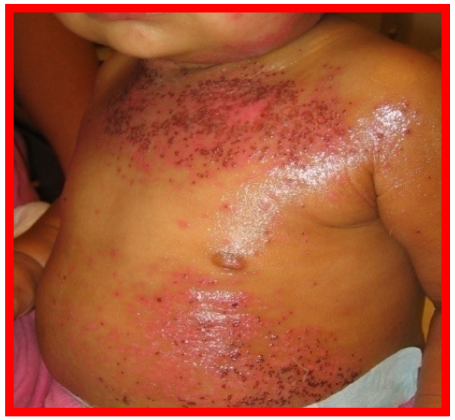
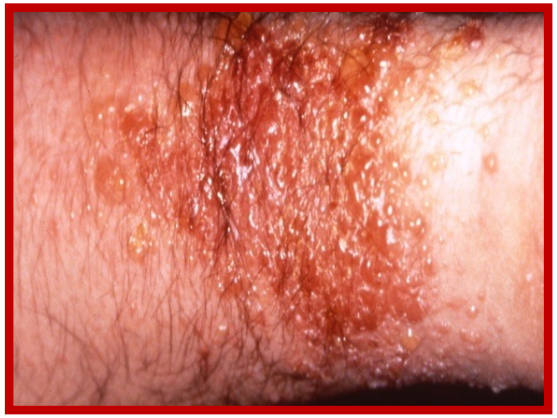
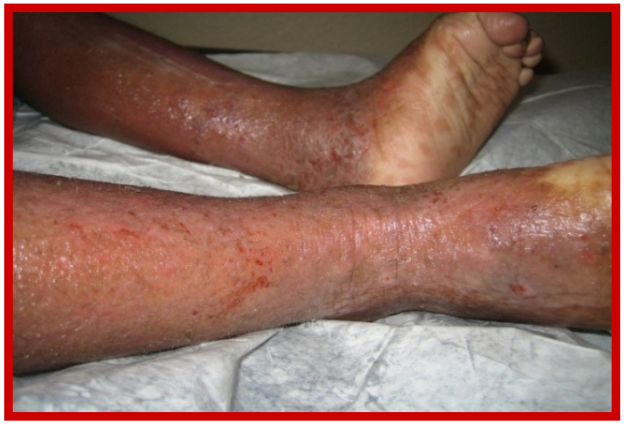
California Society of Allergy, Asthma and Immunology
July 9, 2022

# Rashes that Look Like Allergies but Aren't

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**NYU Langone Hospital-Long Island**

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# Disclosure

- Research Grant: (to NYU Langone Hospital-Long Island)
  - Genentech
  - Astra Zeneca
  - Pfizer
  - Regeneron

- Advisory Board:
  - Regeneron
  - Abbvie
  - Lilly
  - Pfizer

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## Objectives:

1. Discuss rashes seen in the allergy office but aren't allergic
2. Discuss some differentiating features of eczematous diseases
3. Discuss the causes of pruritus without a rash and the available therapies
4. Recognize differences in morphology of atopic dermatitis in skin of color

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# Inflammatory Skin Disorders

- **Dermatitis and Eczema**
  - Atopic D, Contact D, Seborrheic D, Pruritus, Nummular Eczema, Erythroderma, Lichen Simplex Chronicus/Prurigo Nodularis, Dyshidrosis, Pityriasis Alba
- **Papulosquamous disorders**
  - **Psoriasis**
  - **Parapsoriasis**
    - **Acute: Pityriasis lichenoides et varioliformis acuta**
    - **Chronic: Pityriasis Lichenoides Chronica**
    - **Lymphomatoid Papulosis**
  - ***Pityriasis***
    - ***Pityriasis Rosea***
    - **Pityriasis Rubra Pilaris**
  - ***Lichenoid***
    - **Lichen Planus**
    - **Lichen Nitidus**
- **Drug Eruption:** SJS, TEN, E Nodosum
- **Other Erythemas:** E. Annulare, E Centrifugum, E Marginatum, E Toxicum, Necrolytic Migratory Erythema

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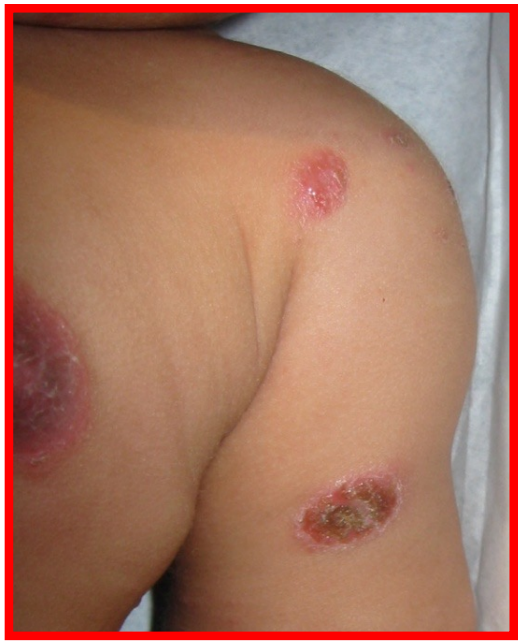
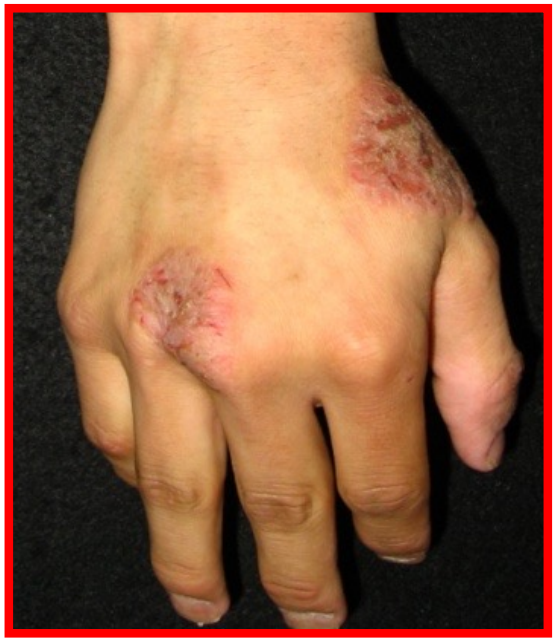
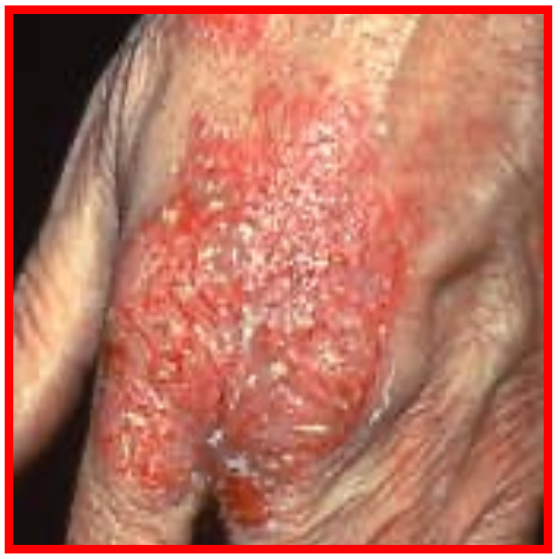
# Nummular eczema

- Pruritic
- Plaques of closely set, thin walled vesicles on erythematous base
- Clearly demarcated edge
- Limbs more than trunk
- Variable intermittent course
- ? High incidence of atopy







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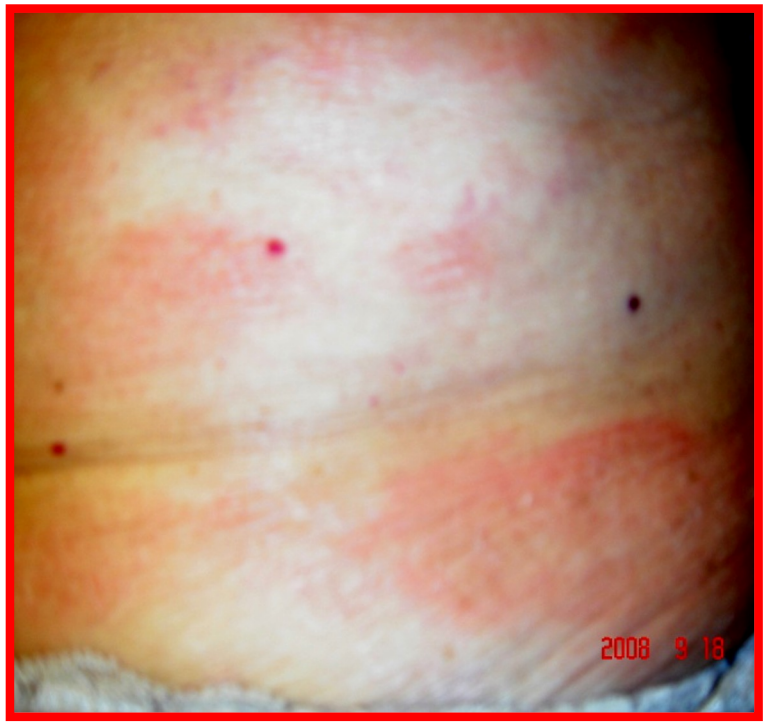
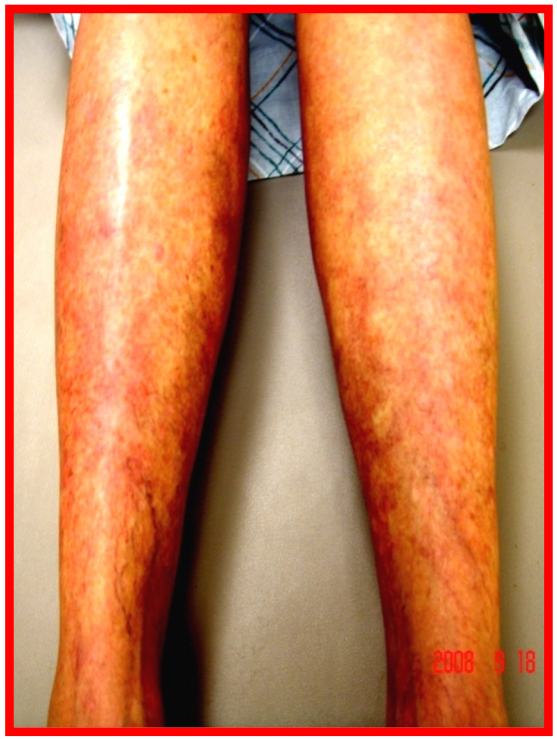
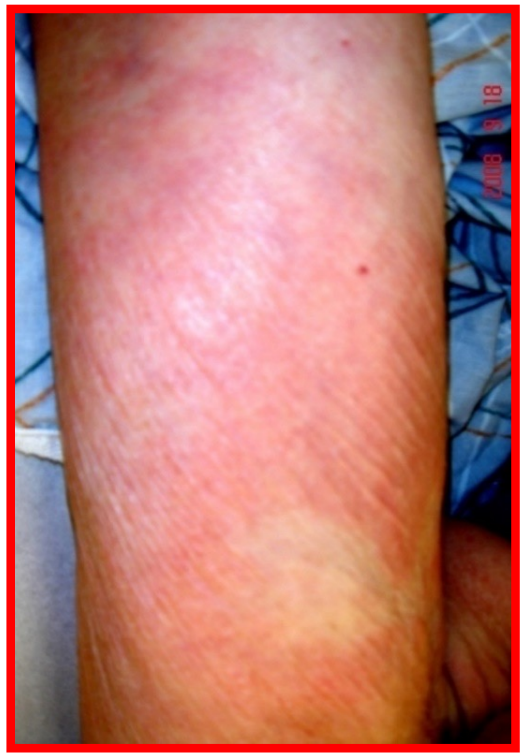
61 y.o. female with 5 year duration of  pruritic eczematous rash. No family history of atopy. She has since discontinued her only medication for HTN. Trial of topical corticosteroids did not help



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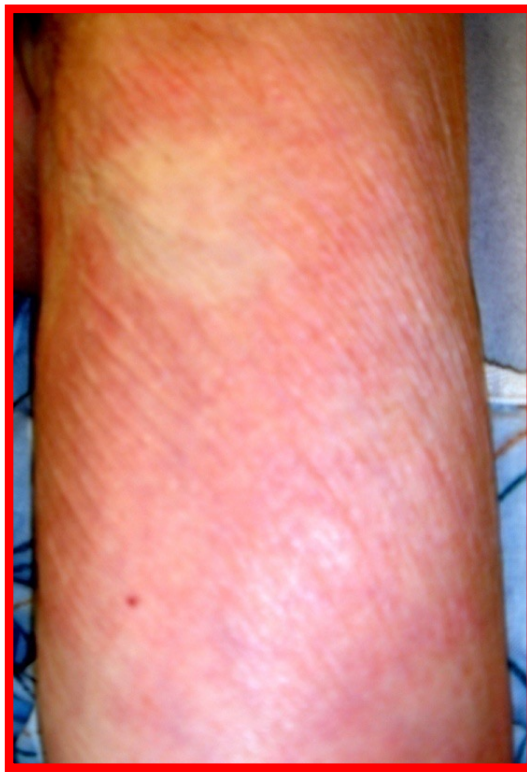
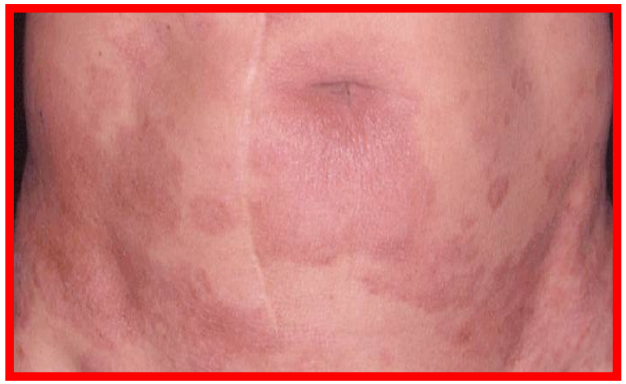
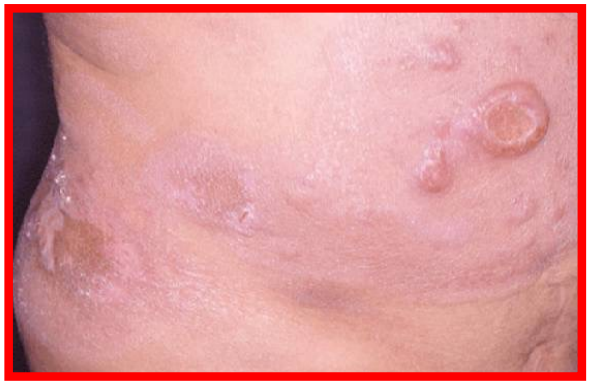
# Cutaneous T-Cell Lymphoma (Mycosis Fungoides)



**Stages:**

- Patch (atrophic or nonatrophic)
  - Often goes on for many years
  - Patches with thin, wrinkled quality, often with reticulated pigmentation
  - Pruritus varies
    - minimal or absent
    - common in premycotic phase
    - may precede MF by years
  - Often on lower trunk & buttocks
- Plaque
- Tumor





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# Papulosquamous Disorder

## Papules +/- Plaques and scales
## (scaly papules and plaques)

- **Psoriasis** (red, scaly lesions)
- **Parapsoriasis** (resembles psoriasis)
  - Large Plaque Parapsoriasis
  - Small Plaque Parapsoriasis
  - Pityriasis Lichenoides
    - Pityriasis lichenoides et varioliformis acuta
    - Pityriasis lichenoides chronica
- ***Pityriasis*** (flaking or scaling)
  - *Pityriasis* Rosea
  - *Pityriasis* rubra pilaris
- ***Lichenoid*** *(resembles lichen: organisms consisting of a symbiotic association of a fungus*
  - Lichen Planus
  - Lichen Nitidus

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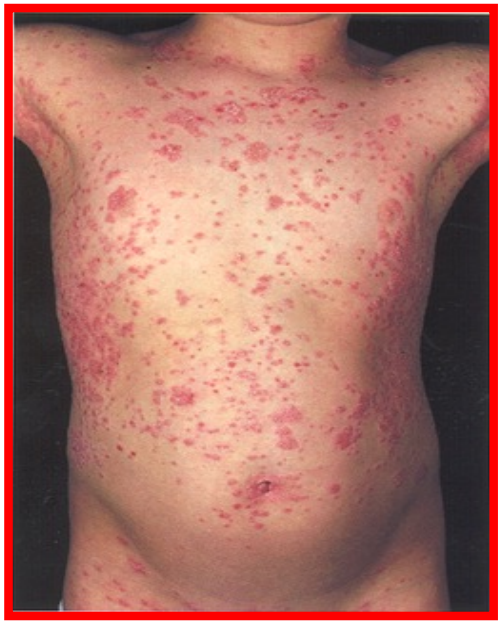
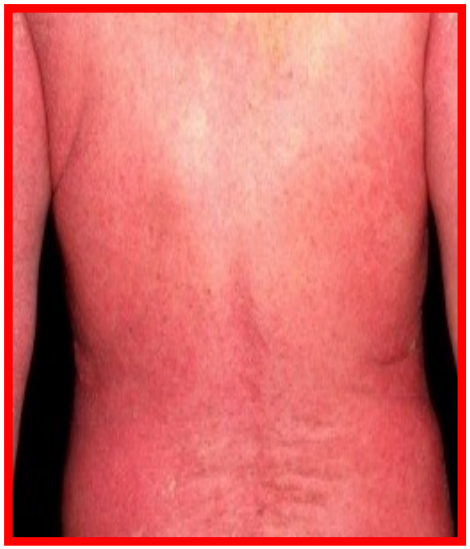
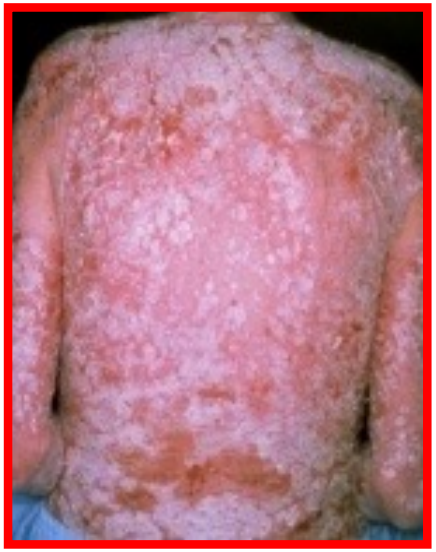
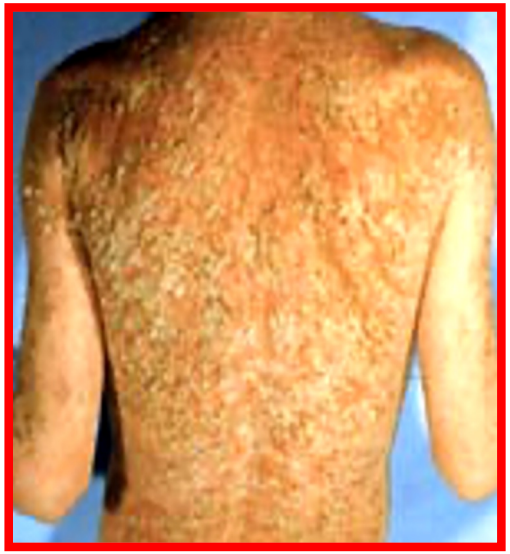
# Psoriasis

- Plaque psoriasis
- Guttate psoriasis
- Pustular psoriasis
- Nail psoriasis
- Erythrodermic psoriasis









