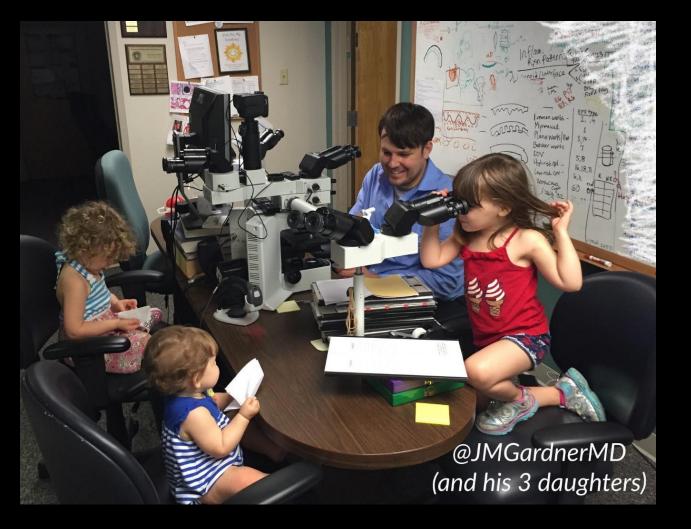
Inflammatory Dermpath 101

Jerad M. Gardner, MD

Disclosures

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@JMGardnerMD

A complete organized library of all my videos, digital slides, pics, & sample pathology reports

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DERMPATH MEGA INDEX!

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BONE & SOFT MEGA INDEX!

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Why does inflammatory dermpath matter? ("But it's just a rash!")

- It's not a tumor...you can't just excise it & hope for the best
 - Patient will continue returning to dermatologist until it improves
 - Frustrating for patients and dermatologists
- Low mortality but high morbidity
 - Severe itch can be as bad as chronic pain for quality of life
- Even non-dermatopathologists will encounter inflammatory skin conditions in practice at times

Outline of inflammatory patterns

- Spongiotic
- Psoriasiform
- Vacuolar/lichenoid interface
- Superficial perivascular
- Superficial & deep perivascular
- Granulomatous
- Palisaded necrobiotic granulomatous
- Leukocytoclastic vasculitis
- Thrombotic vasculopathy
- Panniculitis
- Miscellaneous entities

How to approach an inflammatory skin biopsy

- 1. Figure out the pattern microscopically
- 2. Then look at the dermatologist's differential diagnosis
- 3. Look up each entity from their differential to see if it fits with the pattern or not (ie - help narrow their differential)
- 4. Use pattern for final diagnosis line... dermatologist can often figure it out from there
- 5. If in doubt, call the dermatologist

DON'T SAY "acute" or "chronic" inflammation in dermpath!

Just describe the pattern & the types of inflammatory cells

"Superficial & deep perivascular lymphocytic infiltrate with eosinophils" Spongiotic pattern

