat necrosis
Lymphoma
SubQ fat necrosis
Poststeroid
panniculitis

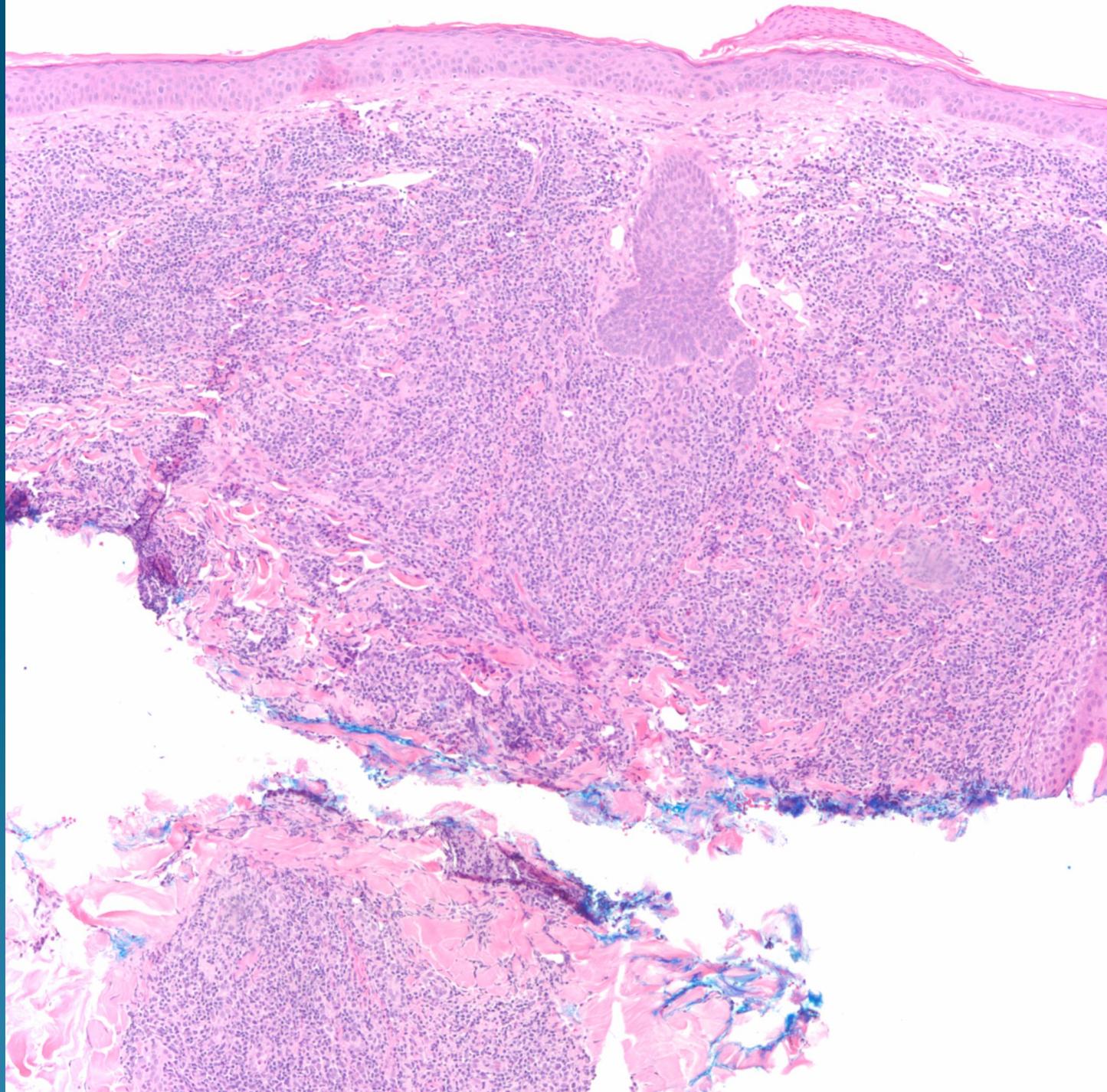
Identify the Histopathologic Pattern