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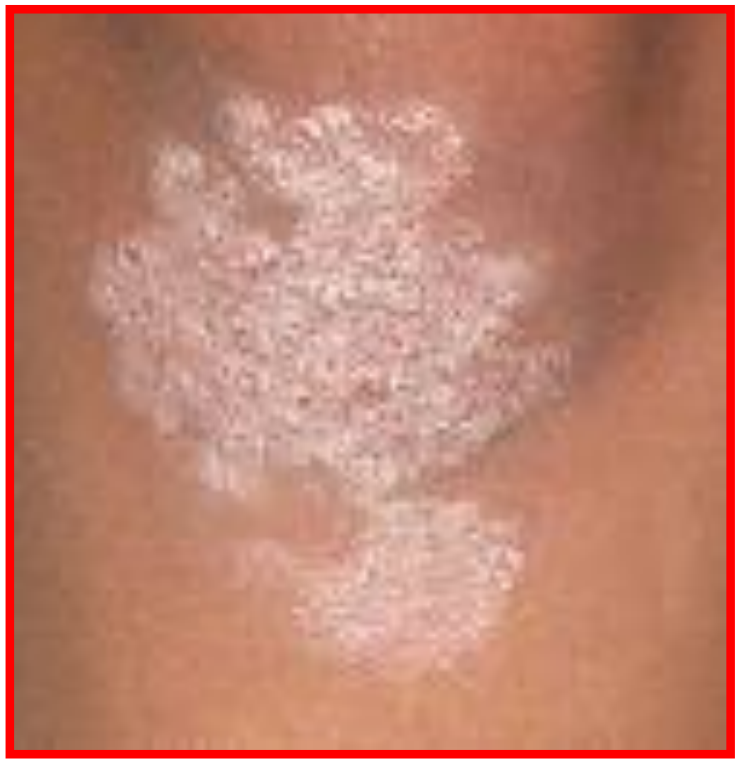
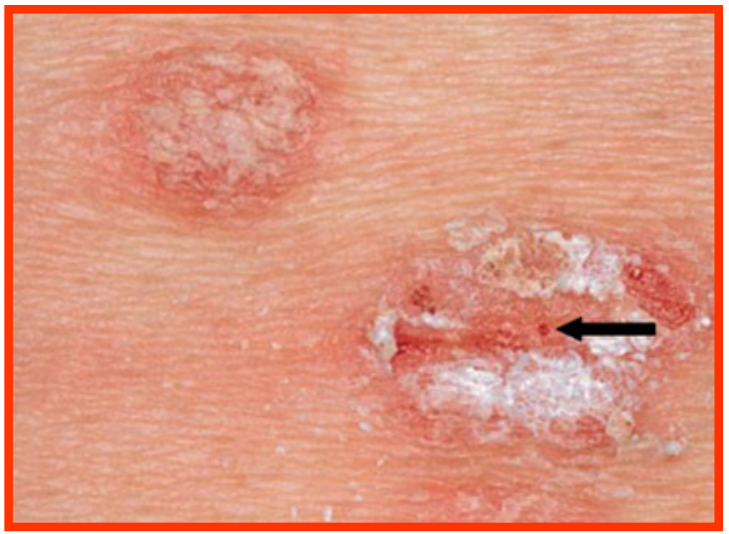
# Psoriasis



Plaques typically have dry, thin, silvery-white or micaceous scale



Auspitz sign

Removing scale reveals a smooth, red, glossy membrane with tiny punctate bleeding

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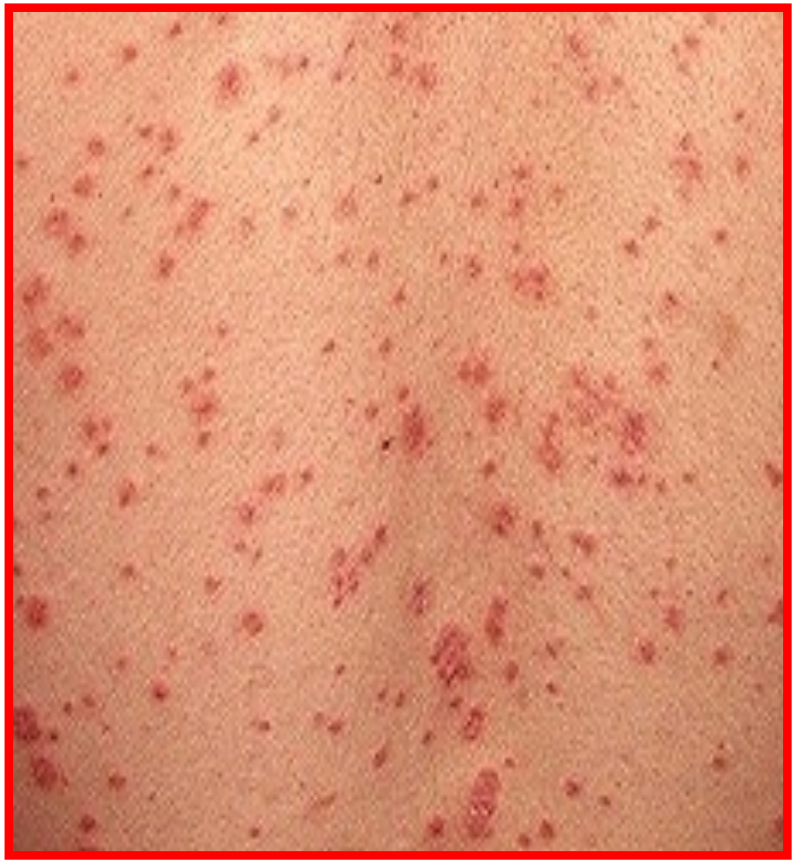
# Guttate psoriasis

- Abrupt acute eruption of small (< 1 cm) psoriatic lesions
- Typically child or young adult with no history of psoriasis
- Primarily the trunk
- Strong association with recent strep infection with serologic evidence (26-58 %)



Telfer NR; Chalmers RJ; Whale K; Colman G The role of streptococcal infection in the initiation of guttate psoriasis. Arch Dermatol 1992 Jan;128(1):39-42

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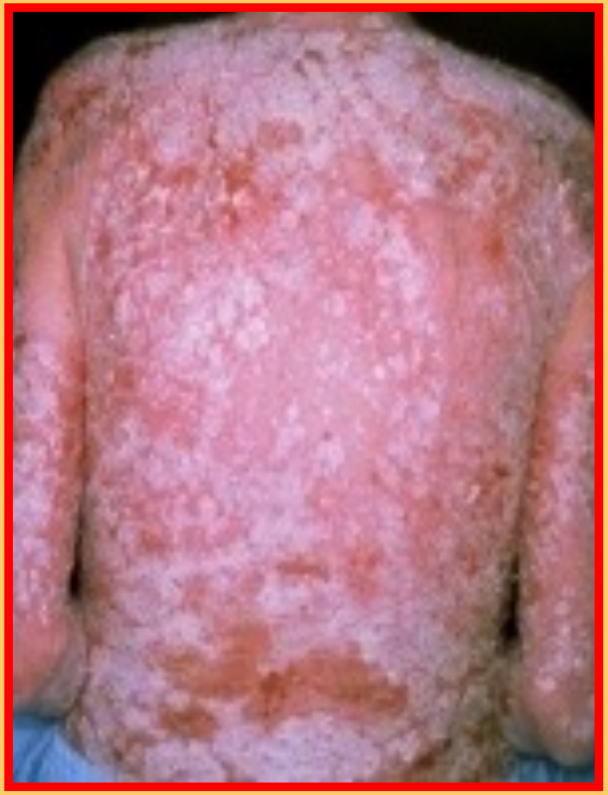
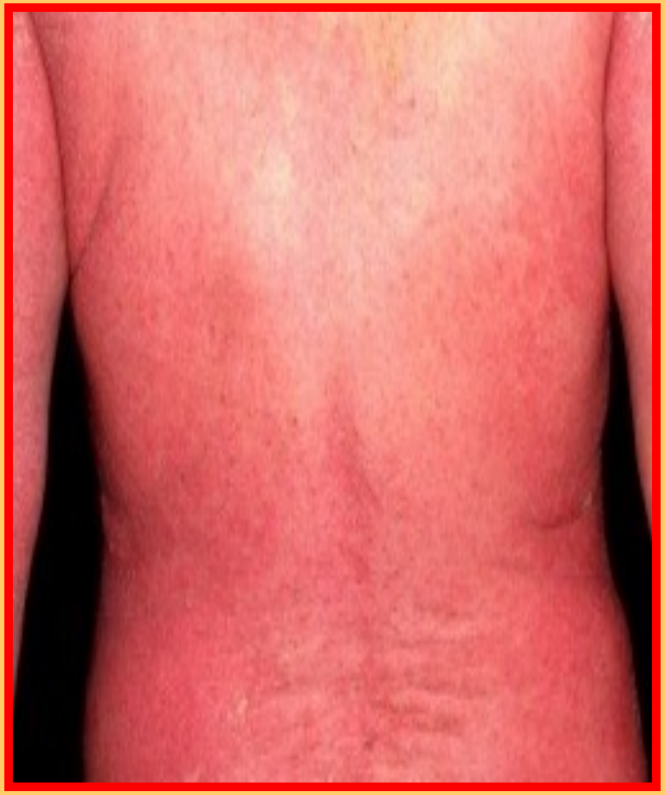
# Pustular Psoriasis

## Localized

## Generalized



## Erythrodermic



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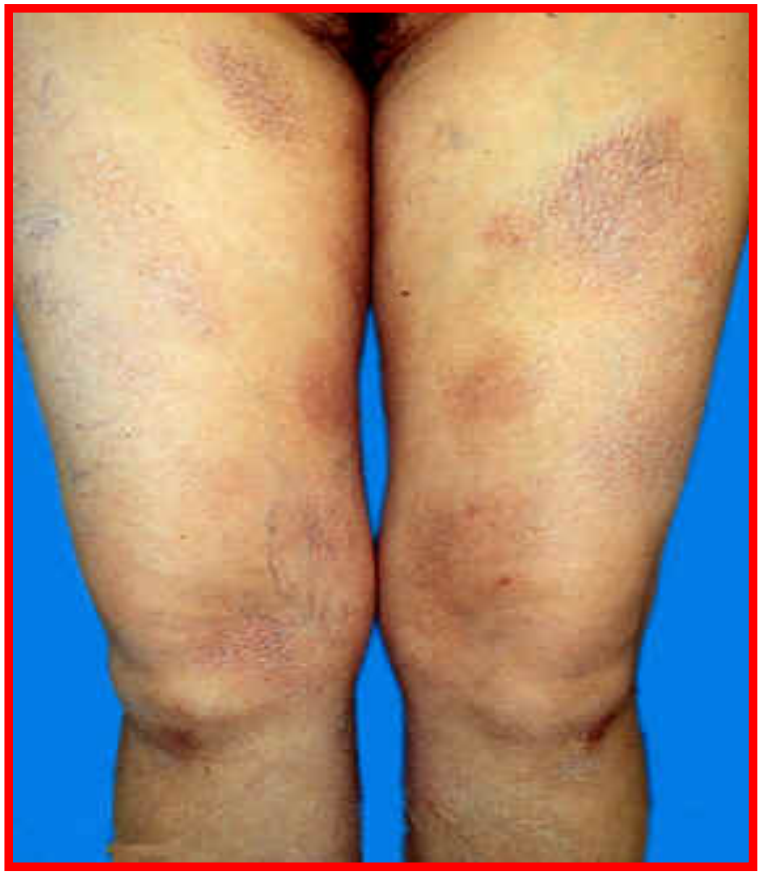
55 y.o F with 5 year duration of increasing slightly pruritic, round, slightly scaly patches (> 6 cm) on limbs & trunk.
Lesions have faint red-to-salmon color, flaky thin scales, atrophic, cigarette paper or tissue paper, wrinkling quality

## Parapsoriasis



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# Parapsoriasis: A Complex Issue

- **Resembles Psoriasis (red, scaly)**
- **Unrelated to pathogenesis, histopathology or treatment**

- **Large** Plaque Parapsoriasis
- **Small** Plaque Parapsoriasis
- Pityriasis Lichenoides
  - Pityriasis lichenoides et varioliformis **acuta**
  - Pityriasis lichenoides **chronica**

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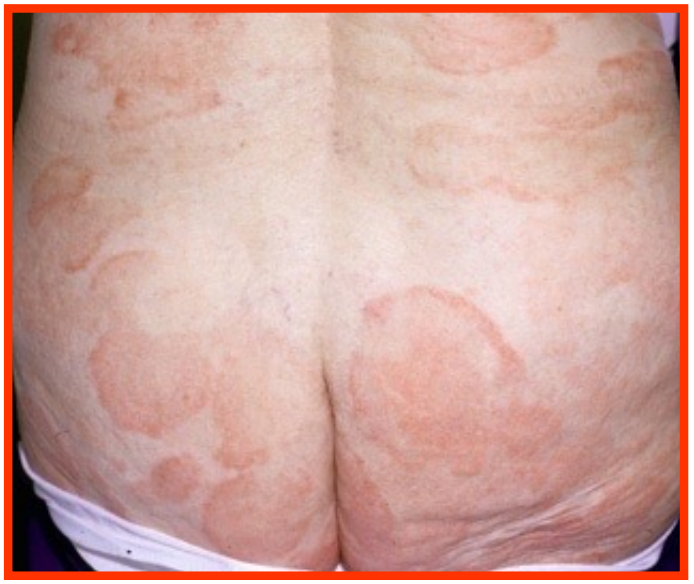
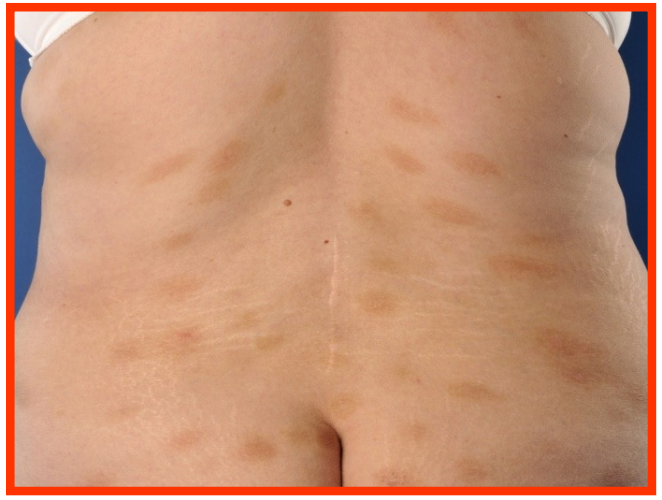
# Parapsoriasis

T-cell–predominant skin infiltrates

- Large plaque parapsoriasis
  - indolent & progresses over years, sometimes decades
  - treatment may prevent progression to CTCL (~ 10%)
- Small plaque parapsoriasis
  - benign; rarely progresses
  - lasts several months to years
  - can spontaneously resolve





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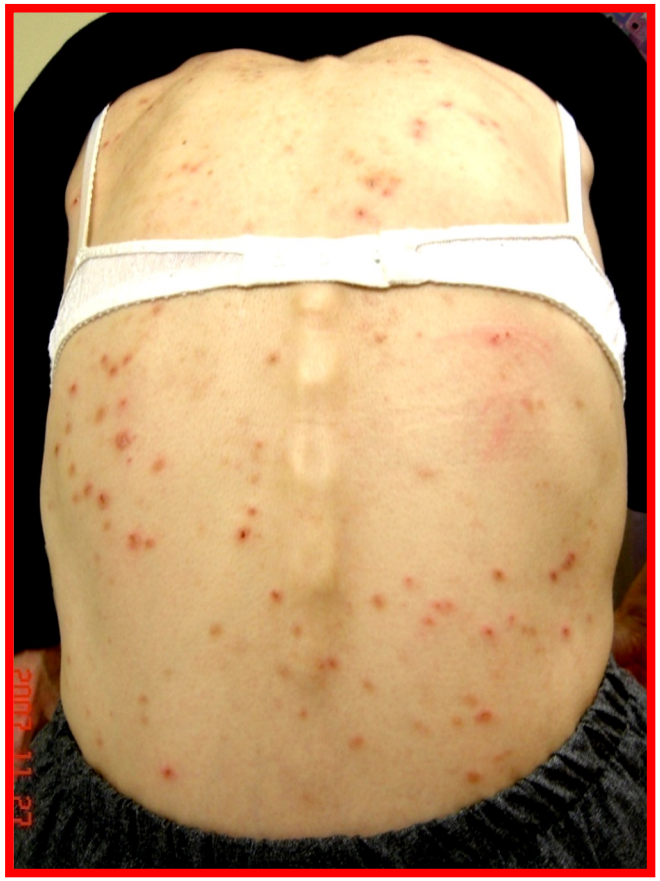
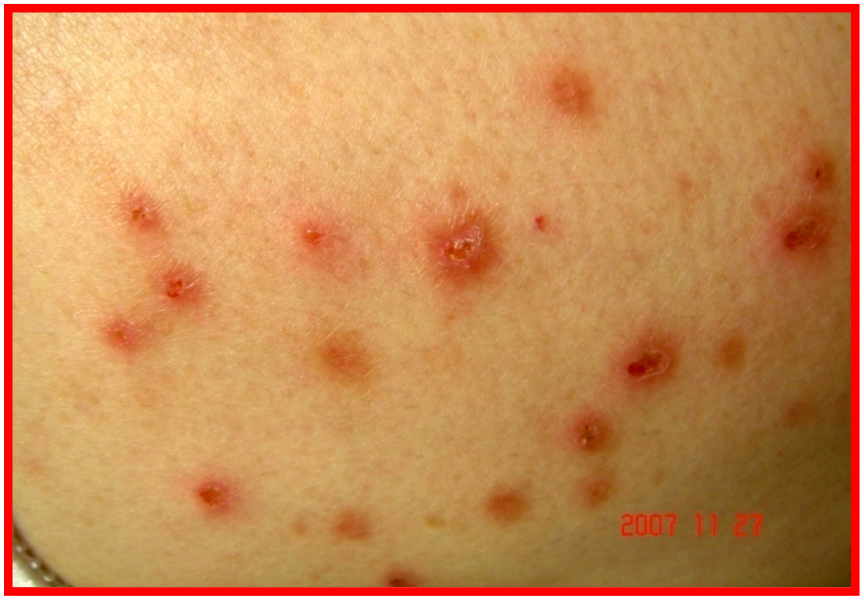
52 y.o female complained of headache, fever & malaise followed by burning, pruritic crops of pink papules  with central vesiculation, then reddish brown crust



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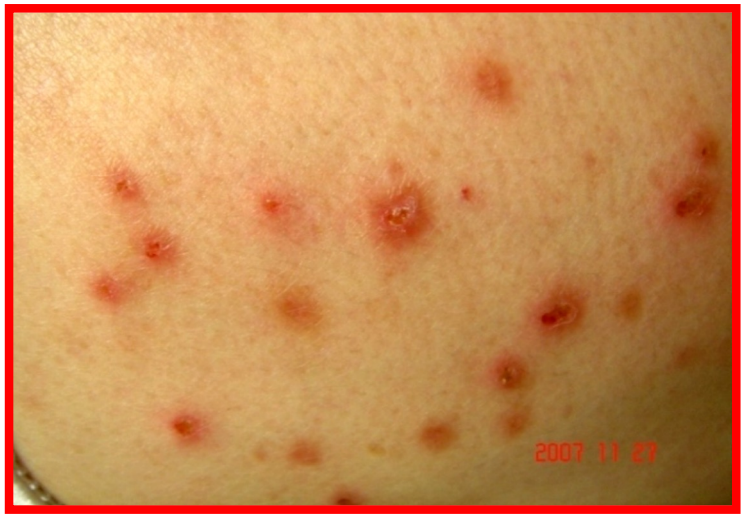
# Mucha-Habermann disease