Spongiotic Pattern

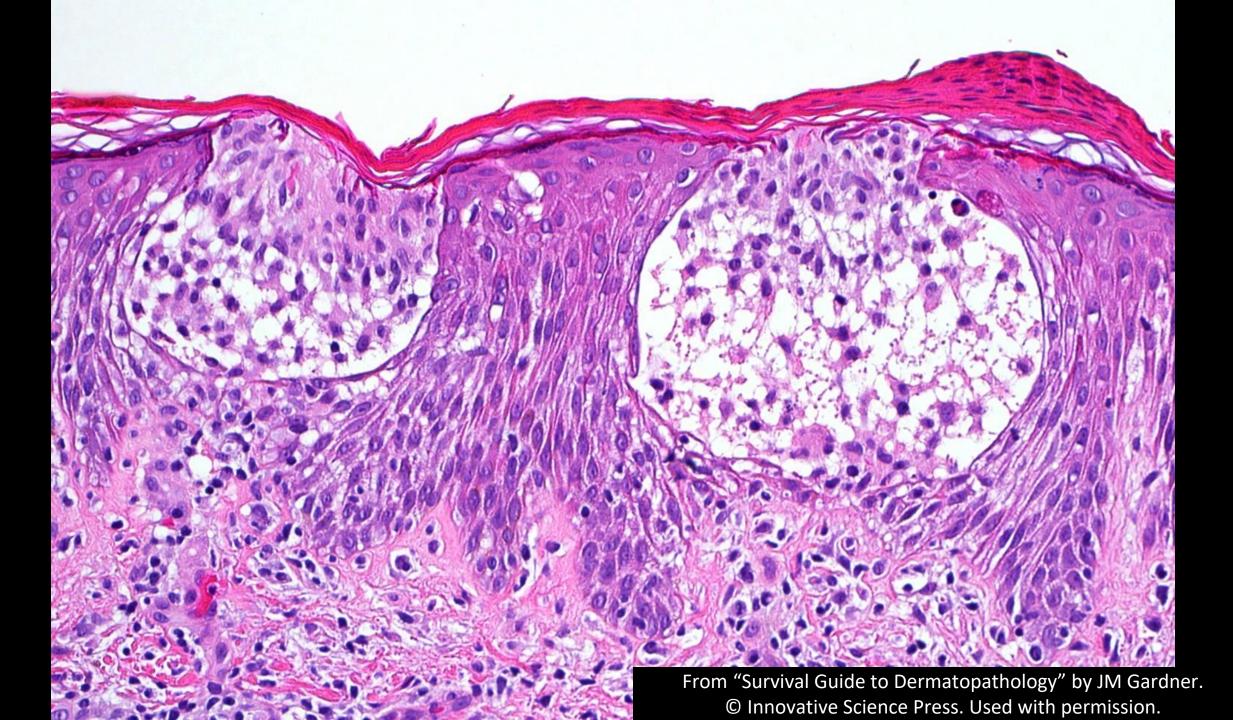
Spongiotic Pattern

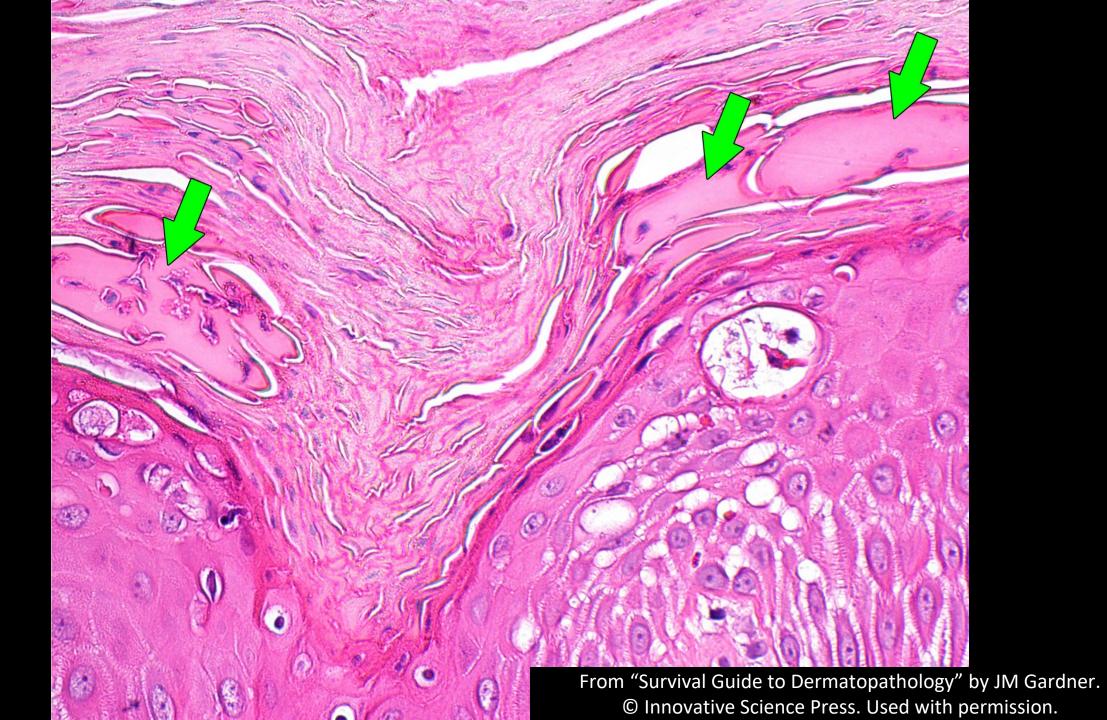
Key Features

Example Diseases

Intraepidermal edema/spongiosis Lymphocyte exocytosis in epidermis +/- parakeratosis and serum in corneal layer Atopic/eczematous dermatitis Nummular dermatitis Dyshidrotic dermatitis Contact dermatitis Seborrheic dermatitis Eczematous drug eruption Acute generalized exanthematous pustulosis (AGEP)







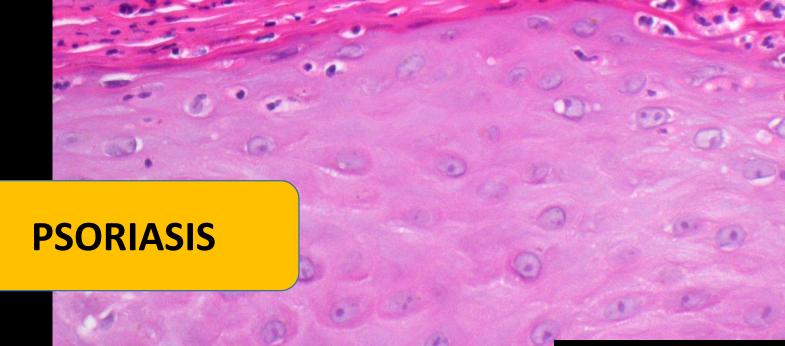
Psoriasiform pattern

Psoriasiform Pattern

Psoriasiform Pattern

Psoriasis

Pityriasis rubra pilaris (PRP) Zinc and other nutritional deficiencies Glucagonoma syndrome Secondary syphilis



Vacuolar & Lichenoid interface patterns

Vacuolar Interface Pattern

Vacuolar Interface Pattern

Vacuoles along basal layer (at "interface" of dermis and epidermis) Apoptotic/dying keratinocytes in epidermis

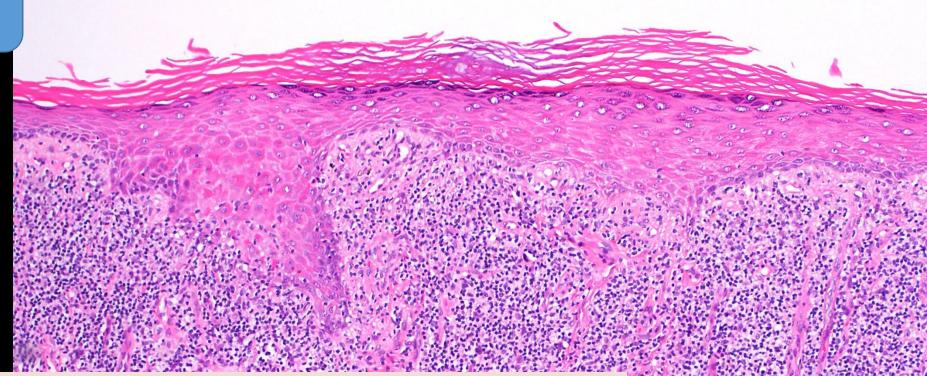
Sparse lymphocytes along basal layer

Erythema multiforme Stevens-Johnson syndrome/toxic epidermal necrolysis spectrum (SJS/TEN) Acute graft versus host disease (GVHD) Fixed drug eruption Lupus erythematosus Dermatomyositis