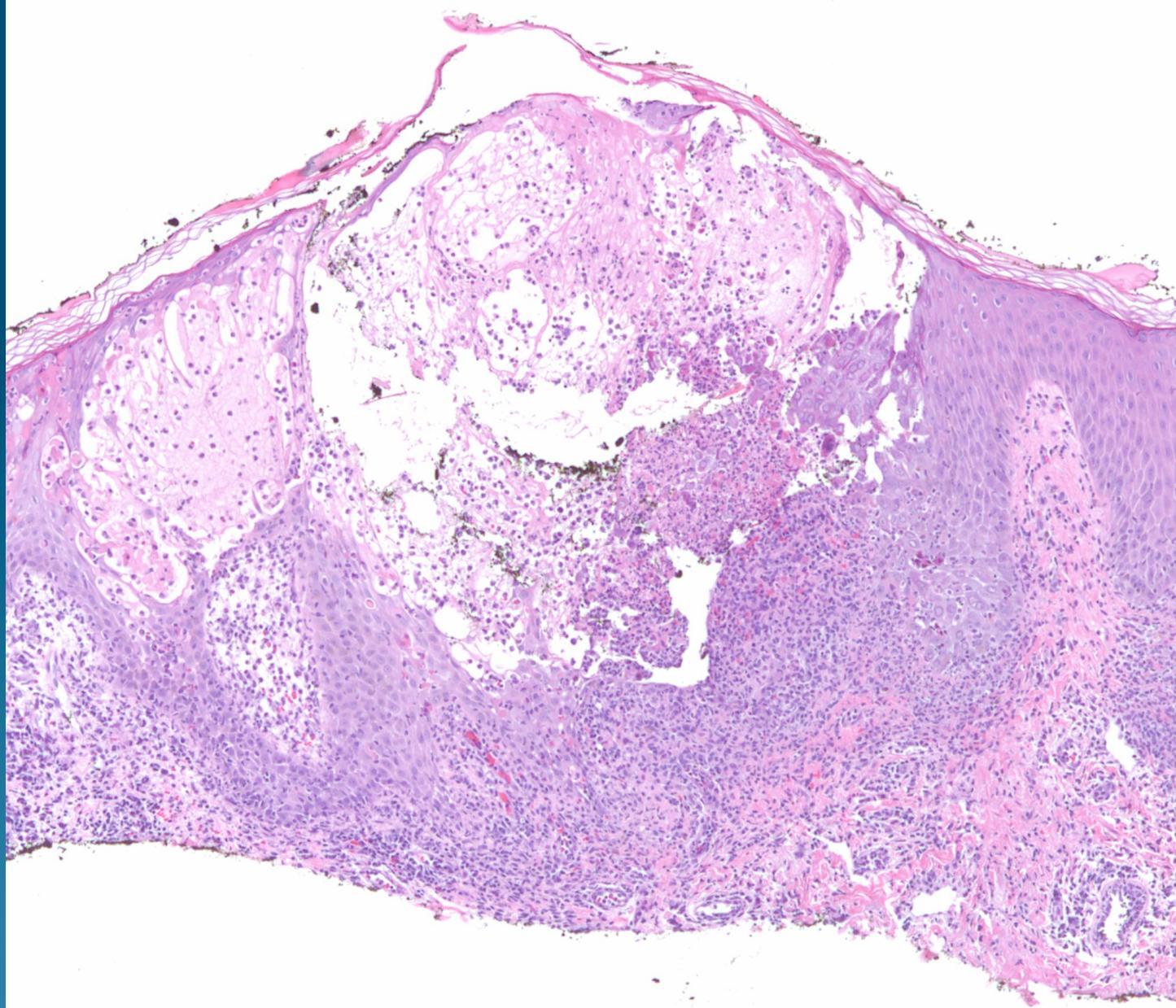
Superficial and Deep Perivascular Dermatitis with Periadnexal Dermatitis