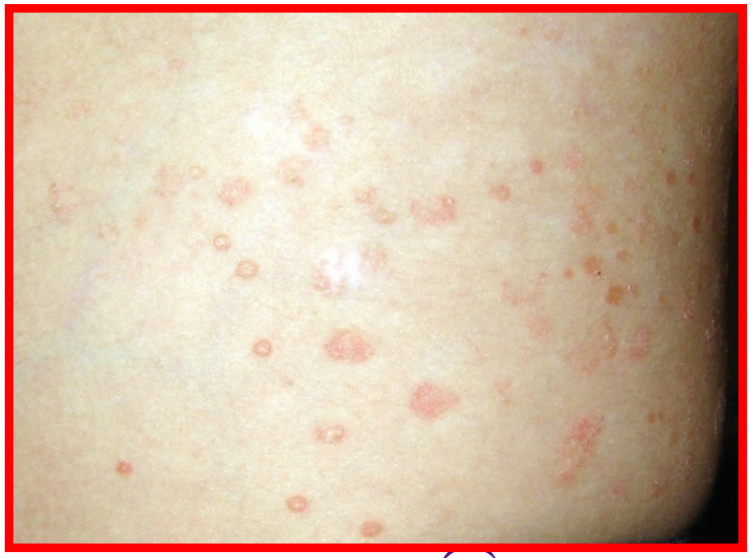
## Pityriasis lichenoides et varioliformis acuta

- Abrupt onset of multiple papules on trunk, buttocks, proximal extremities
- Rapidly progress to vesicles & hemorrhagic crusts
- Minor constitutional symptoms fever, malaise & myalgias




## Pityriasis lichenoides chronica

- May develop over days
- Same distribution



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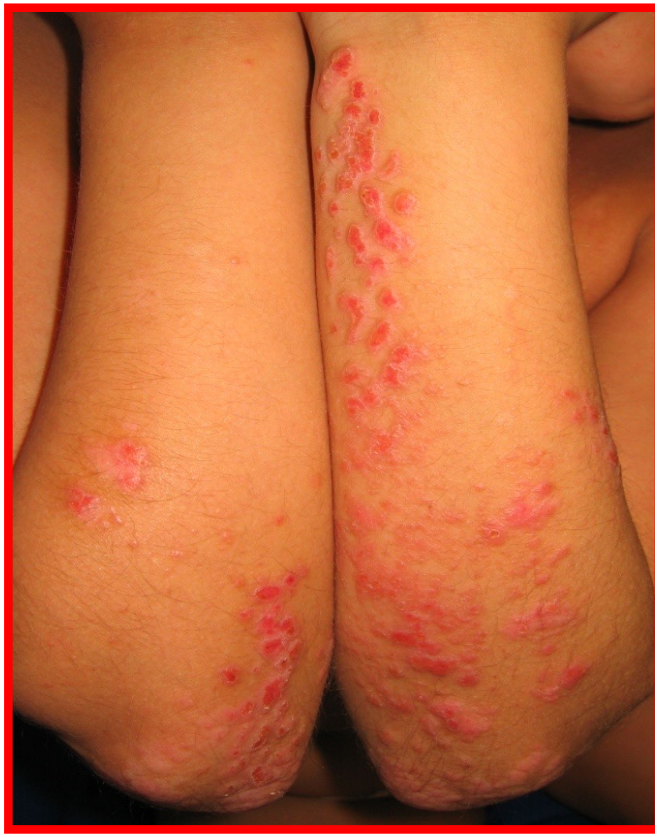
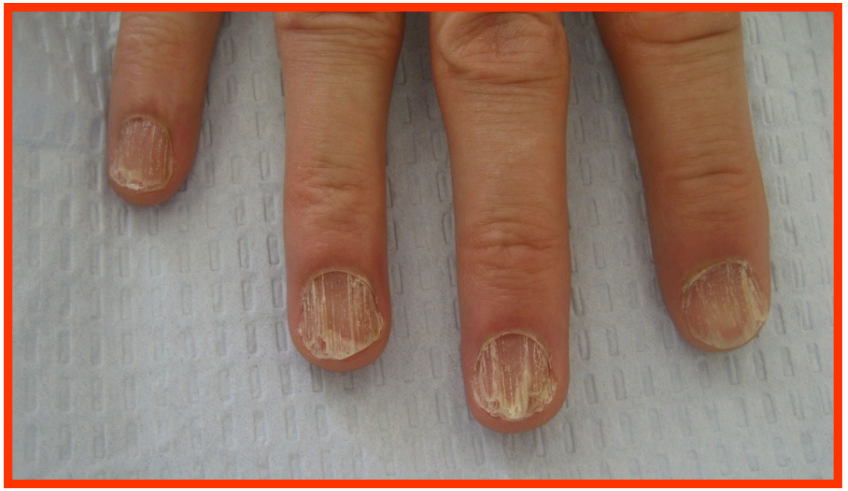
# Lichenoid skin eruptions

- Subcategory of papulosquamous skin disease
- Papules tend to remain small & discrete
- Scale often subtle
- Occasionally, confluent plaques may form

35 y.o female

- Pruritic papules spreading within 8 weeks
- Violaceous, shiny, polygonal with fine, white lines
- Painful mouth erosions
- Nail grooving & ridging





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## Lichen Planus

### A disease characterized by "P-words":

- Plentiful
- Pruritic
- Polished
- Purple
- Polygonal
- Planar
- Papules

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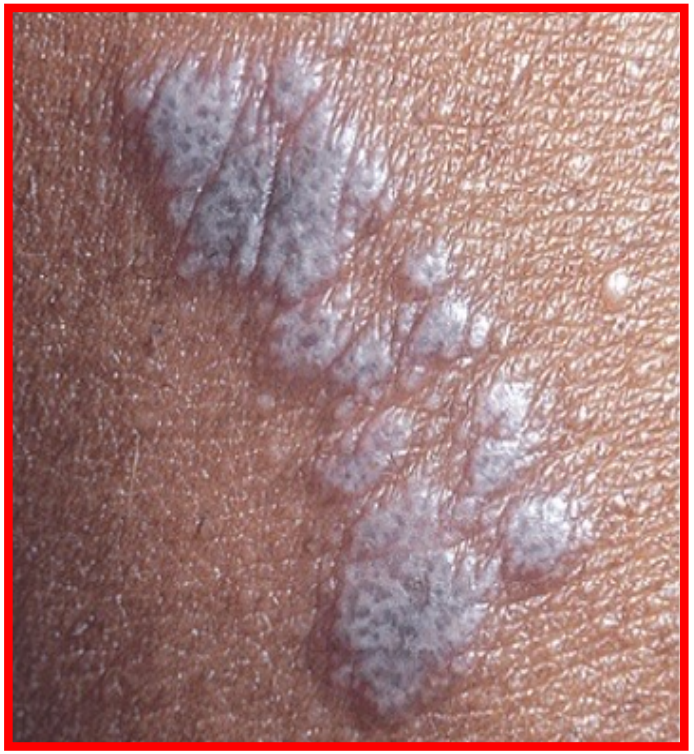
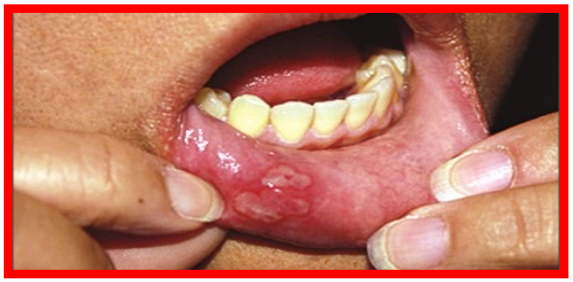
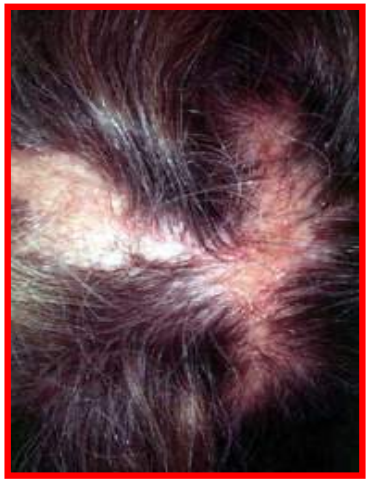
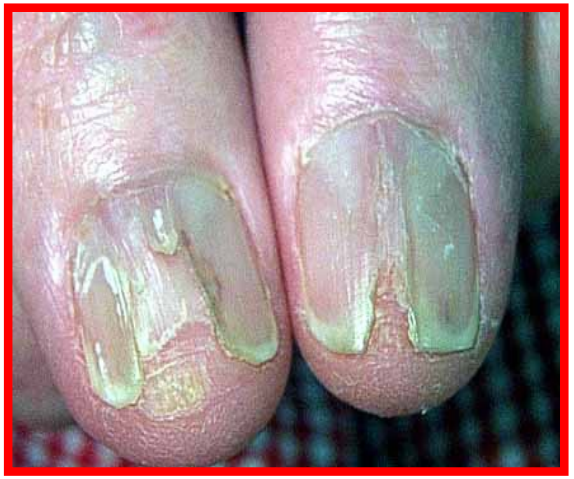
# Lichen planus

- Groups of lines or circles
- Flexor surfaces of upper extremities
- Wickham striae: fine, white lines on papules
- Pruritus common but  varies in severity
- > 50% resolve within 6 mo.
  85% subside within 18 mo.
- Other areas of involvement:
  - Mouth: white or gray streaks in linear or reticular pattern
  - Genital
  - Nail plate thinning, grooving, ridging, pterygium
  - Cicatricial alopecia









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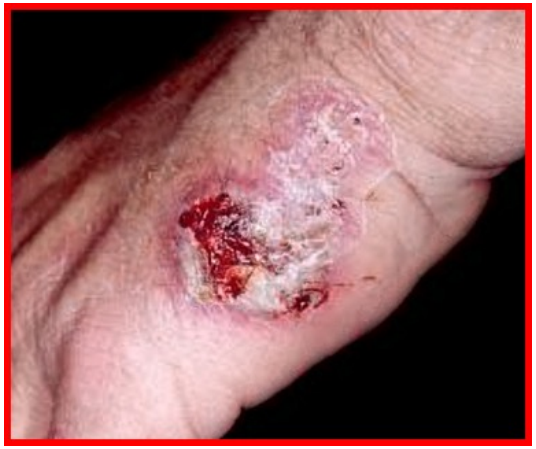
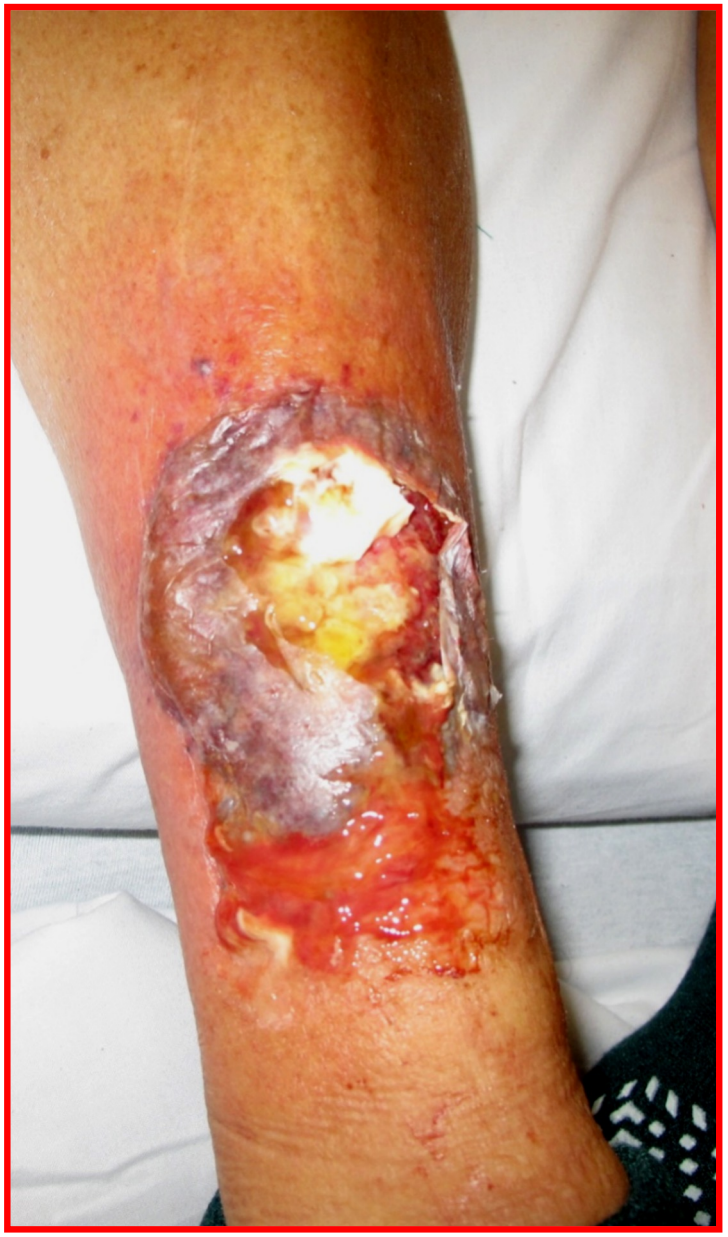
- 62 y.o male with ulcerative colitis referred for recurrent abscesses
- Initial lesion are painful small, red papule or pustule changing into a larger ulcerative lesions
- Similar lesions seen on left knee & left hand





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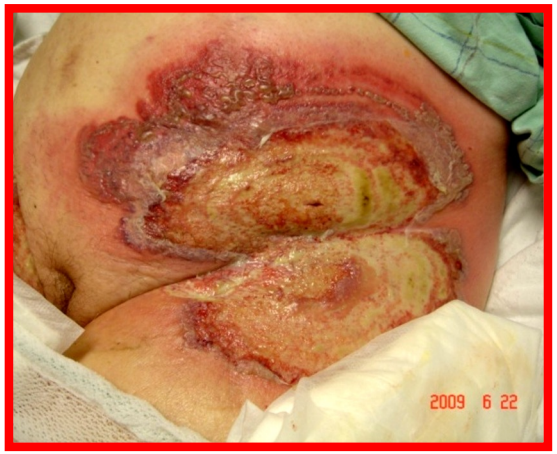
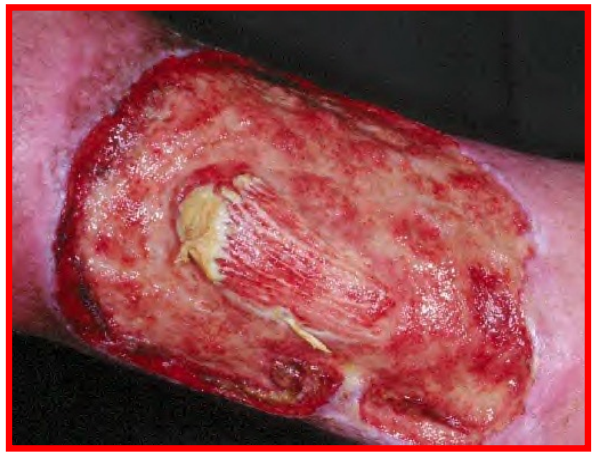
# Pyoderma Gangrenosum

- **50% have systemic illnesses**
- **Arthralgias & malaise often present**
- **Commonly associated diseases**
  - inflammatory bowel disease (ulcerative colitis or Crohn's)
  - seronegative or seropositive polyarthritis
  - hematologic disorders (leukemia, preleukemia, monoclonal gammopathies (primarily Ig A)
  - less common: psoriatic arthritis, osteoarthritis, spondyloarthropathy; hepatitis; SLE



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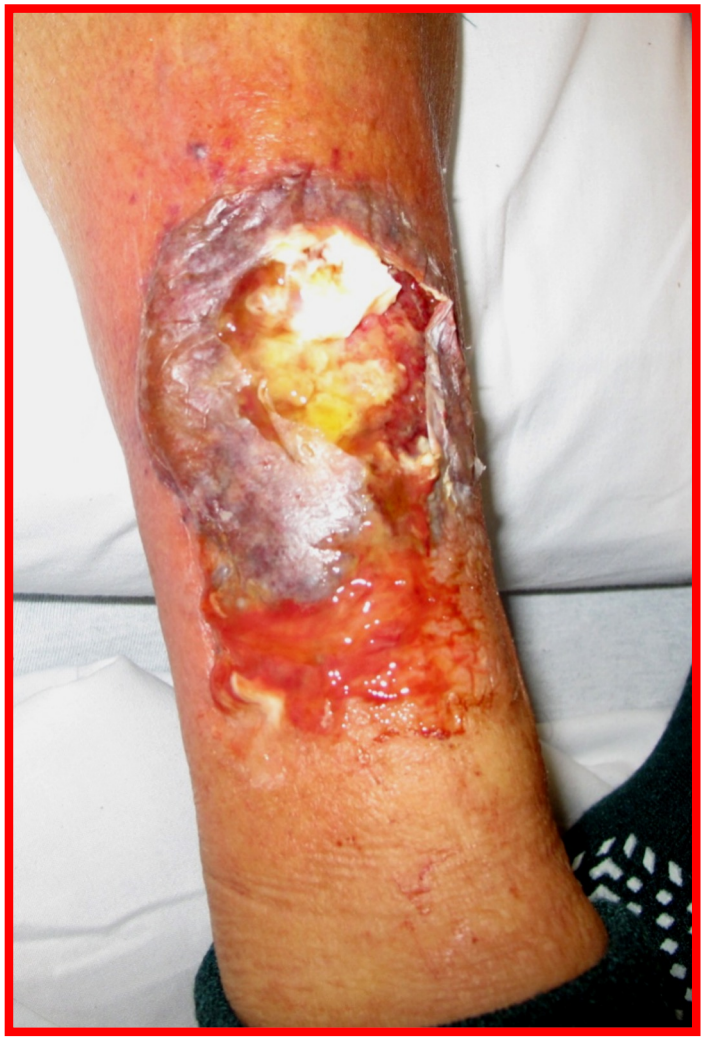
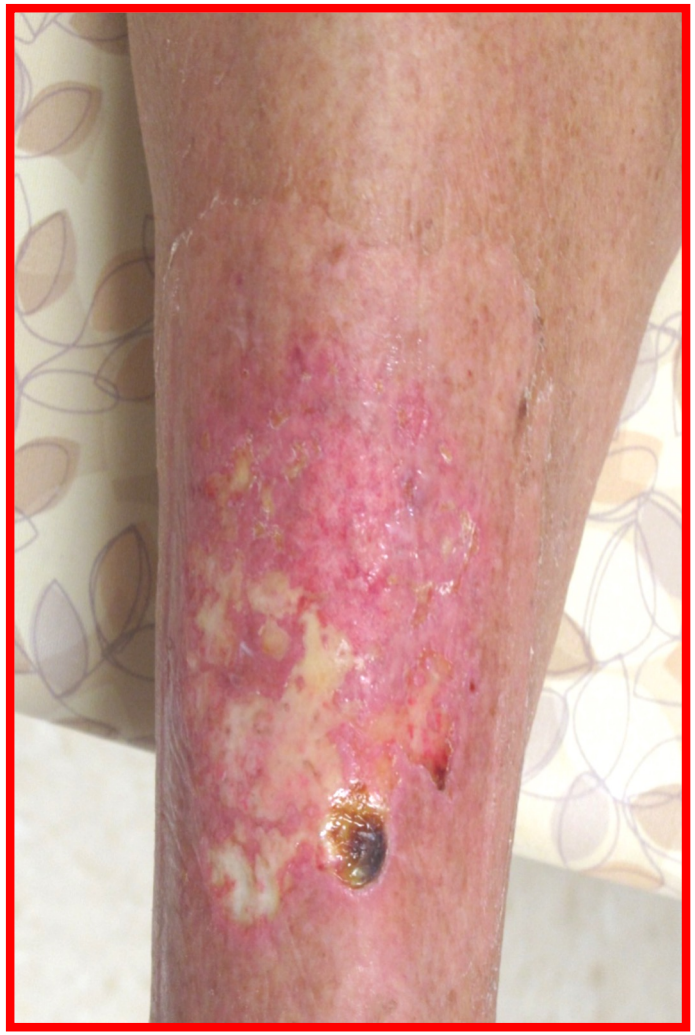
# After 1 treatment of Infliximab