Lichenoid Interface Pattern

Lichenoid Interface Pattern



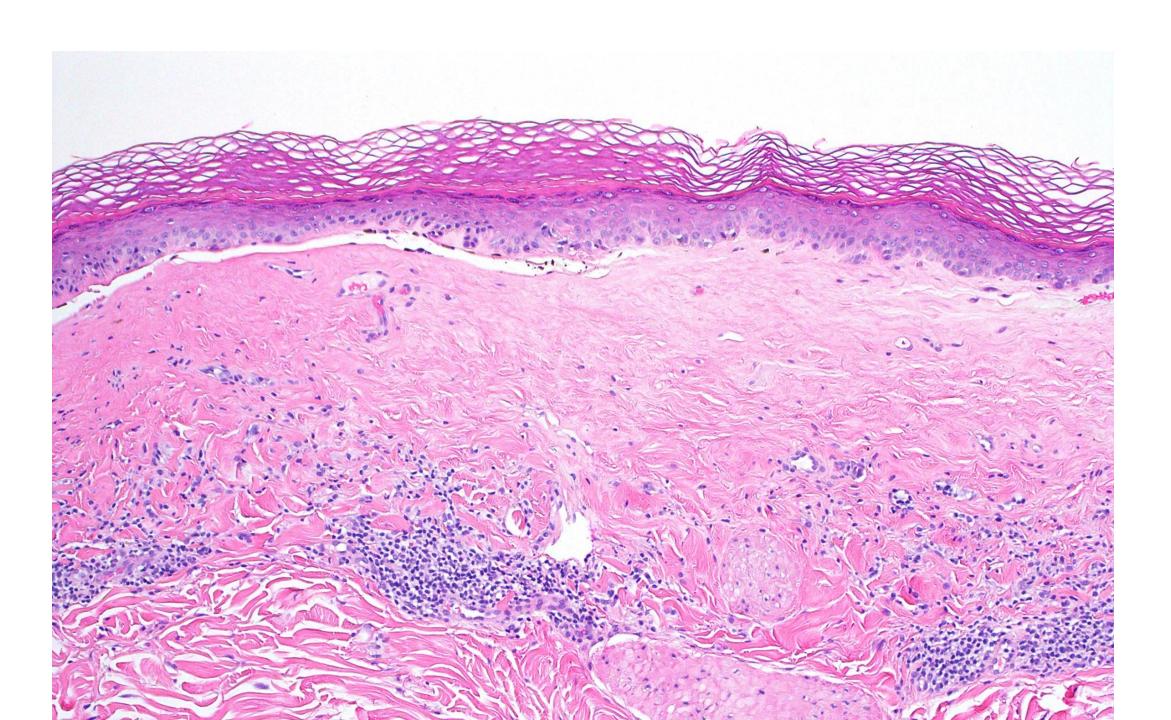
Vacuoles along basal layer (at "interface" of dermis and epidermis) Apoptotic/dying keratinocytes in epidermis

Dense band of lymphocytes along basal layer and papillary dermis Lichen planus Lichenoid drug/hypersensitivity reaction Lichen striatus Lichen nitidus



LICHEN PLANUS

LICHEN SCLEROSUS (ET ATROPHICUS)



LICHEN SCLEROSUS (ET ATROPHICUS)

LICHEN SCLEROSUS (ET ATROPHICUS), INFLAMMATORY PHASE

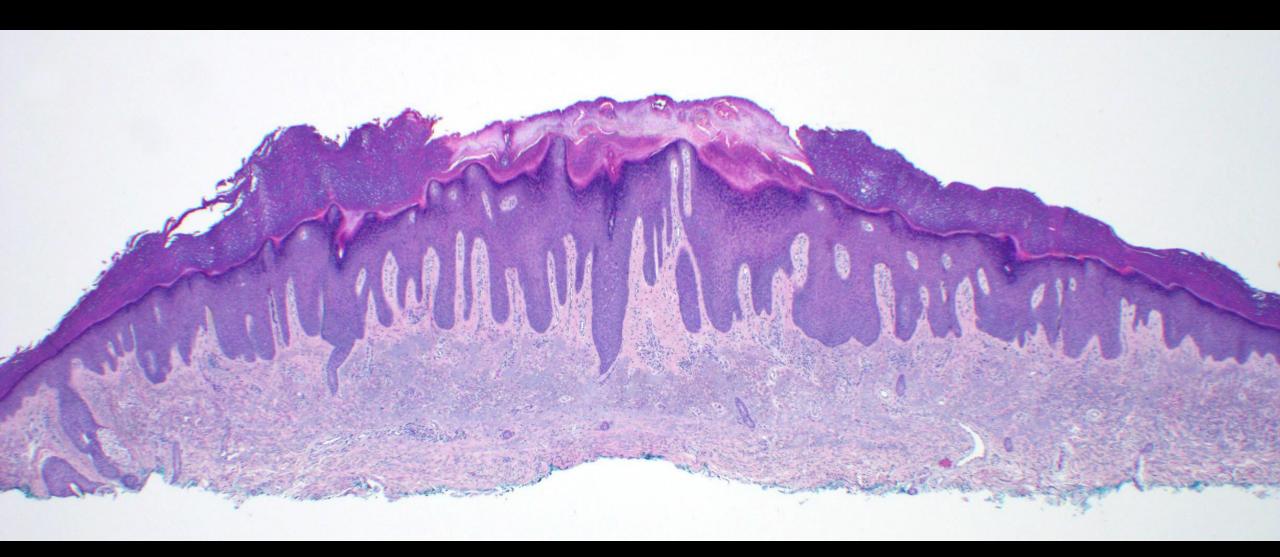
LICHEN SIMPLEX CHRONICUS

LSC is lichenoid in <u>name only</u>

"Lichenified" = LSC is present

Reactive skin thickening from chronic rubbing or itching. NO lichenoid band of lymphocytes.





PRURIGO NODULARIS

Just like LSC, but clinically it's a localized discrete lesion.