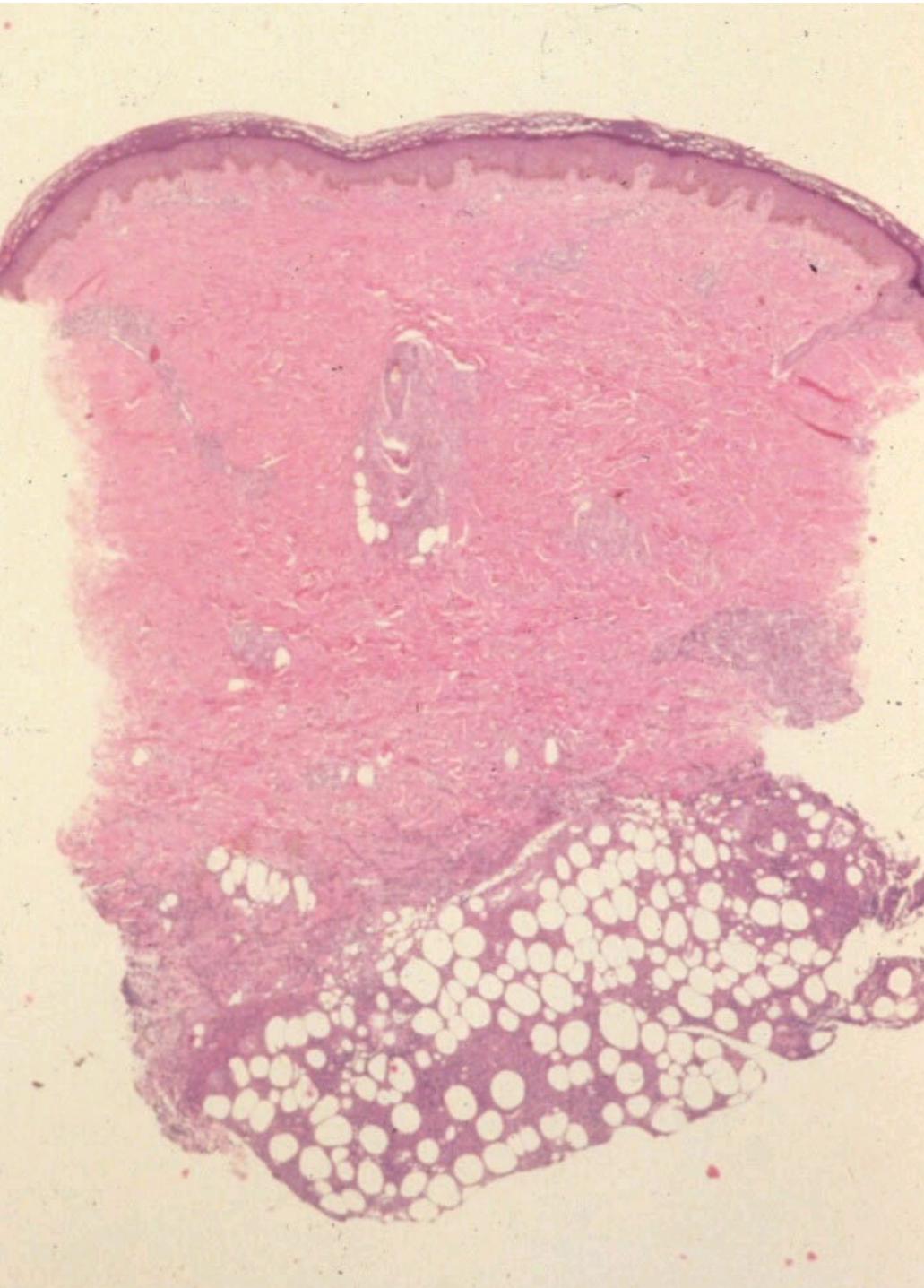
Non-Caseating Granulomatous Dermatitis



Nodular and Diffuse Dermatitis



Intraepidermal Bullous Dermatosis



Lobular Panniculitis

Questions

Would you have invested?



Microsoft Corporation, 1978

- People talk fundamentals and superlatives and then make some changes of detail.

Oliver Wendell Holmes Jr. (1841 - 1935)