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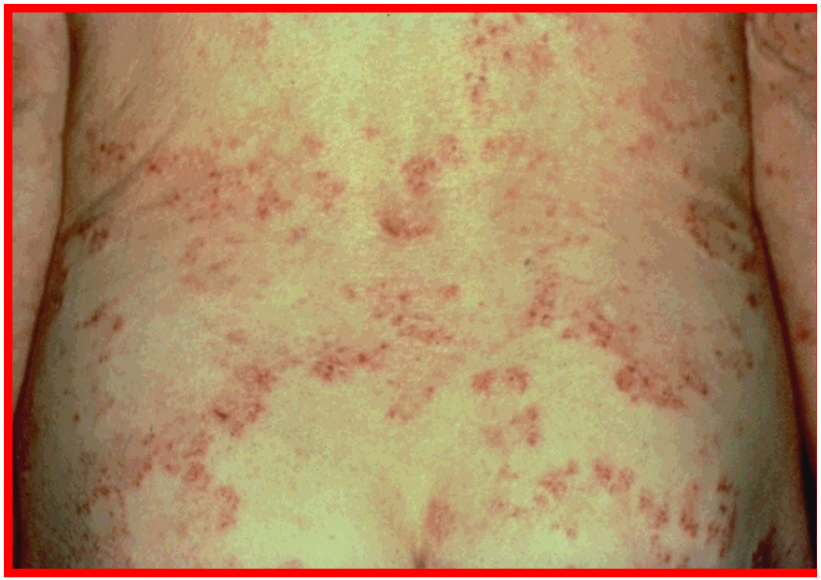
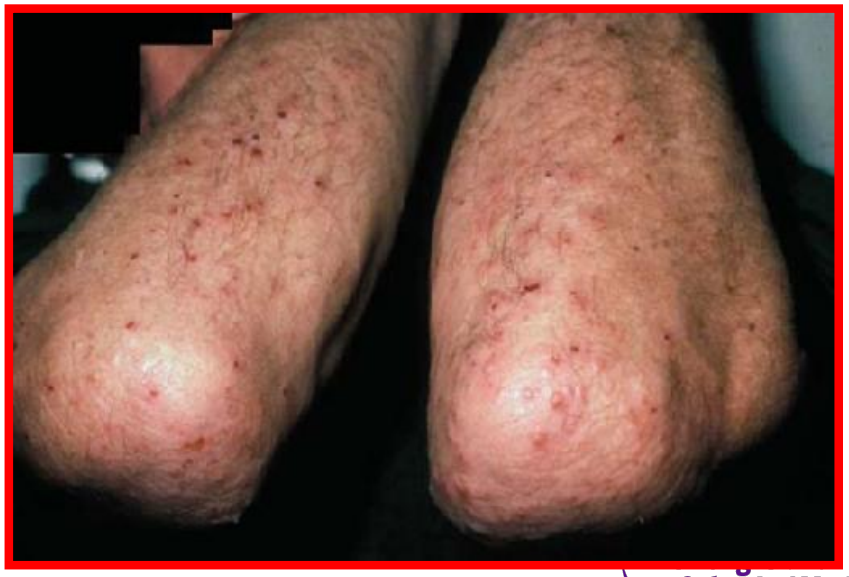
# Dermatitis Herpetiformis

- Young to middle age
- Intensely pruritic
- Symmetrically grouped papules & vesicles
- Elbows, knees, buttocks, scapula, scalp





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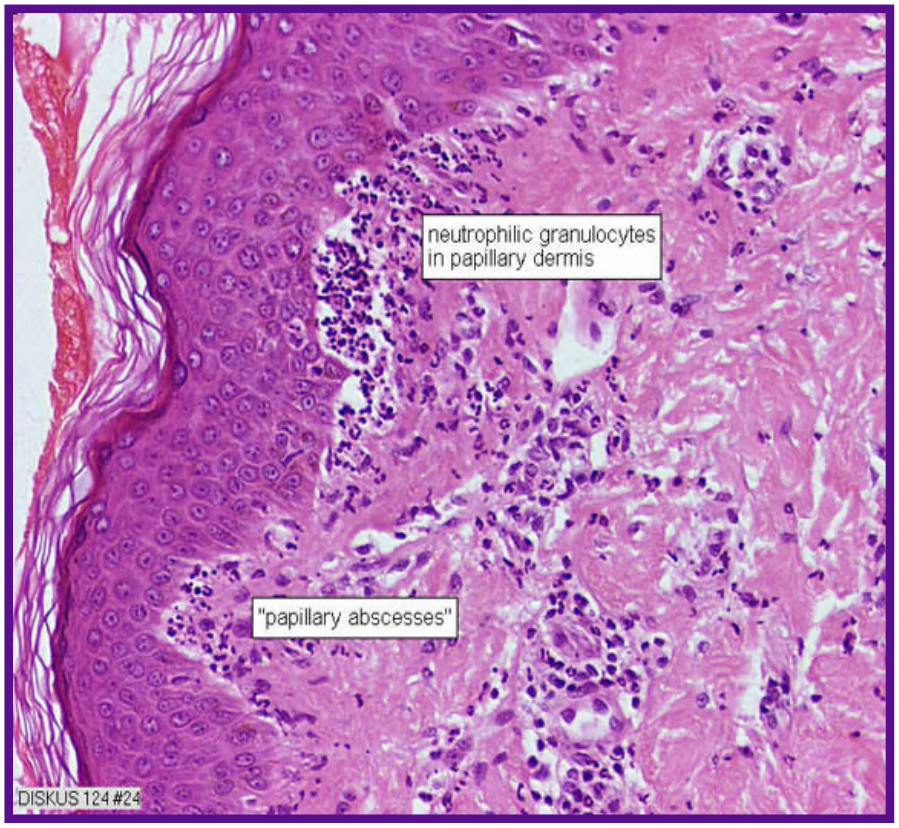
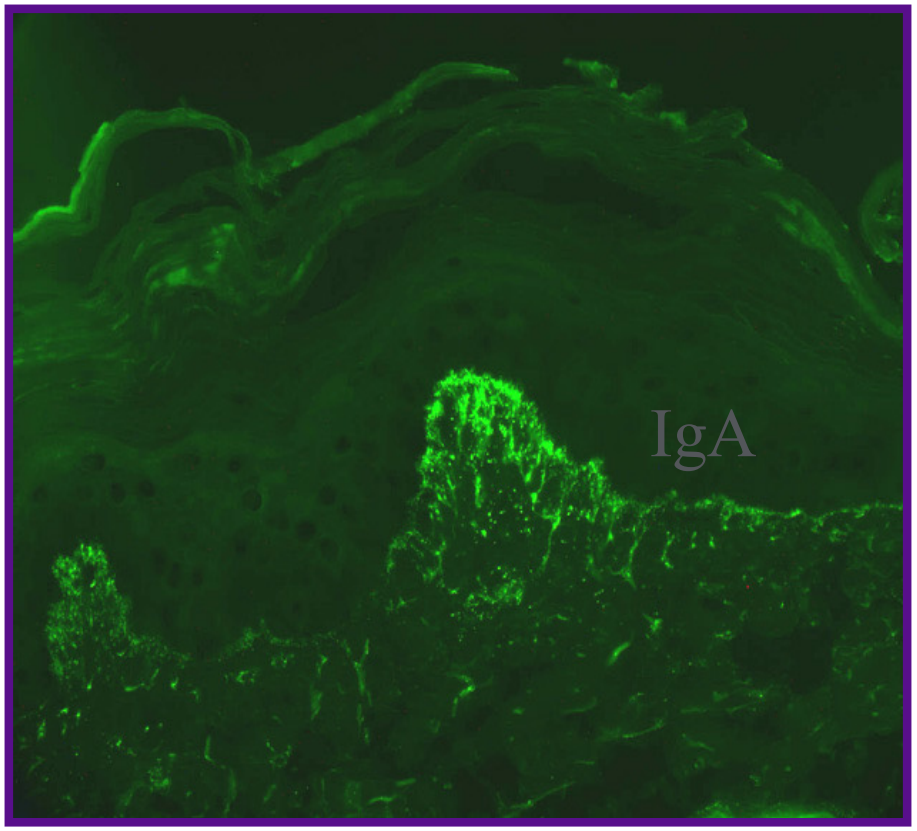
# Dermatitis Herpetiformes




Neutrophils in tips of dermal papillae
Microabscesses containing neutrophils & eosinophils

DIF: ~90% (+) granular deposition of IgA at dermal papillae & occ along DE border

IIF: ~65% positive

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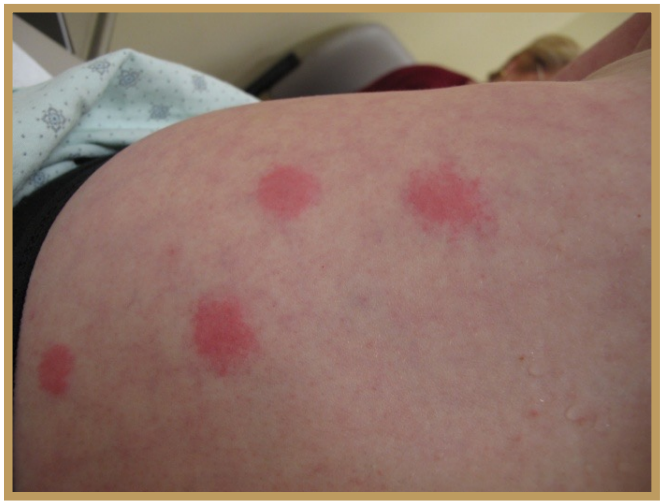

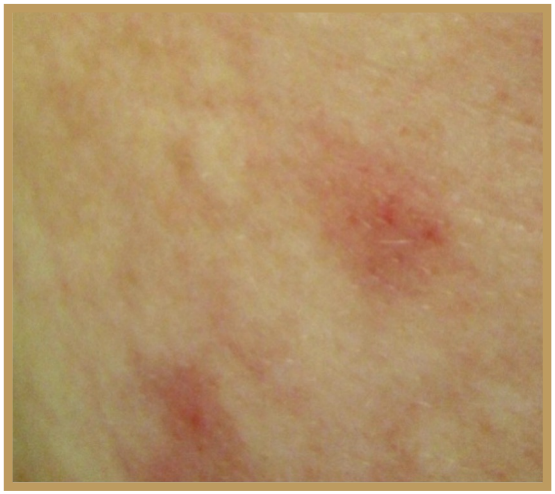

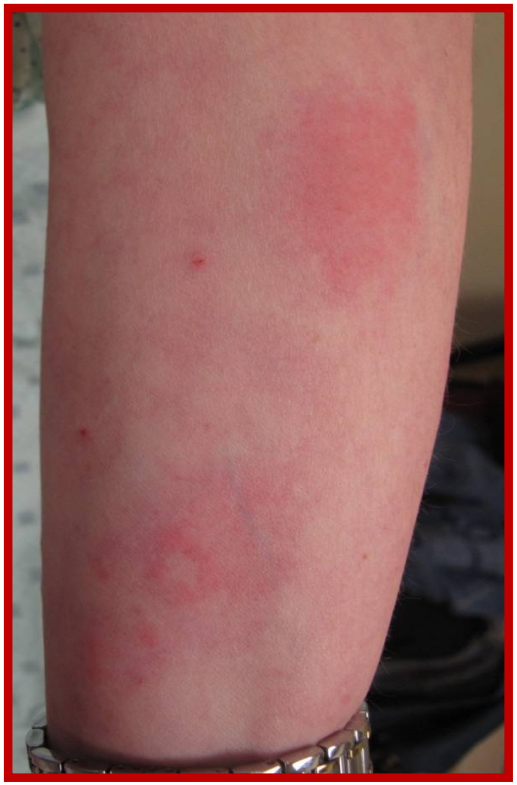

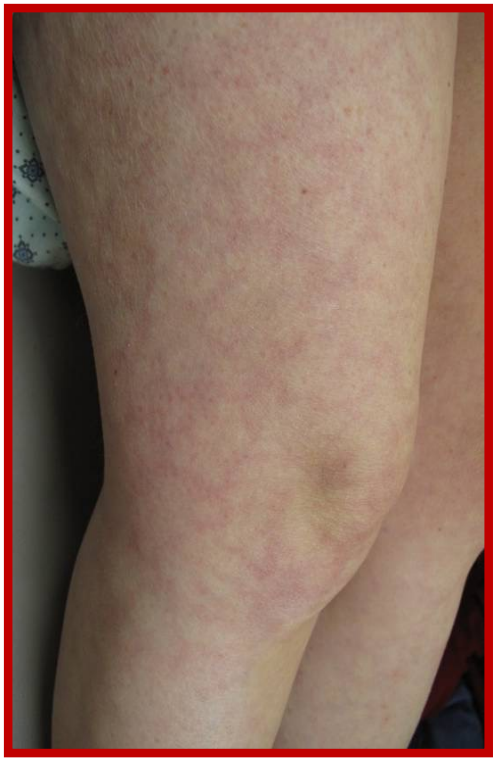

NYU Winthrop Hospital
NY[illegible] School of Medicine

DERMATOPATHOLOGY REPORT

RESULTS

**DIAGNOSIS:**

**RIGHT POST LOWER FOREARM-**

**URTICARIAL VASCULITIS (LEUKOCYTOCLASTIC VASCULITIS, EARLY LESION)**

[redacted]

**Electronic Signature: 22 FEB 2017 06:26 PM**

**CLINICAL INFORMATION**

R/O URTICARIAL / URTICAIAL VASCULITIS / BITES

**SPECIMEN DATA**

**GROSS DESCRIPTION:**

Received in 10% buffered formalin is tissue measuring 0.3X0.3X0.3cm; 1 piece(s)/1 block(s) (Punch).

**MICROSCOPIC DESCRIPTION:**

There is a perivascular infiltrate composed predominantly of neutrophils with nuclear debris and extravasated erythrocytes. (LCCVURT-KS)

CLINICAL RESEARCH STUDY

THE AMERICAN JOURNAL of MEDICINE®

# Bullous Reactions to Bedbug Bites Reflect Cutaneous Vasculitis

**Richard D. deShazo, MD,[a] Mark F. Feldlaufer, PhD,[b] Martin C. Mihm Jr, MD,[c] Jerome Goddard, PhD[d]**

*[a]Division of Clinical Immunology and Allergy, Departments of Medicine and Pediatrics, The University of Mississippi Medical Center, Jackson; [b]Invasive Insect Biocontrol and Behavior Laboratory, US Department of Agriculture, Beltsville, MD; [c]Department of Pathology, Harvard Medical School, Boston, Mass; [d]Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State University, Mississippi State.*

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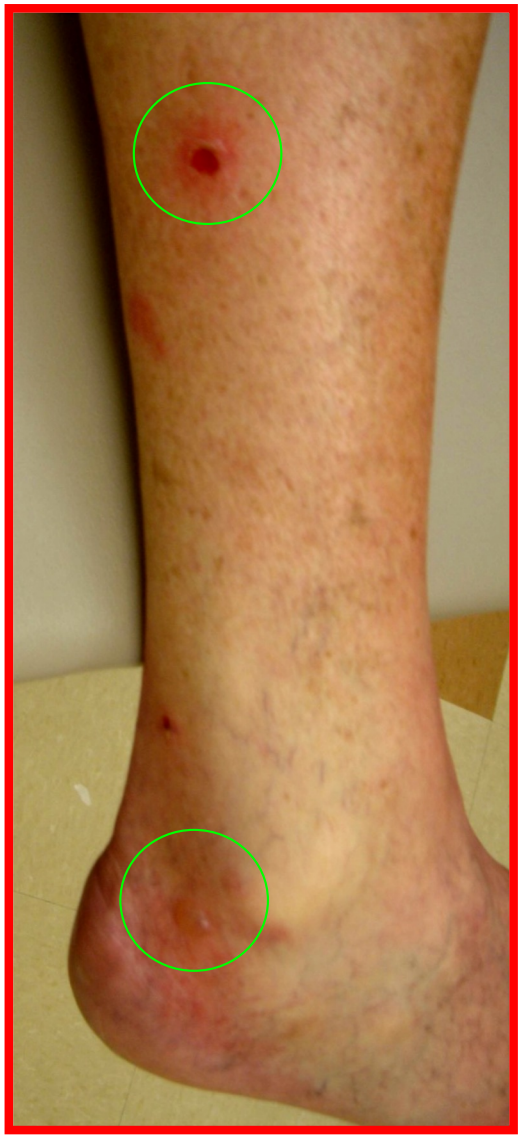
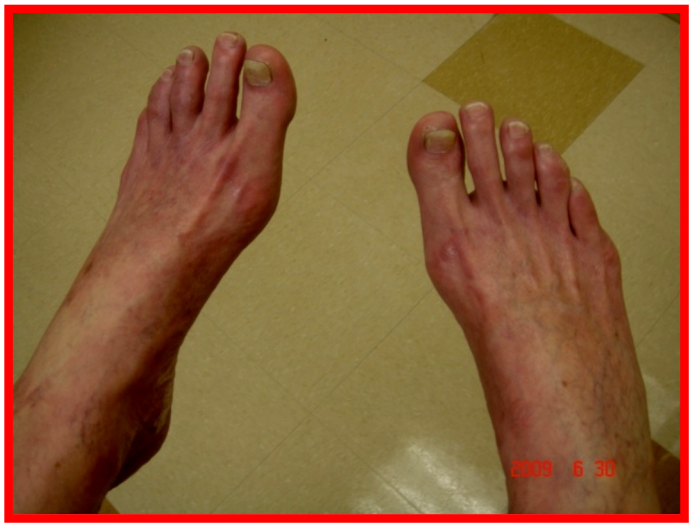
# 56 y.o. referred for insect bite sensitivity



- 6-12 months duration
- Starts with large local reaction to mosquito bite, blisters and progress to cellulitis
- Heals with necrotic center



Livedo reticularis

- Head ache
- Bilateral pneumonia last year
- Joint pains & low back pain with episodes of falling
- EMG: radiculopathy

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# DERMATOPATHOLOGY REPORT

**DIAGNOSIS:**

**RIGHT LOWER LEG - LEUKOCYTOCLASTIC (ALLERGIC) VASCULITIS**
**Note: Please refer to the companion immunofluorescence report (HI09-832).**

**CLINICAL IMPRESSION:**
POSSIBLE VASCULITIS

**GROSS DESCRIPTION :**
PUNCH, 0.4X0.4X0.6CM

**MICROSCOPIC DESCRIPTION:**
There is a superficial and mid-dermal perivascular and interstitial mixed inflammatory cell infiltrate that contains lymphocytes, histiocytes, eosinophils and many neutrophils. There are nuclear dust, fibrin within the vessel walls and numerous extravasated erythrocytes. (82A-MT)