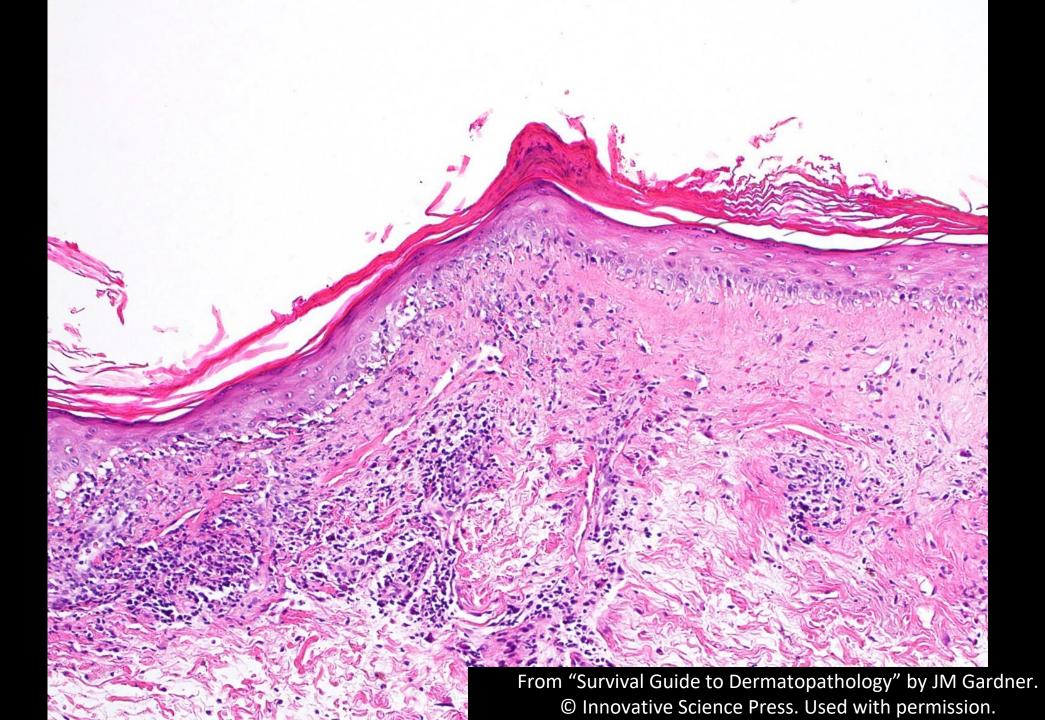
Clinical ddx: "prurigo vs SCC"



EXCORIATION (with adjacent LSC)

STEVENS-JOHNSON SYNDROME/ TOXIC EPIDERMAL NECROLYSIS SPECTRUM (SJS/TEN) ERYTHEMA MULTIFORME CAN LOOK IDENTICAL! ...MUST HAVE CLINICAL INFO TO DISTINGUISH



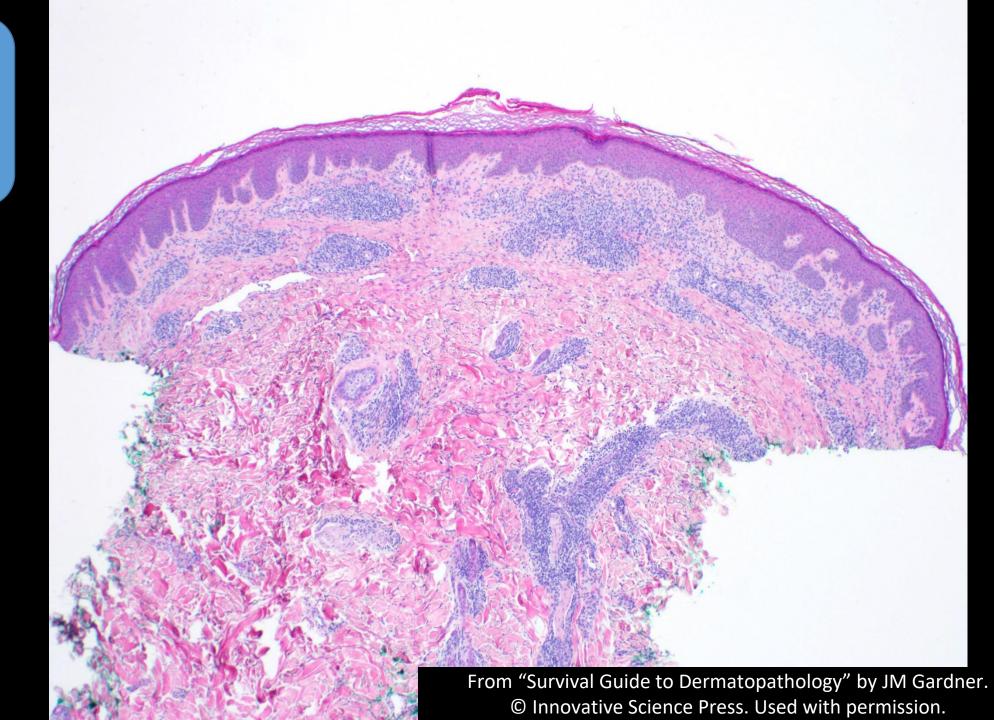


LUPUS ERYTHEMATOSUS

DISCOID LUPUS ERYTHEMATOSUS

Superficial & deep perivascular pattern

Superficial & Deep Perivascular Pattern



Superficial & Deep Perivascular Pattern

ARTHROPOD BITE REACTION

Drug eruptions Arthropod bite reaction Polymorphous light eruption (PMLE) Perniosis Erythema annulare centrifugum (EAC)