**DIAGNOSIS:**

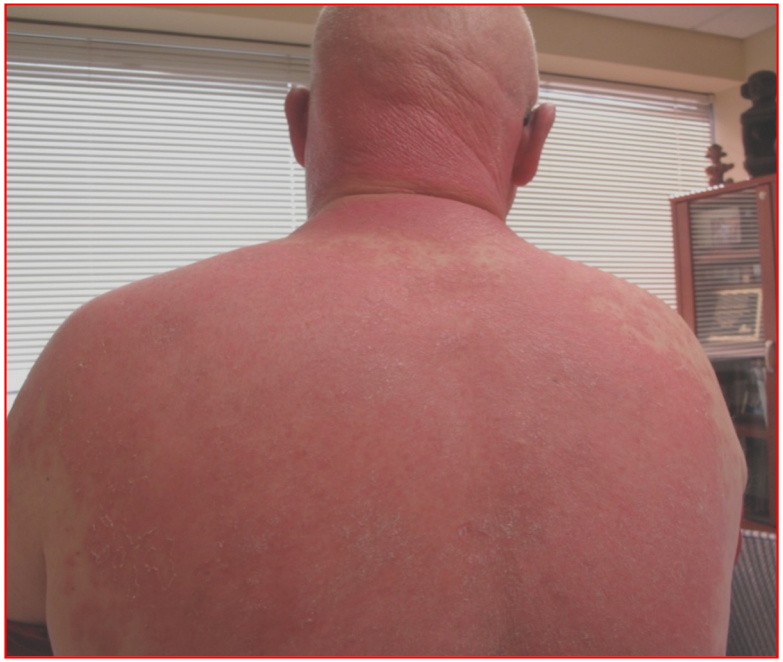
**RIGHT LOWER LEG - POSITIVE DIRECT IMMUNOFLUORESCENCE STUDY FOR VASCULITIS**
**Note: There are deposits of C3 and IgM about vessels. This could represent leukocytoclastic vasculitis. Please refer to the companion report of light microscopic findings (HD09-176034).**

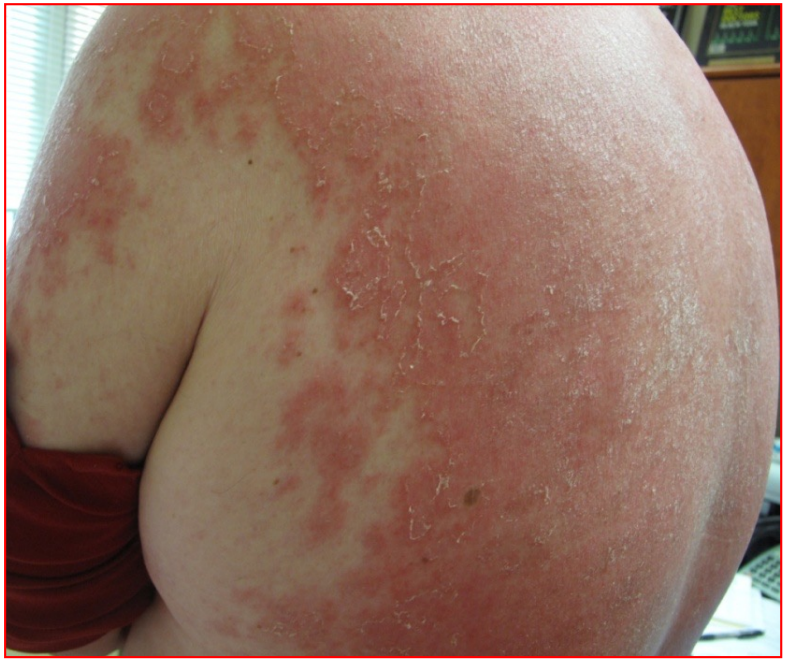
**CLINICAL IMPRESSION:**
RASH/POSSIBLE VASCULITIS

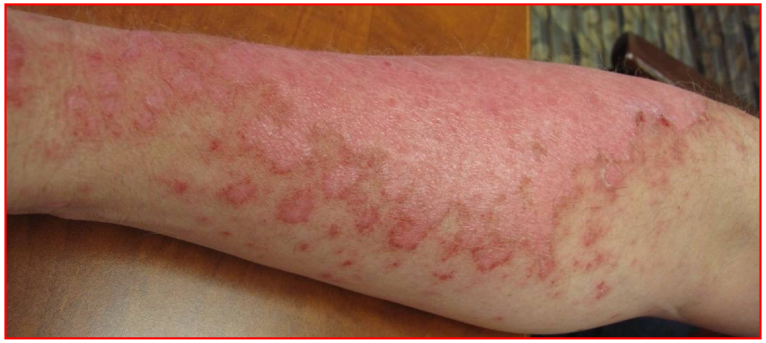
**GROSS DESCRIPTION :**
PUNCH, 0.3X0.3X0.4CM

**MICROSCOPIC DESCRIPTION:**
Specimen is treated with a panel of four immunoglobulins (IgG, IgA, IgM, and C3).

An H&E stained section shows perivascular dermatitis. There are deposits of C3 and IgM about vessels. IgG and IgA are not present in this area. All four antibodies tested are not present in the epidermis, basement membrane zone, or dermis.







- 56 M sudden spontaneous rash since 5 mo. ago, persisting and worsening
- Affected arms, trunk, neck, extremities
- Facial erythema

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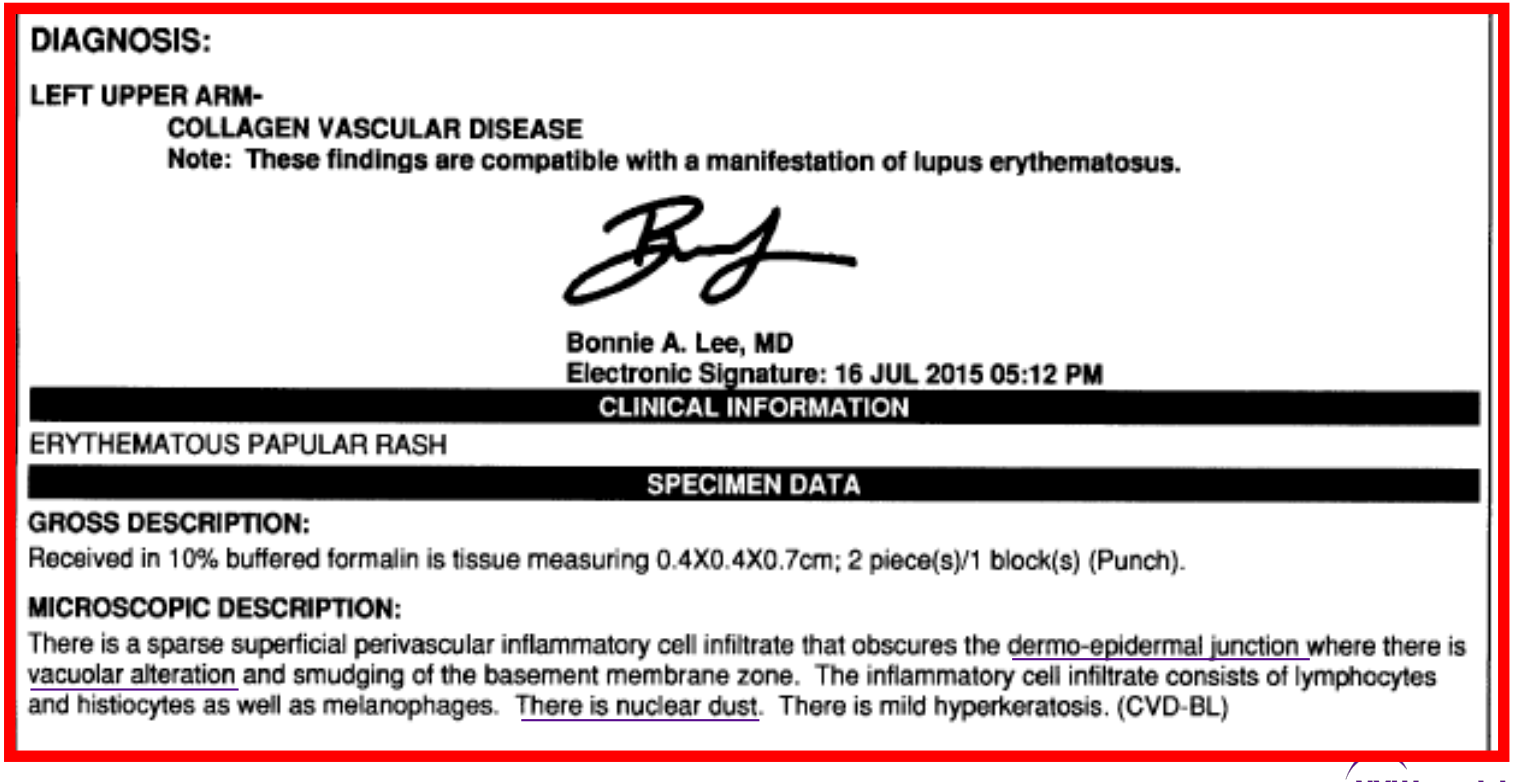
- Initial biopsy: lichenoid & interface dermatitis w/ perivascular lymphocytic infiltrate c/w photosensitivity reaction
- Labs: low CH50, nl C3, Elevated C4,
- (+) ANA 1:80 (+) RF, (+) SSA, (-) DNA



**DIAGNOSIS:**

**LEFT UPPER ARM-**

**COLLAGEN VASCULAR DISEASE**

**Note: These findings are compatible with a manifestation of lupus erythematosus.**

**Bonnie A. Lee, MD**
**Electronic Signature: 16 JUL 2015 05:12 PM**

**CLINICAL INFORMATION**

ERYTHEMATOUS PAPULAR RASH

**SPECIMEN DATA**

**GROSS DESCRIPTION:**

Received in 10% buffered formalin is tissue measuring 0.4X0.4X0.7cm; 2 piece(s)/1 block(s) (Punch).

**MICROSCOPIC DESCRIPTION:**

There is a sparse superficial perivascular inflammatory cell infiltrate that obscures the dermo-epidermal junction where there is vacuolar alteration and smudging of the basement membrane zone. The inflammatory cell infiltrate consists of lymphocytes and histiocytes as well as melanophages. There is nuclear dust. There is mild hyperkeratosis. (CVD-BL)

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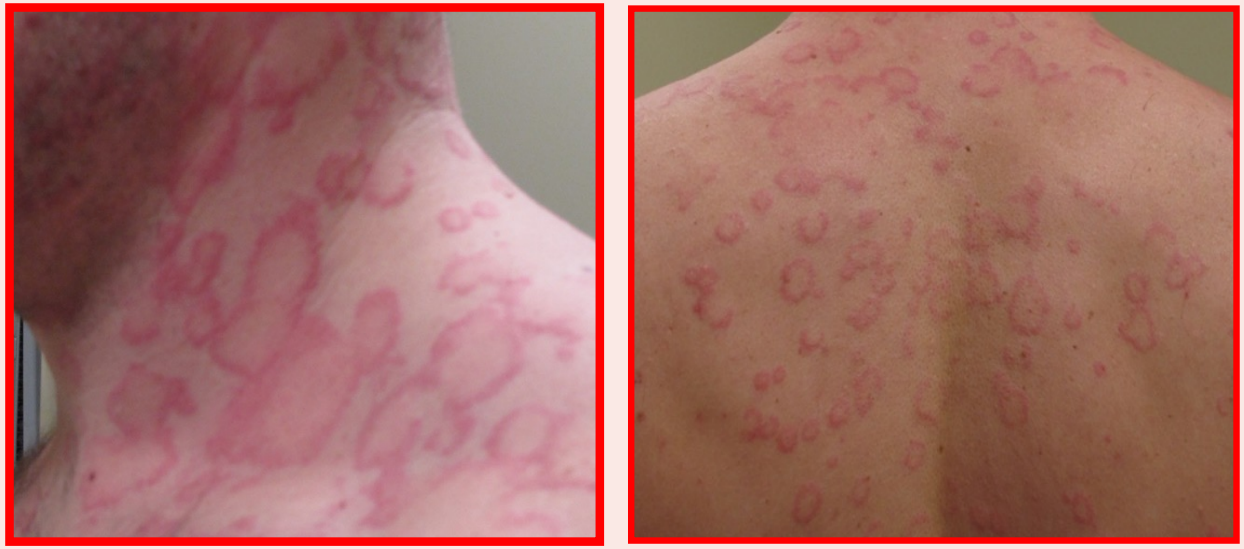
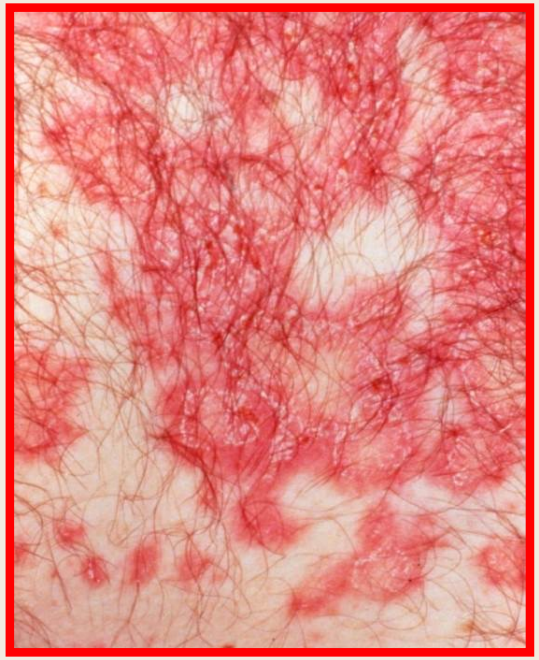
# Subacute Cutaneous Lupus Erythematosus

## Annular Polycyclic



## Papulosquamous



- 60 % of SACL have (+) DIF on lesional skin
- Some (usually those with SLE features) have (+) Lupus Band Test

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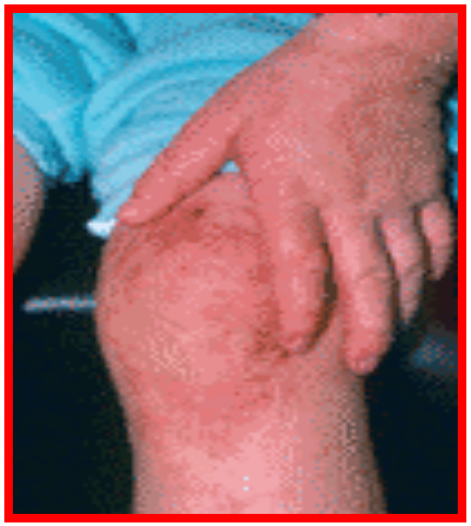
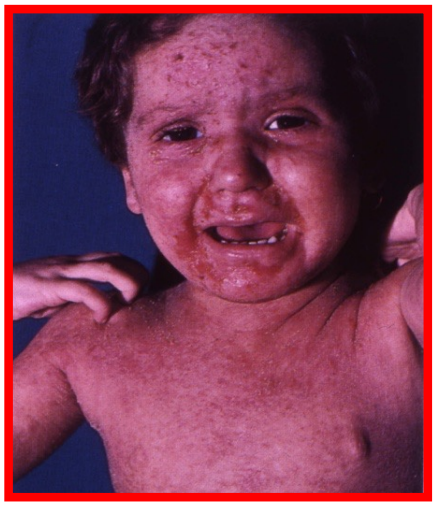
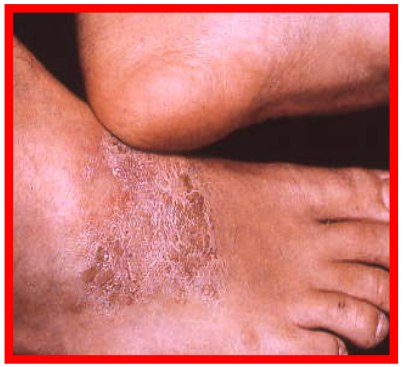
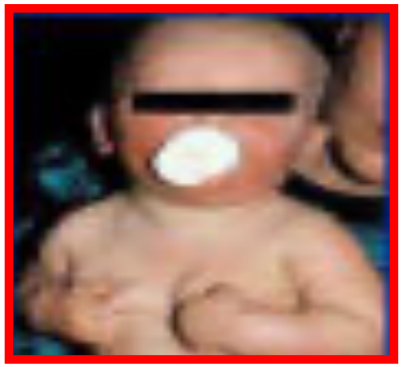
# Itch

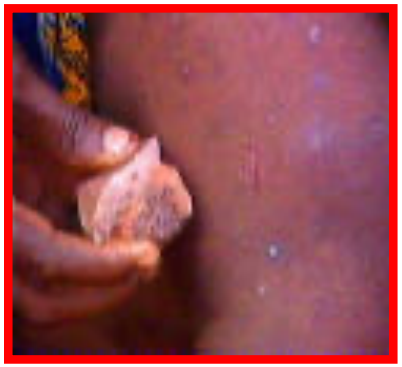
**poorly localized, non-adaptive, usually unpleasant sensation, which elicits a desire to scratch**



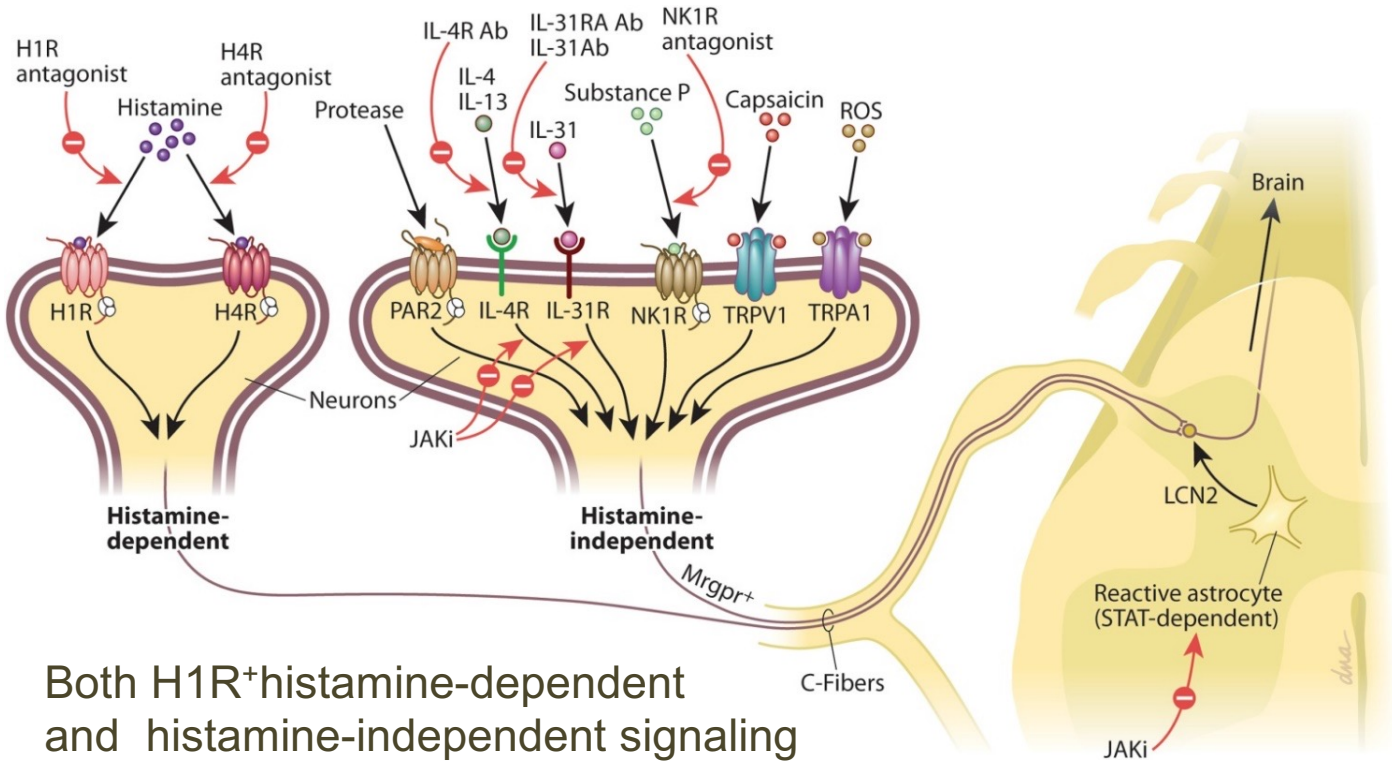








# Mechanisms of pruritus in AD




Both H1R⁺histamine-dependent and histamine-independent signaling pathways mediate pruritus

In spinal dorsal horn STAT3-dependent astrocytes produce lipocalin 2

↓

sensitizes a pruritic processing neuronal network

↓

leads to chronic pruritus.

Antipruritic drugs block each pruritic pathway
IL-4, IL-13 & IL-31 elicit their functions through JAK-STAT signaling.

NYU Langone Health
NYU-Winthrop Department of Allergy & Immunology

Paller AS, Kabashima K, Bieber,T.Therapeutic pipeline for atopic dermatitis:End of the drought? J ALLERGY CLIN IMMUNOL SEPTEMBER 2017

NYU Long Island School of Medicine

# Chronic Pruritus

## Dermatologic
**With Primary Rash**

- Xerosis
- Atopic Dermatitis
- Contact dermatitis
- Scabies
- Psoriasis
- Lichen Planus

## Neurologic

- Notalgia Paraesthetica
- Brachioradial Pruritus
- Multiple sclerosis
- Post Herpetic itch

## Systemic

- Thyroid disease
- Primary biliary cirrhosis
- Chronic renal failure
- Hodgkin's disease
- Polycythemia Vera
- HIV
- Metabolic states
- Drugs

## Psychogenic

- OCD
- substance abuse
- delusional parasitosis

## Idiopathic

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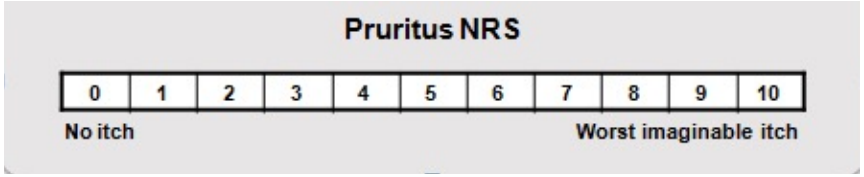
# Severity of Pruritus 0-10:

6 distracts from activities
8 awakens from sleep
10 is the worst imaginable




| SEVERE | MODERATE |
|---|---|
| Scabies, mite infestation | Psoriasis |
| Pediculosis, insect bites | Seborrheic dermatitis |
| Contact & atopic eczema | Pityriasis Rosea |
| Urticaria | Sunburn |
| Prickly Heat | Fungal disease |
| Lichen Planus | Asteatotic skin |
| Dermatitis Herpetiformis | Urticaria pigmentosa |

NRS Fig from Phan NQ et al. Acta Derm Venereol

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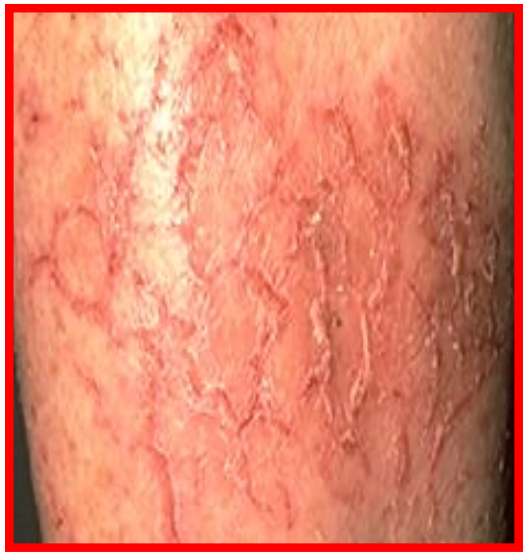
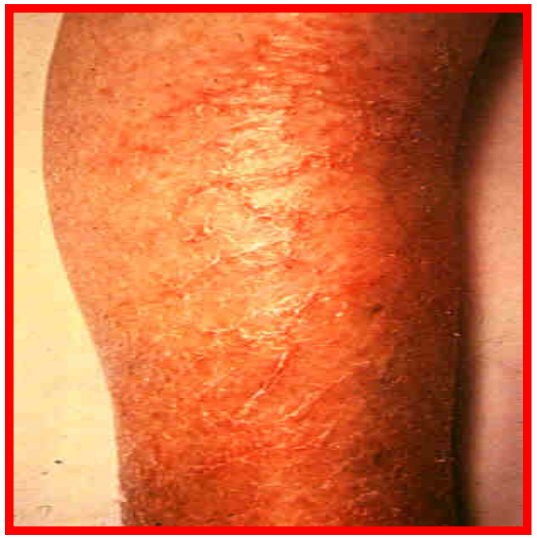
# Asteatotic Eczema
## (Senile eczema, winter eczema, eczema craquele`)

- Failure of skin to retain moisture
- Extensive & generalized eczema craquele`in trunk, arms & legs
- Surface of skin marked in crisscross fashion
- Finger “parchment pulp’ –dry & cracked

- Contributory factors
  - Increasing age (experienced by at least 50% of people >70 y.o)
  - Environment: low humidity, dry cold wind, winter
  - Cleansers & solvents
  - Presenting sign of myxedema, Zinc deficiency
  - Medications: diuretics, cimetidine
  - Case reports associated with malignant lymphoma, angioimmunoblastic lymphedema, gastric adenocarcinoma





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NYU-Winthrop Department of Allergy & Immunology

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# Dermatologic Causes of Itch with a Rash

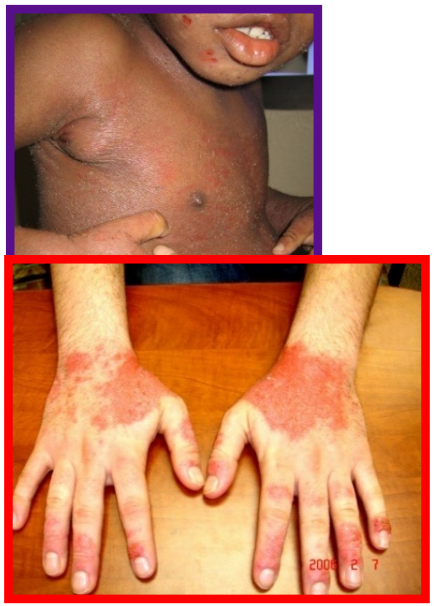
## Endogenous Eczema

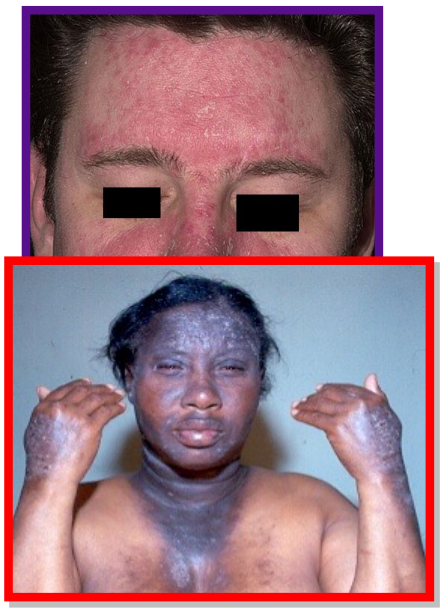
- Atopic dermatitis
- Seborrheic dermatitis
- Asteatotic eczema
- Nummular eczema
- Eczema associated w/systemic disease
- Eczematous drug eruption

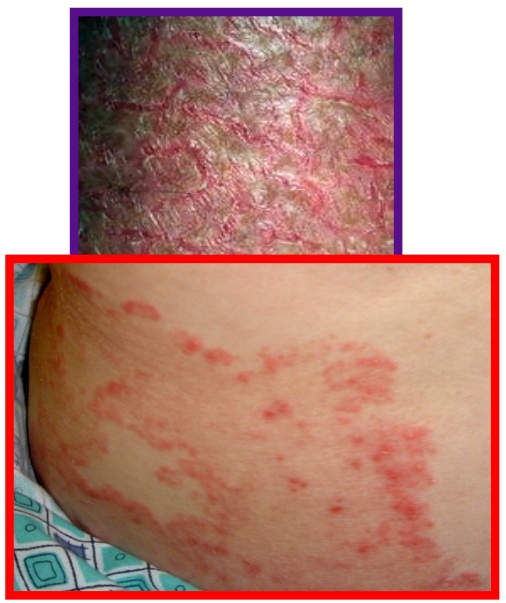
## Exogenous Eczema

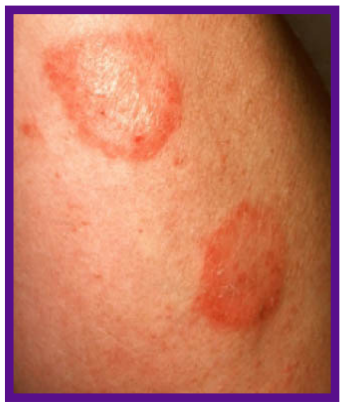
Clearly defined exogenous triggers

- Contact Dermatitis
  - Irritant
  - Allergic
  - Photo-allergic
- Infective dermatitis
- Dermatophytide
- Post-traumatic eczema









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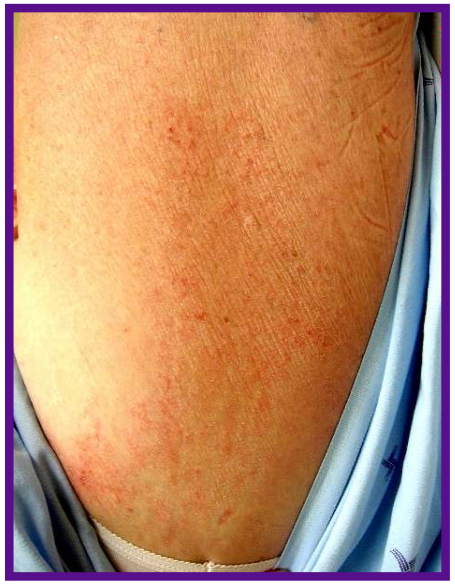
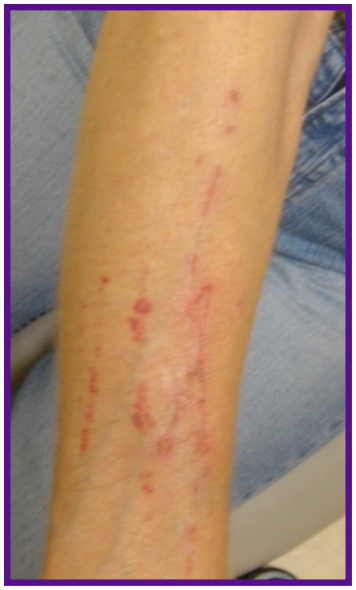
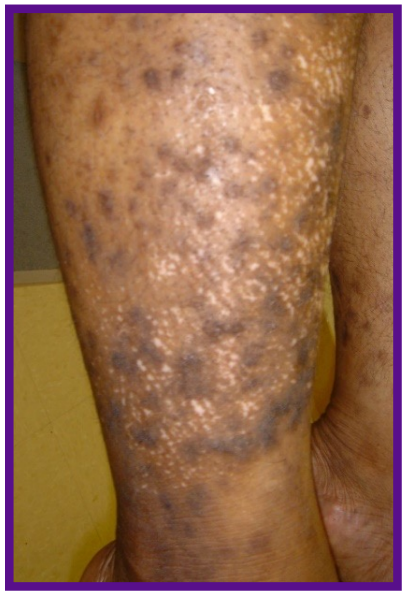
# Itch without a primary rash may have Secondary Skin Lesions

Excoriations from rubbing & scratching
Non specific Dermatitis
Prurigo Nodularis
Lichen Simplex Chronicus



## Look for Underlying Cause

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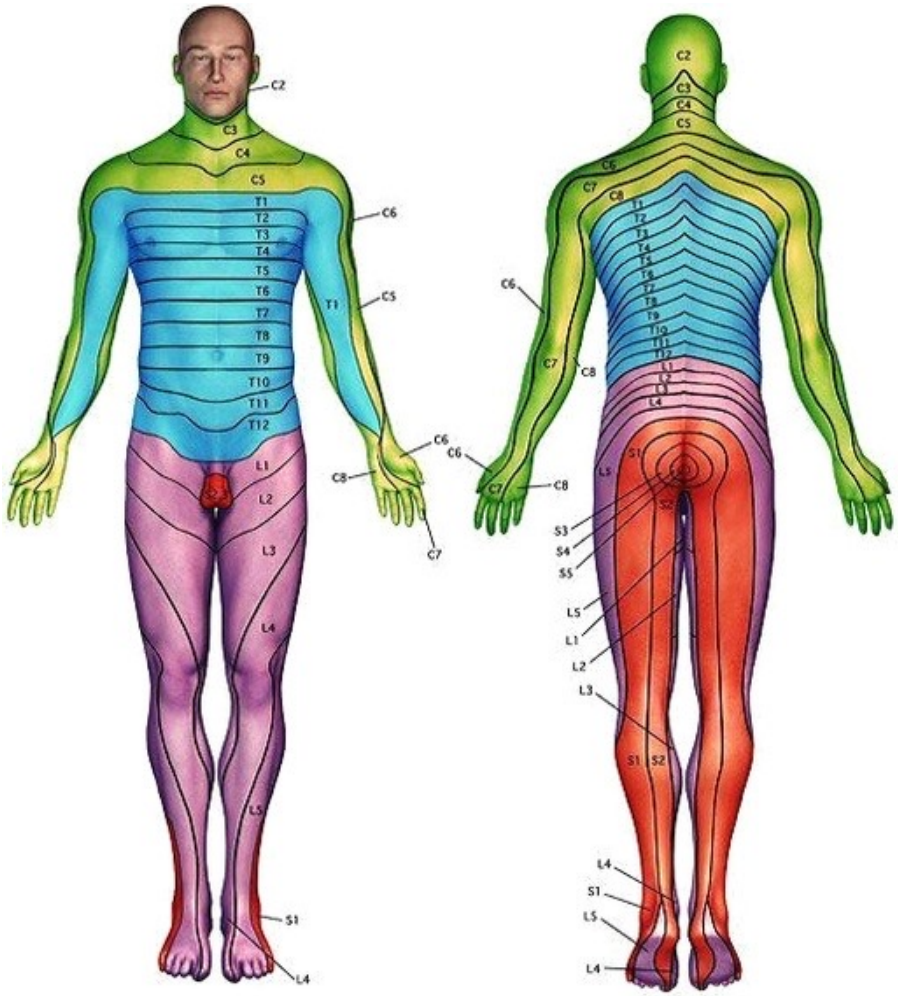
# Neurologic Causes of Intense Itching

- Association with other sensory symptoms
- Dermatomal distribution
- Presence of other neurologic sensory signs
- Presence of nerve damage
  - Motor deficits
  - Autonomic dysregulation




Yosipovitch and Samuel. Dermatol Ther 2008

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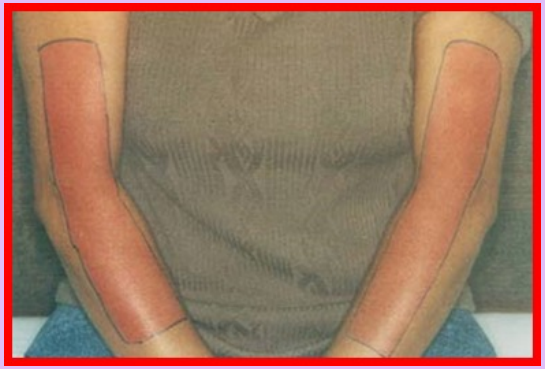
# Neurologic Causes of Intense Itching

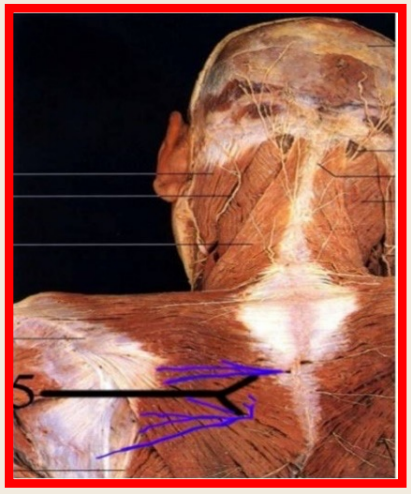
## Brachioradial Pruritus

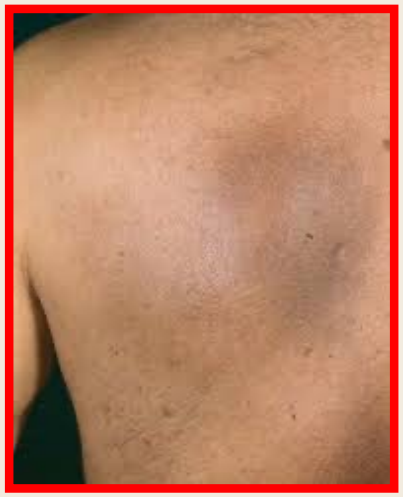
- Localized to outer aspect of elbow & adjacent lower & upper arms
- May have cervical pain (irritation of cutaneous branch of radial nerve or cervical spine)



## Notalgia Paraesthetica

- Persistent burning pruritus localized in mid-scapular
- Mild lichenification & pigmentation
- May be localized sensory neuropathy (nerve entrapment of posterior rami at T2-T6)