Lupus erythematosus

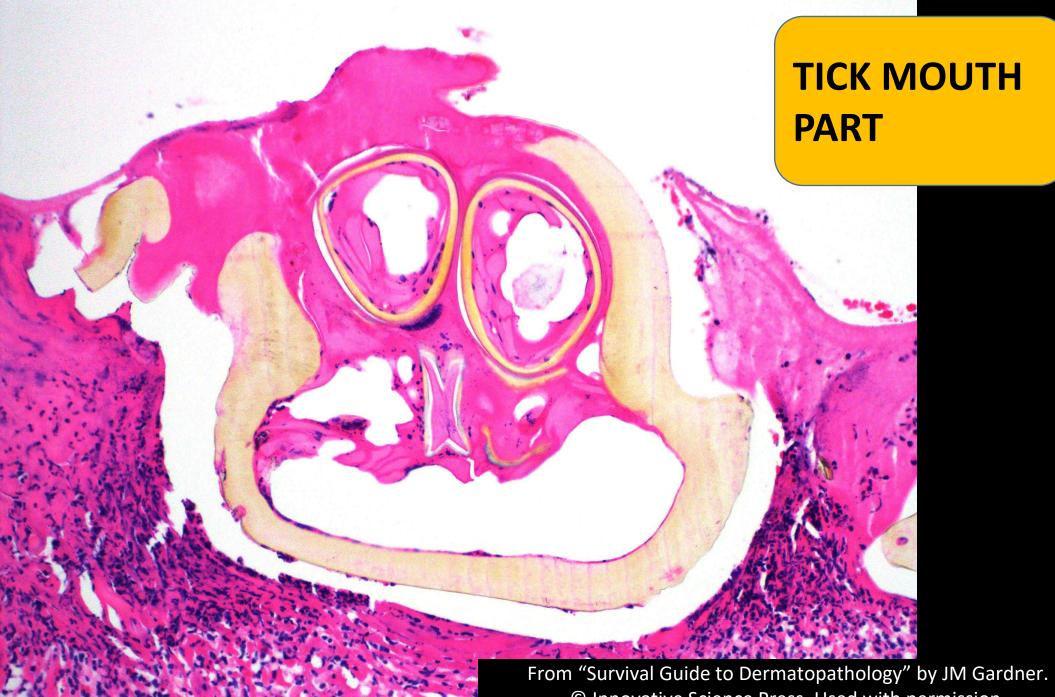
Secondary syphilis

WELLS SYNDROME (EOSINOPHILIC CELLULITIS)

ARTHROPOD BITE REACTION

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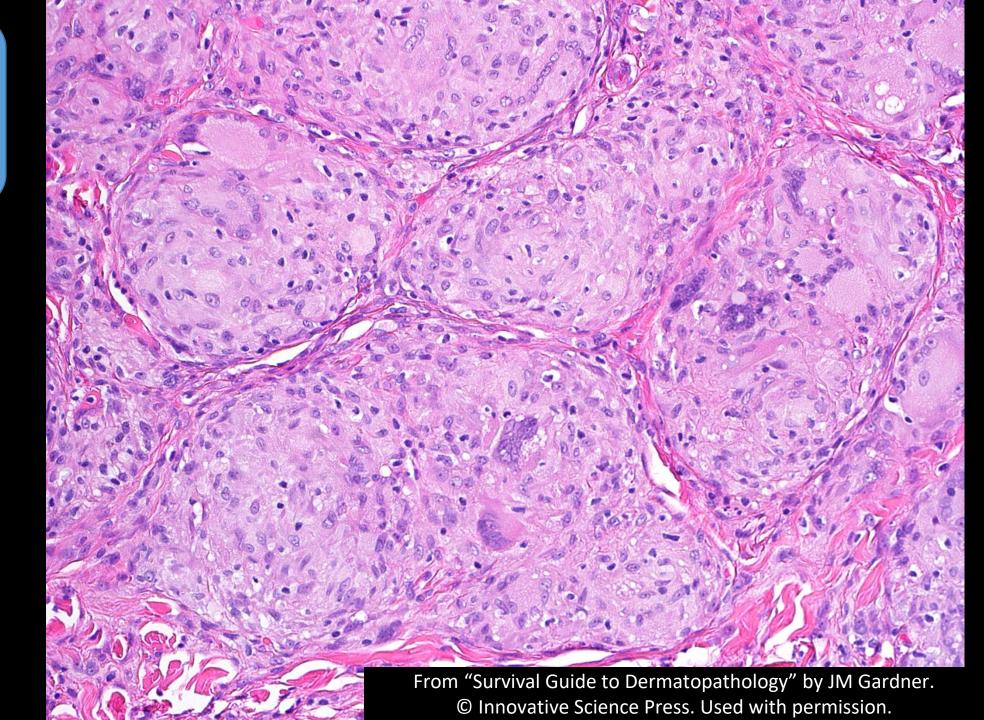
FLAME FIGURE!



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Granulomatous pattern

Granulomatous Pattern



Granulomatous Pattern

SARCOIDOSIS (diagnosis of exclusion)

Table 8-1, continued

Key Features

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Histiocyte-rich dermal infiltrate +/- well-formed granulomas +/- other inflammatory cells