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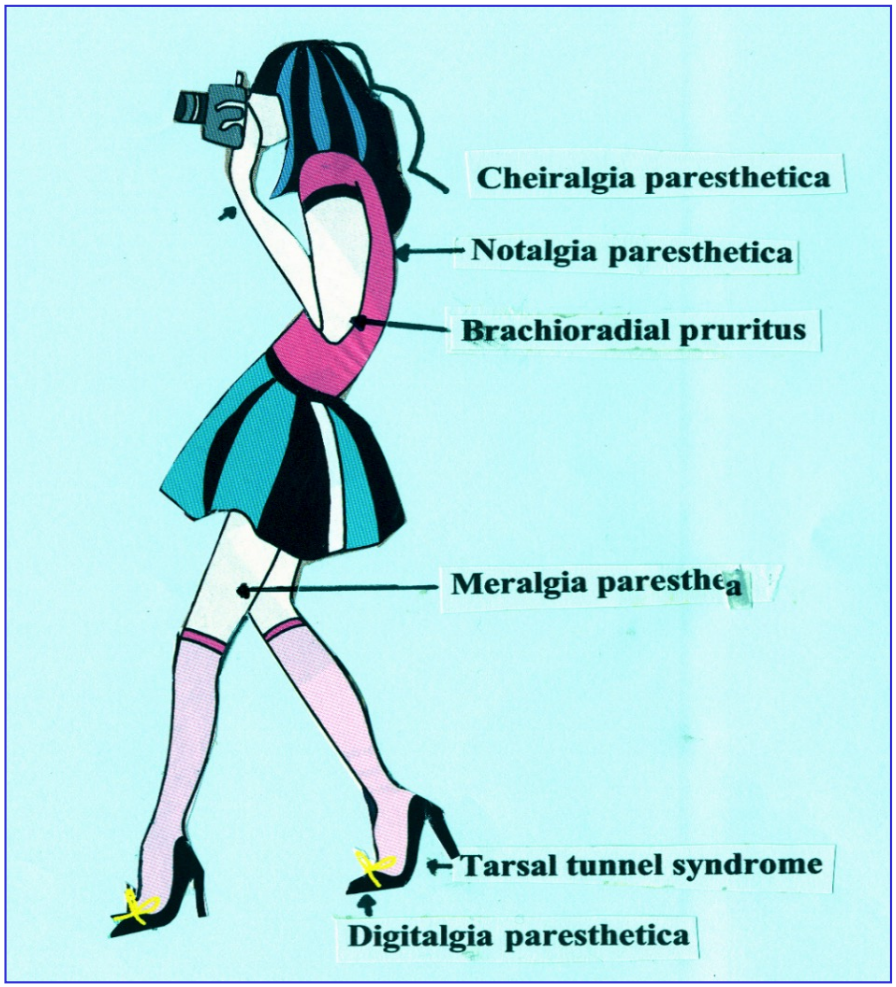
# Localized Neuropathic Itch Related to Spinal Nerve Compressions

## Mononeuropathies

- **Scalp Itch**
- **Brachioradial**
- **Notalgia parasthetica**
- **Meralgia parasthetica**
- **Vulvar and Scrotal itch**




Respond well to Gabapentin or Pregabalin

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## Systemic Causes of Pruritus without Primary Skin Lesions

- Infections:
  - HIV
  - Hep B, Hep C
- Malignancy
  - Leukemia
  - Lymphoma
  - Multiple myeloma
- Pregnancy
- Food/Drug
- Chronic renal disease
- Cholestasis
- Gluten enteropathy
- Hematologic disease
  - Iron deficiency
  - Polycythemia Vera
- Endocrine diseases
  - Hypothyroidism
  - Hyperthyroidism
  - Diabetes mellitus

***The incidence of generalized pruritus associated with significant internal disease is difficult to assess but is estimated to be ~10%**

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## Drugs reported to cause pruritus

- Aspirin
- Allopurinol
- Chloroquine
- Sulfonamides
- Amiodarone,
- Quinidine
- Estrogens
- Opium Alkaloid
- Calcium channel blockers
- ACE-inhibitors
- Hydrochlorothiazide
- Simvastatin
- Niacinamide
- CNS stimulant/depressant
- Cimetidine

# Topicals

- Bland Emollients: 1st line therapy
  - Repairs skin barrier function
- Topical (+/- occlusion) or intralesional corticosteroids
- TCIs: tacrolimus, pimecrolimus
- Distractions (cold packs)
- “Anti-Itch” Preparations
  - 3% Calamine
  - 0.47% Camphor
  - Menthol 1-5%(activate A-delta cold afferents)
  - Topical Strontium-containing hydrogel (Tricalm)
- Topical Antihistamines (may be sensitizing)
  - Benadryl cream
  - Doxepin 5% cream
- Anesthetics: Capsaicin, Lidocaine cream/patch
  - Higher concentration (up to 0.1%) may be more effective
  - Examples: Pramoxine HCl 1% or 2.5% Cream
    - Mixture of Lidocaine and Prilocaine 2.5% cream

## Step 1 Oral Medications

- Antihistamines: limitations
  - Diphenhydramine
  - Hydroxyzine
- Anti-depressants
  - Doxepin 10 mg qhs, increase up to 100 mg qhs
    - binds to histamine receptor with 800x affinity of hydroxyzine
  - SSRIs: Sertraline100 mg/d: cholestatic itch
  - Mirtazapine 15 mg/day: cancer-related itch
  - Amitriptyline: neuropathic, psychogenic itch

# Step 2 Oral Medications

- Anti-convulsants:
  - Gabapentin up to 2400 mg
  - Pregabalin
  - effective for several types of pruritus
    - Chronic renal disease (100-300 mg 3 x a week)
    - Post Herpetic Itch
    - Brachioradial pruritus
    - Prurigo Nodularis
- Mu-opiate antagonists: Naltrexone,  Naloxone
  - effective in CIU, AD, cholestasis, chronic renal disease



Yosipovitch G & Bernhard J. Chronic Pruritus. NEJM 368:17; 1625-34

# Alternatives

- Phototherapy: PUVA, narrow-band UVB
  - Chronic Renal Disease
  - Psoriasis
  - AD
  - Cutaneous T Cell lymphoma
- Immunosuppressants:
  - Mycophenolate Mofetil
    - as low as 500 mg q 2-3 days
  - Methotrexate
  - Azathioprine

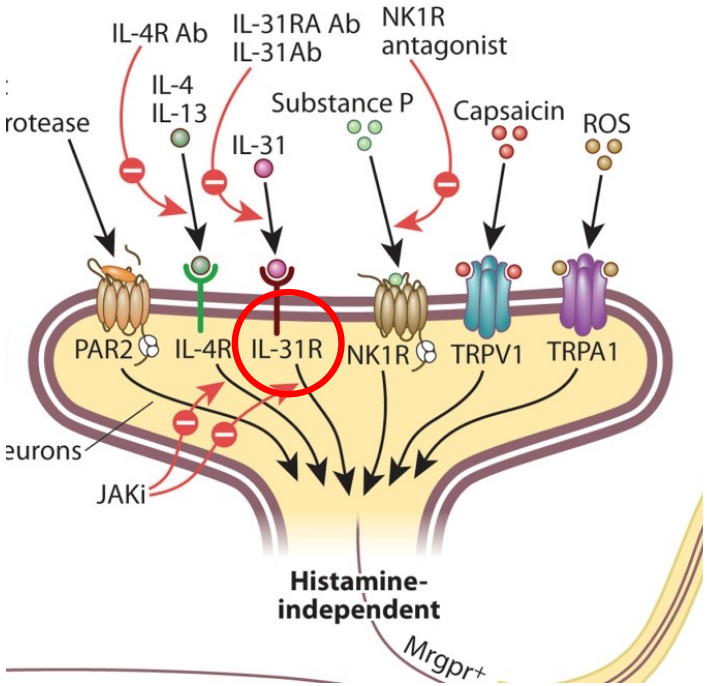


Yosipovitch G & Bernhard J. Chronic Pruritus. NEJM 368:17; 1625-34

# Specific targets for pruritus

Anti-IL31R: Nemolizumab (CIM331)

- IL31 expressed on C-fibers.
- Phase 2 trial:
  - IGA:% of patients with SIGA ≤1: 20.9% vs 4.7%
- Reduced sleep onset latency
- Increased total sleep time
- Decreased use of topical hydrocortisone
- Common AEs: AD exacerbation and nasopharyngitis, as well as a few cases of edema



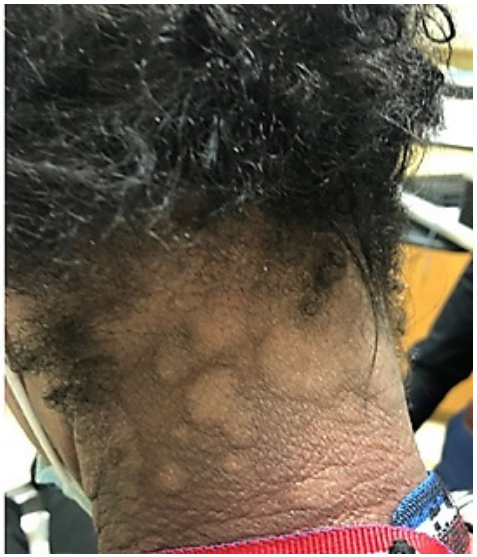

Ruzicka T, Hanifin JM, Furue M, Pulka G, Mlynarczyk I, Wollenberg A, et al. Anti-interleukin-31 receptor a antibody for atopic dermatitis. N Engl J Med 2017;376:826-35.

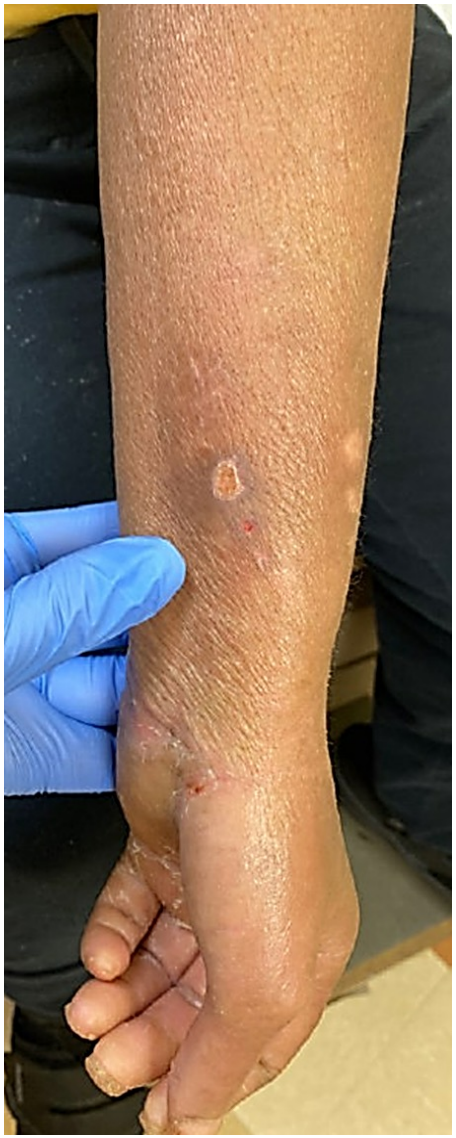
## In Summary

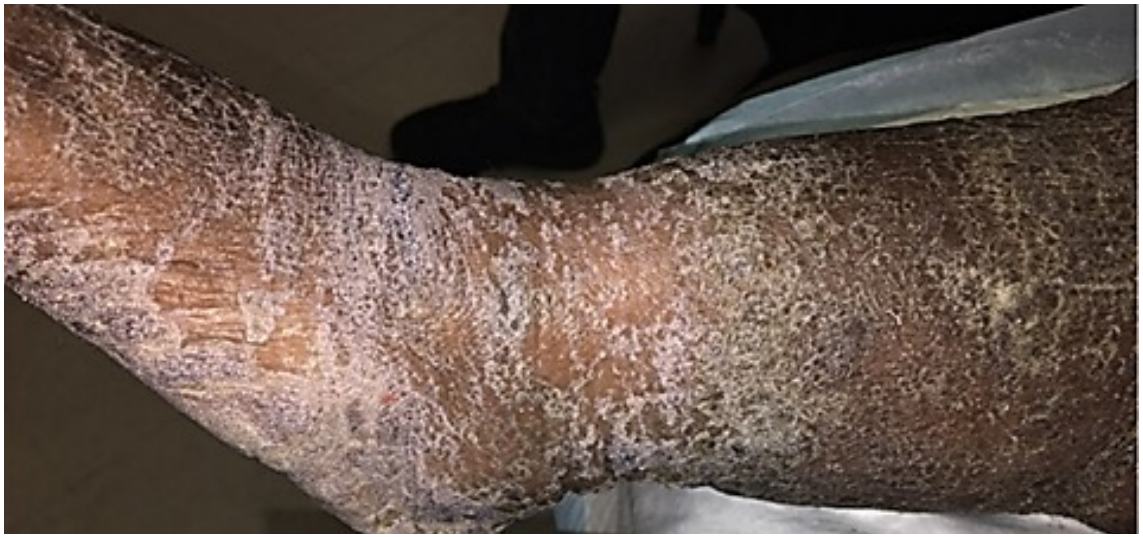
- Chronic pruritus (itching > 6 weeks) may be caused by dermatologic, systemic, neurologic or psychogenic disorders.
- The presence of a rash does not necessarily indicate a primary skin disease, scratching can cause secondary lichenification, prurigo nodules, patches of dermatitis, and excoriations.
- Initial evaluation of pruritus of undetermined origin could include a CBC with differential, hepatic, renal, thyroid function and CXR.
- Initial treatment includes use of mild cleansers, emollients, topical anesthetics and coolants.
- Sedating antihistamines may be used, primarily to help sleep.
- Anticonvulsants, antidepressants, and mu-opioid antagonists appear to be helpful in some forms of chronic itch.
- Patients with itch of undetermined origin should be reevaluated regularly and periodically until itch resolves.



Yosipovitch G & Bernhard J. Chronic Pruritus. NEJM 368:17; 1625-34







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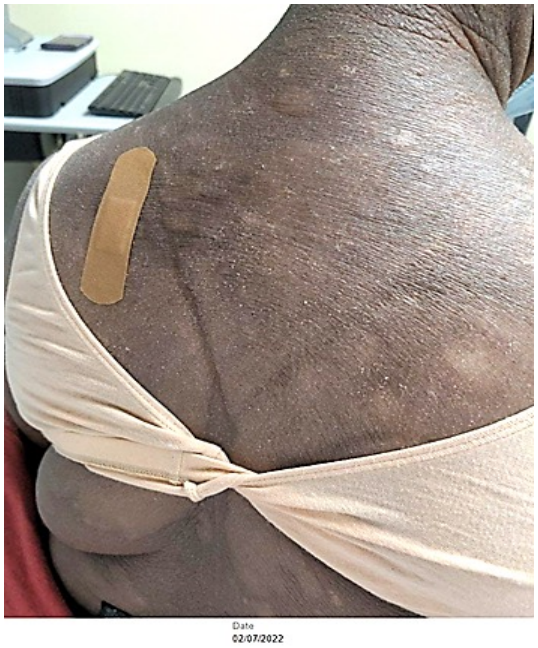
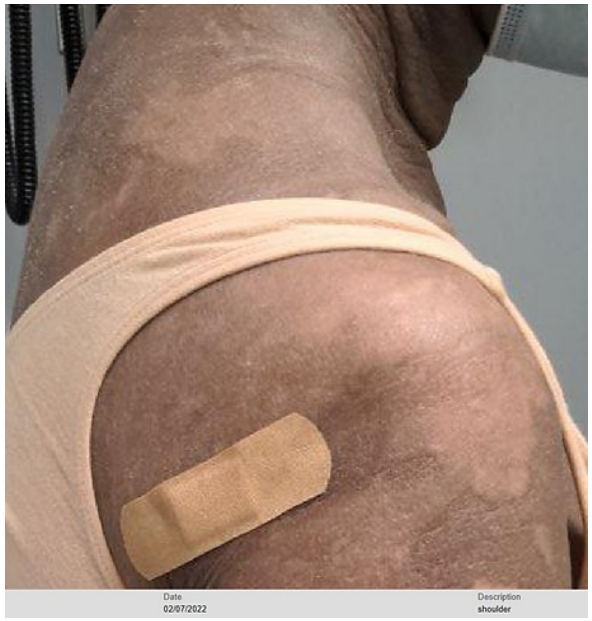
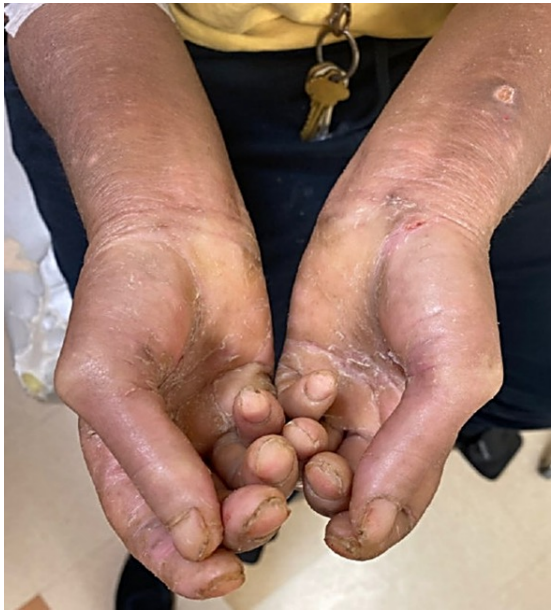
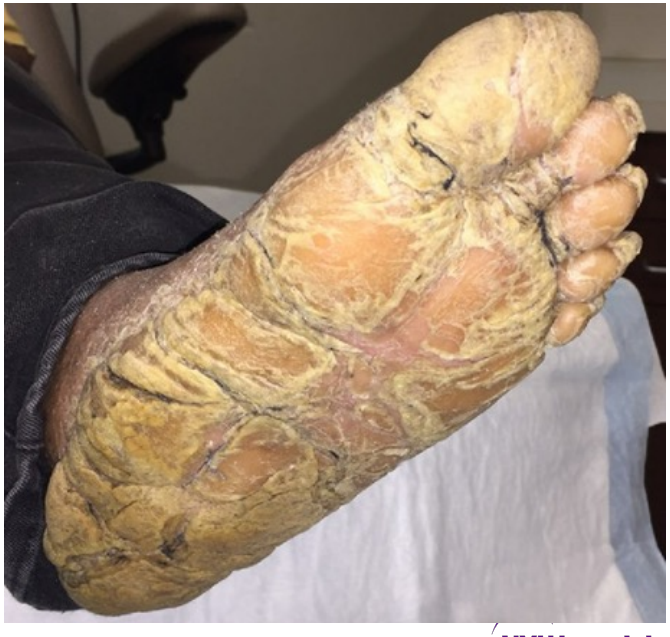


# Palmoplantar Keratoderma





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MICROSCOPIC DIAGNOSIS:

A: LEFT SUP BACK
LICHENOID LYMPHOCYTIC INFILTRATE WITH EXOCYTOSIS

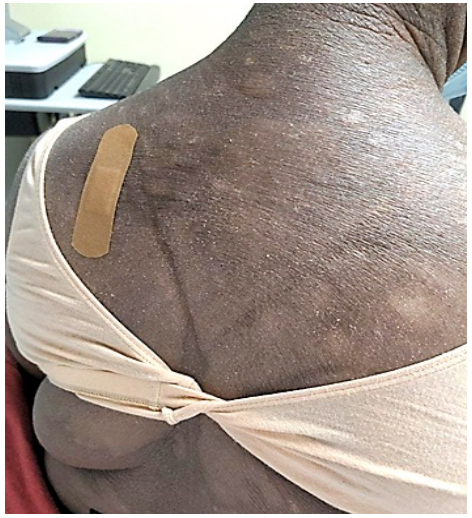
NOTE: In the context of the findings in specimen (B), the features are consistent with erythrodermic mycosis fungoides. Multiple serial sections have been examined.