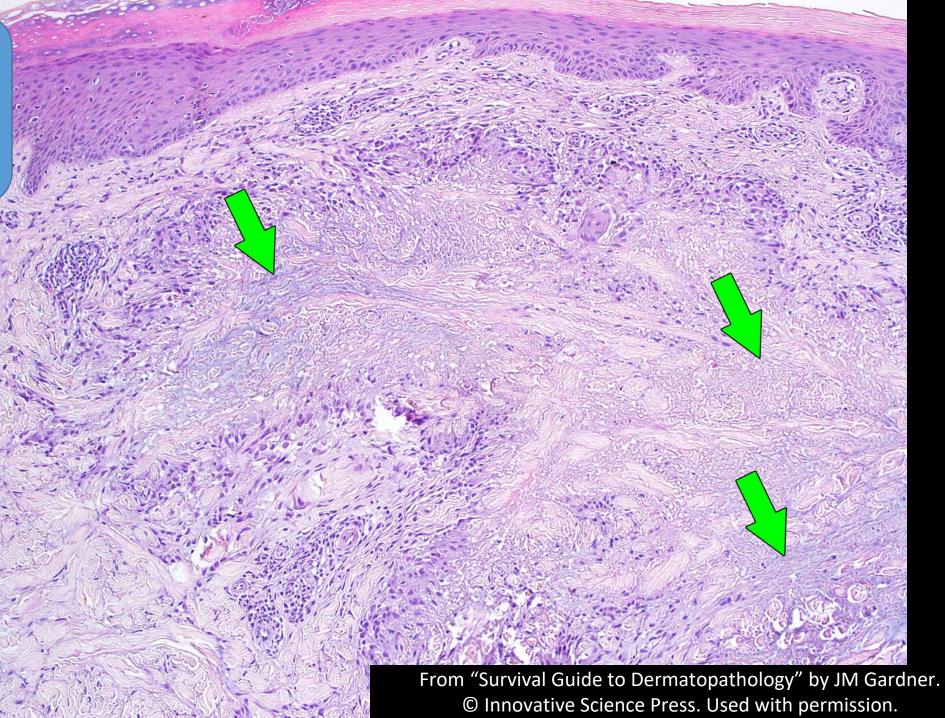
Example Diseases

Infections (especially fungal and mycobacterial) Sarcoidosis Granulomatous foreign body reaction Keratin granuloma (ruptured cyst or folliculitis) Granulomatous drug eruption Granulomatous rosacea

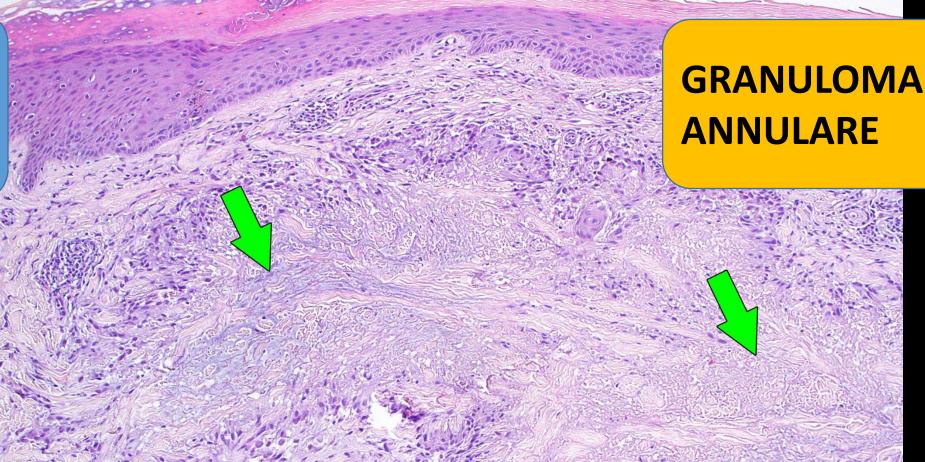


Palisaded Necrobiotic Granulomatous Pattern

Palisaded Necrobiotic Granulomatous Pattern

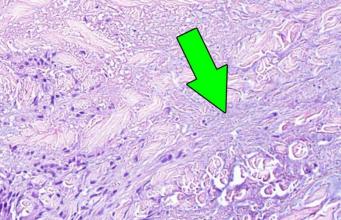


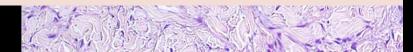
Palisaded Necrobiotic Granulomatous Pattern



Palisading granulomas Central zone of degenerated collagen/ mucin/fibrin

Granuloma annulare Deep granuloma annulare Actinic granuloma Annular elastolytic granuloma Necrobiosis lipoidica diabeticorum (NLD) Necrobiotic xanthogranuloma (NXG) Rheumatoid nodule

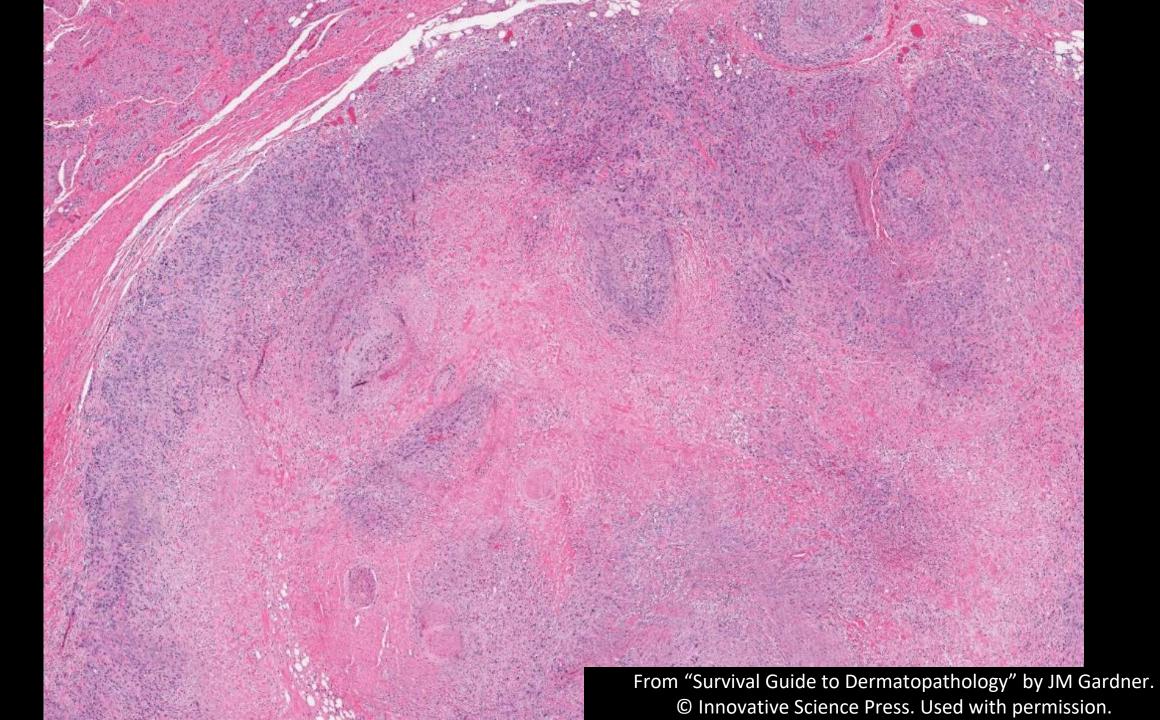




GRANULOMA ANNULARE ("BLUE" granuloma)



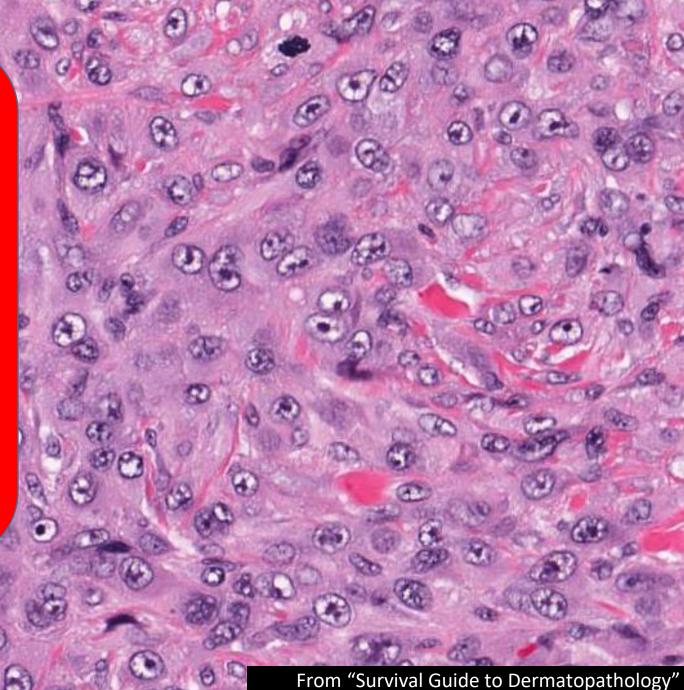
RHEUMATOID NODULE ("RED" granuloma)



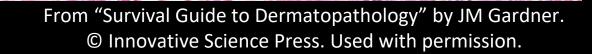
EPITHELIOID SARCOMA!!!

(mimic of GA and rheumatoid nodule from low power)

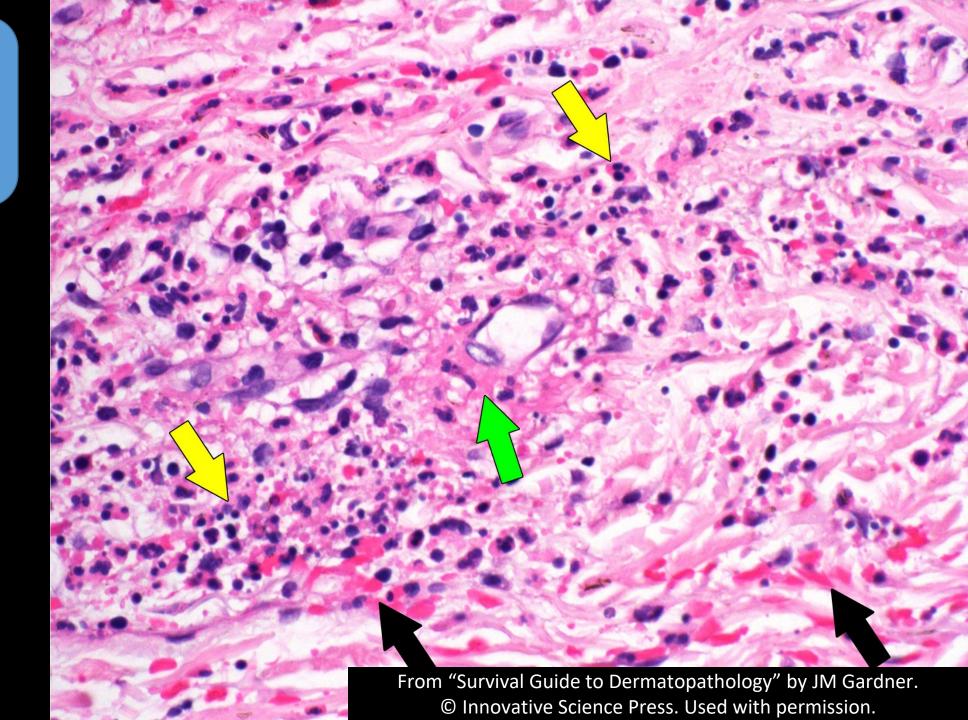
CK+, Nuclear INI-1 (SMARCB1) loss



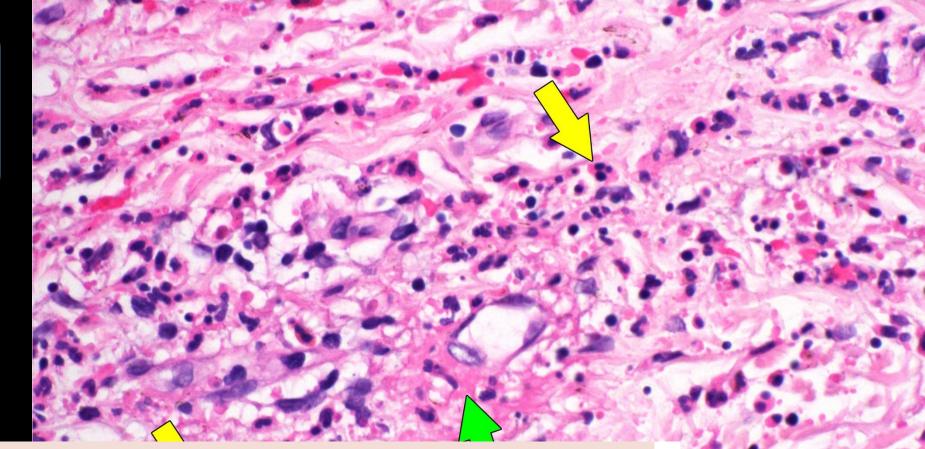
Leukocytoclastic vasculitis pattern



Leukocytoclastic Vasculitis Pattern



Leukocytoclastic Vasculitis Pattern



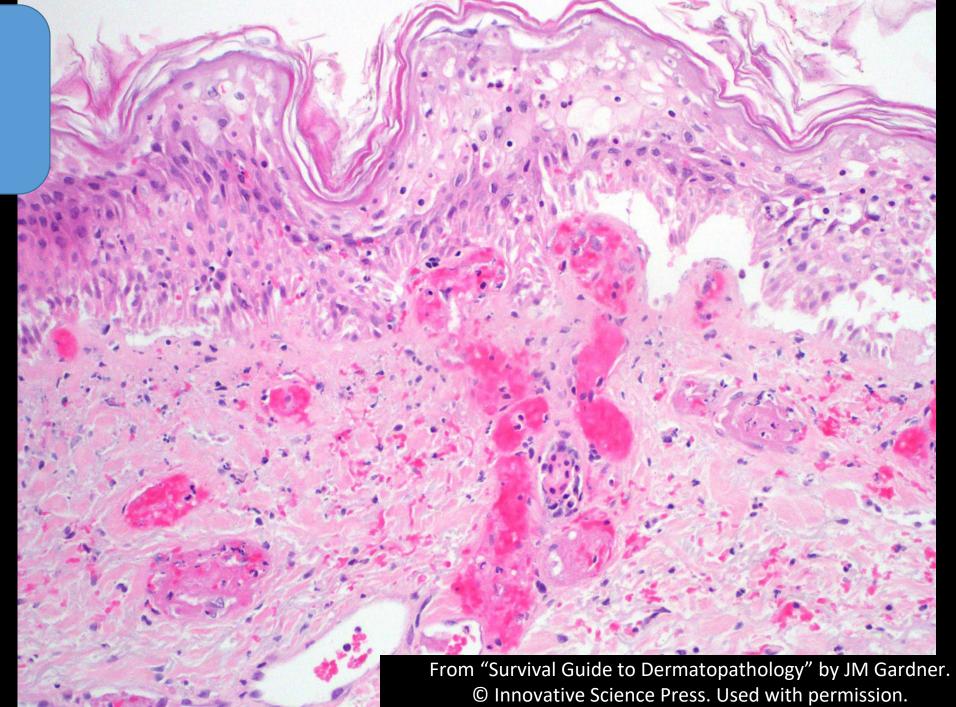
Neutrophils & nuclear dust/debris around dermal vessels (leukocytoclasis) Fibrinoid necrosis of vessel walls Extravasated erythrocytes in dermis Cutaneous LCV Henoch-Schönlein purpura (HSP) Levamisole-induced vasculitis (cocaine use) Cryoglobulinemia, mixed-type (II or III) Eosinophilic granulomatosis with polyangiitis (Churg-Strauss) Granulomatosis with polyangiitis (Wegener) Polyarteritis nodosa (PAN)



POLYARTERITIS NODOSA (PAN)

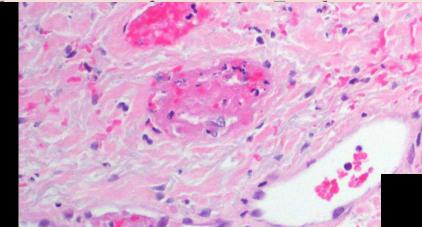
Thrombotic vasculopathy pattern

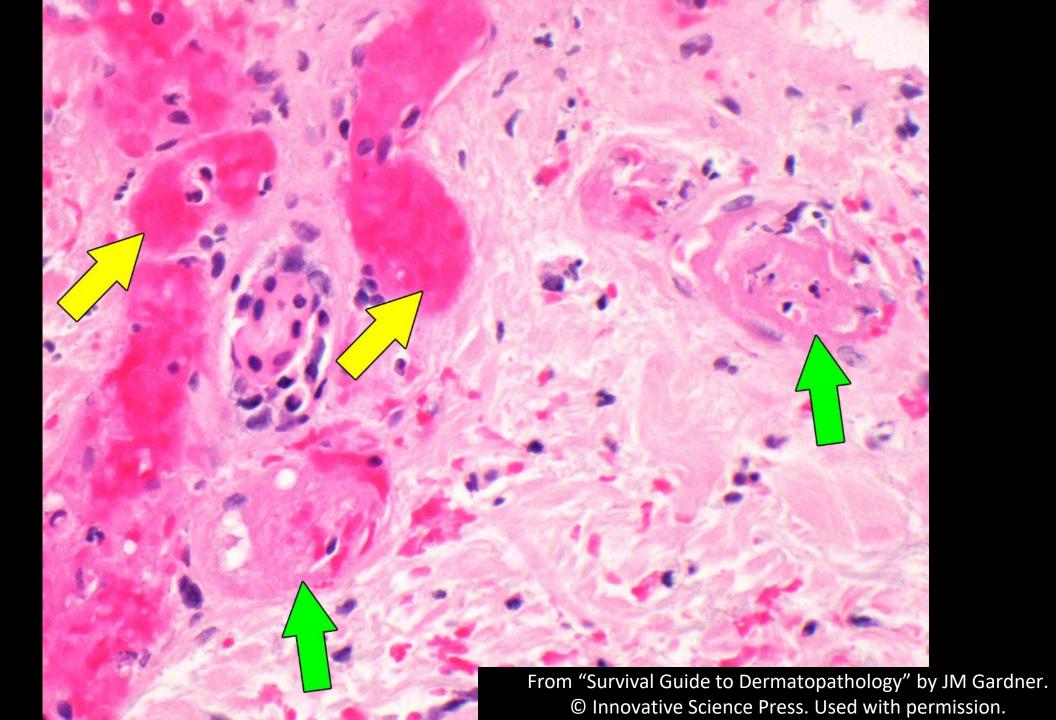
Thrombotic Vasculopathy Pattern



Thrombotic Vasculopathy Pattern

Intravascular thrombi in dermis No LCV Disseminated intravascular coagulation (DIC) Hemolytic uremic syndrome (HUS) Other systemic coagulopathies Cryoglobulinemia, type I





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1 hour version of this lecture here: https://kikoxp.com/posts/5244

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