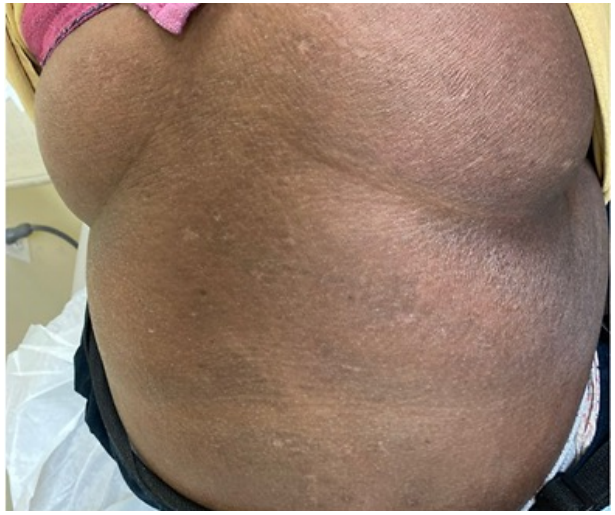
B: RIGHT POST SHOULDER
ATYPICAL T-CELL CD4(+) LYMPHOPROLIFERATIVE PROCESS WITH EPIDERMOTROPISM

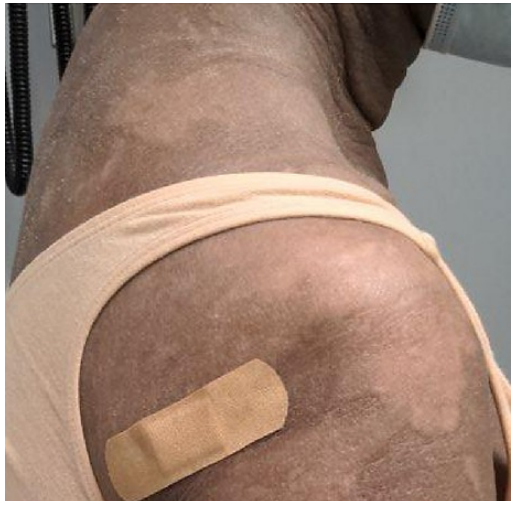
NOTE: The findings are consistent with erythrodermic mycosis fungoides. Systemic work-up is recommended to evaluate for Sezary syndrome. Multiple serial sections have been examined.

# Lessons Learned

## Erythema in Skin of Color







## Palmoplantar Keratoderma in Mycosis fungoides

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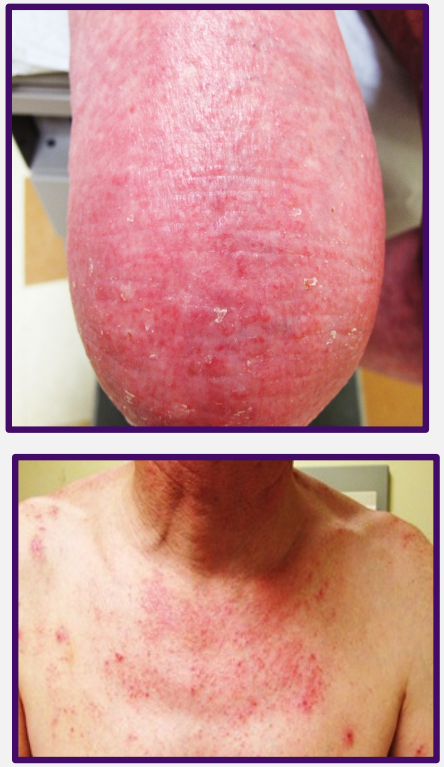
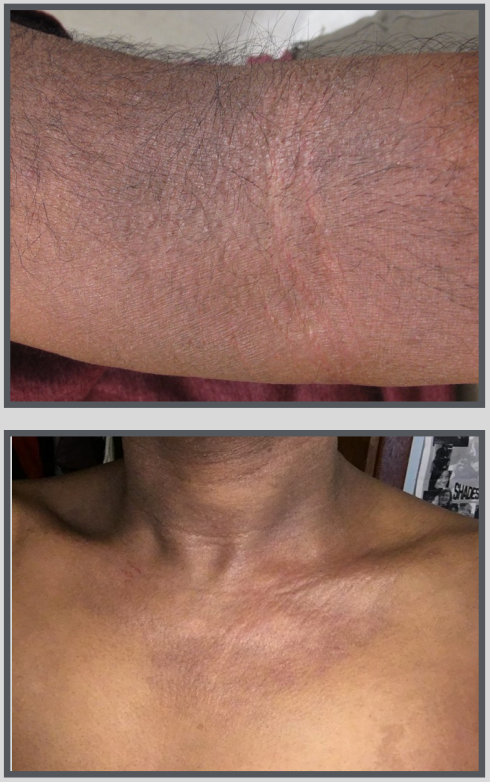
# Clinical Features in Darker Skin Types
# Erythema



White skin



Darker Skin

- Erythema in darker skin is more violaceous and may be missed
- Scoring systems that rely on erythema underestimates severity of AD in darker skin
- After adjusting for erythema score, “black” children have a 6 times higher risk of severe AD than their “white” counterparts.

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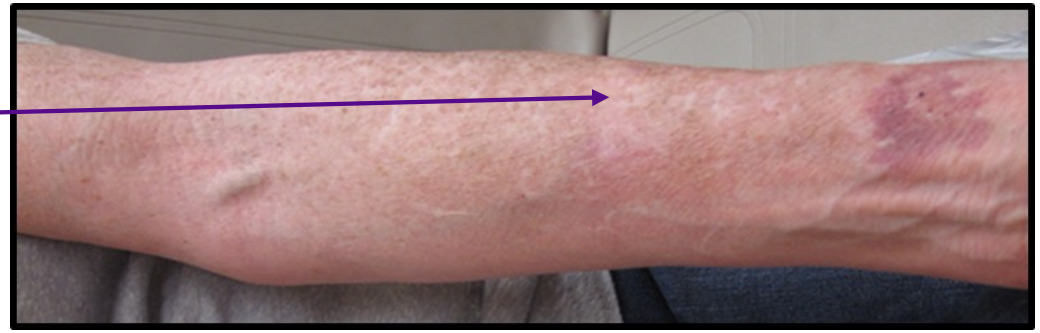
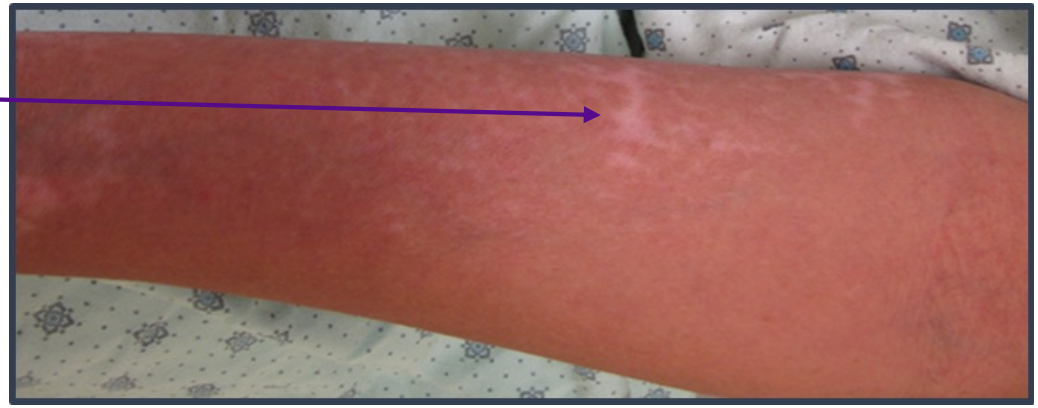
# Clinical Features in Different Skin Colors

## Hypopigmentation

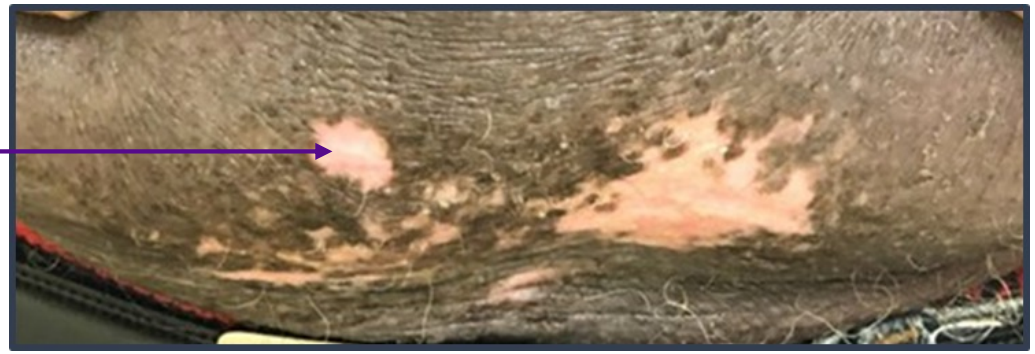
White skin



Brown skin



Black skin



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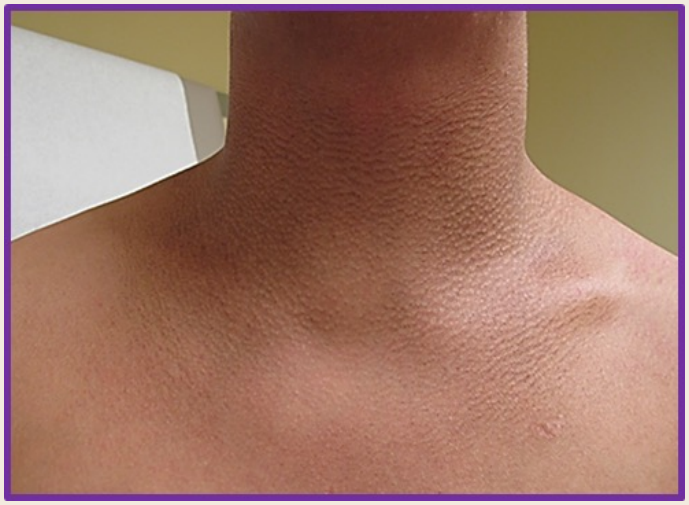
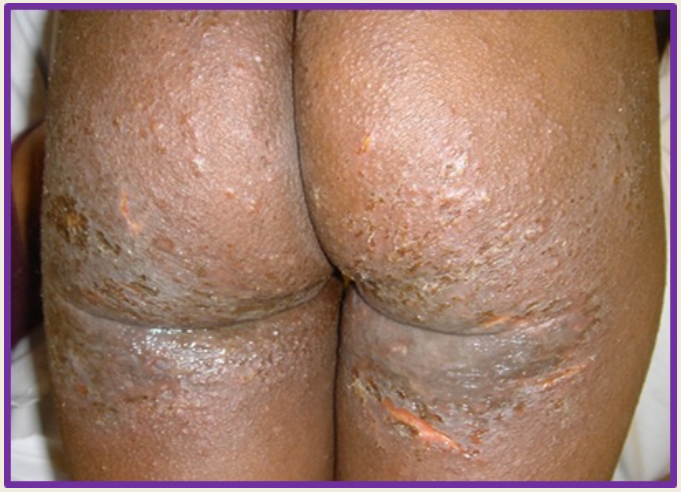
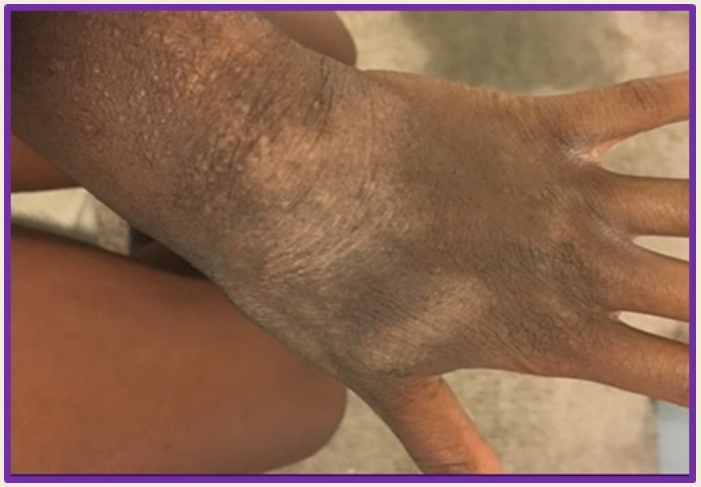
# Darker Skin Types

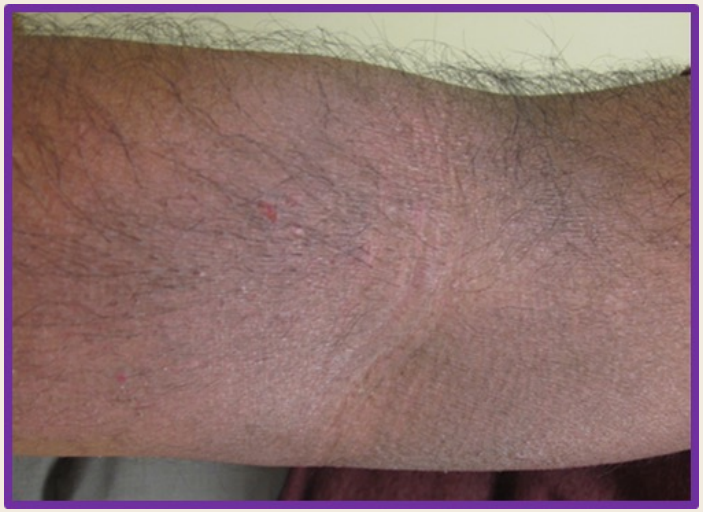
## Follicular accentuation





## Grayish-white skin ("ashy skin")





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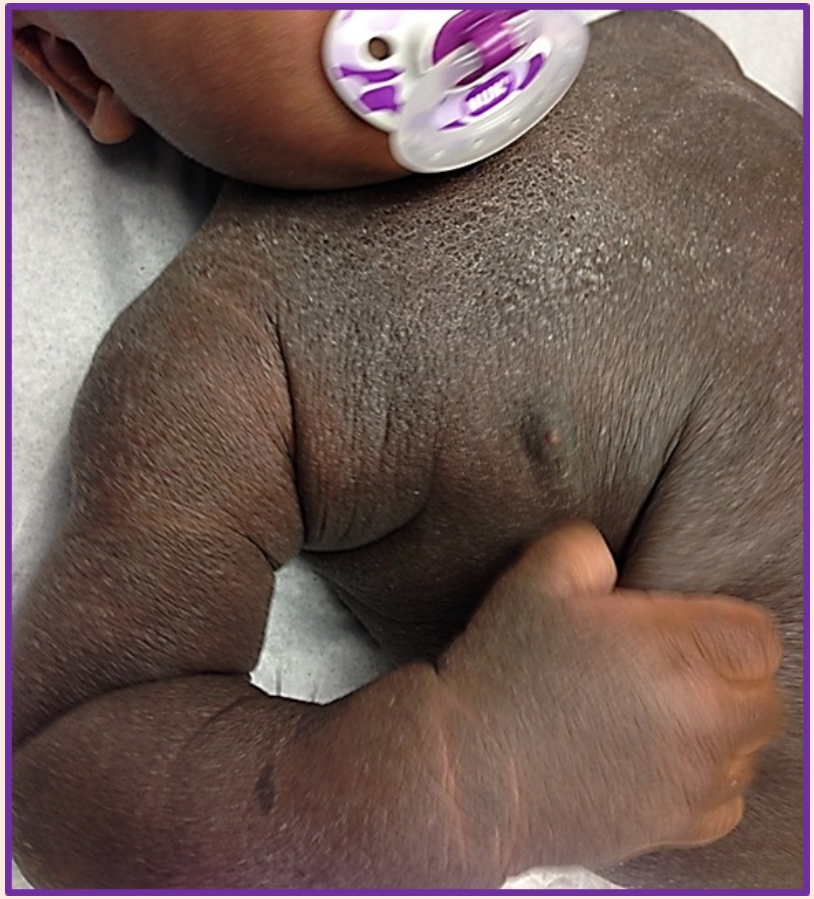
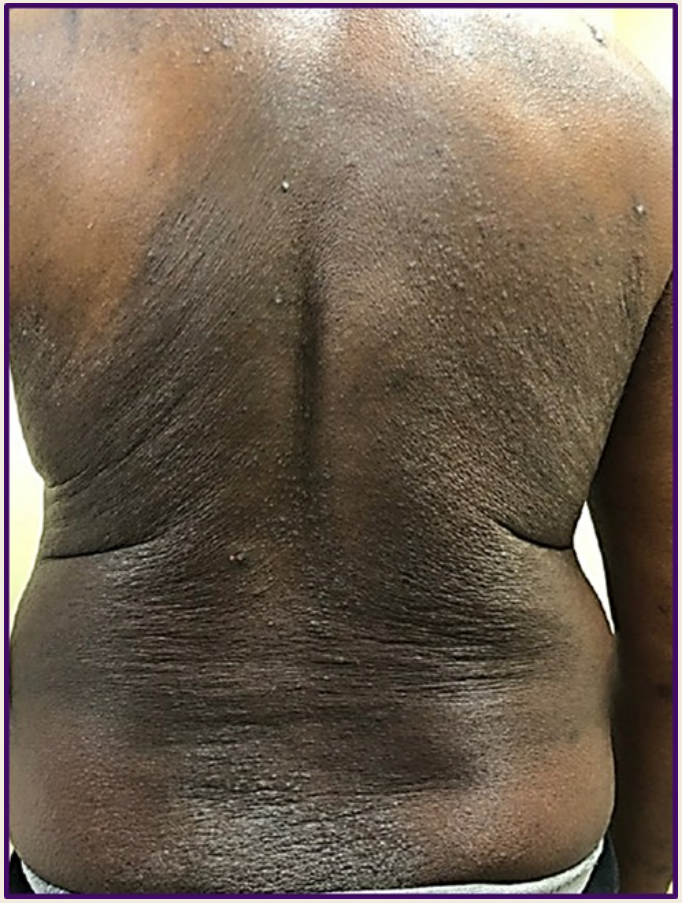
Profound Xerosis & lichenification



Higher rate of lesions on the trunk

↓

Challenge assessing body surface area



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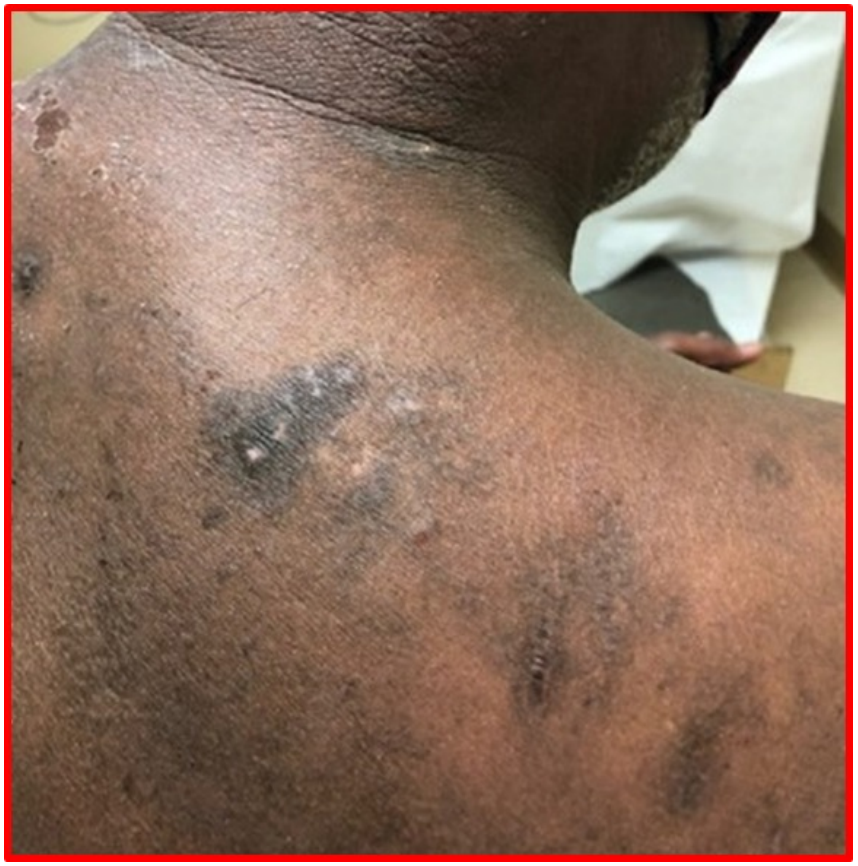
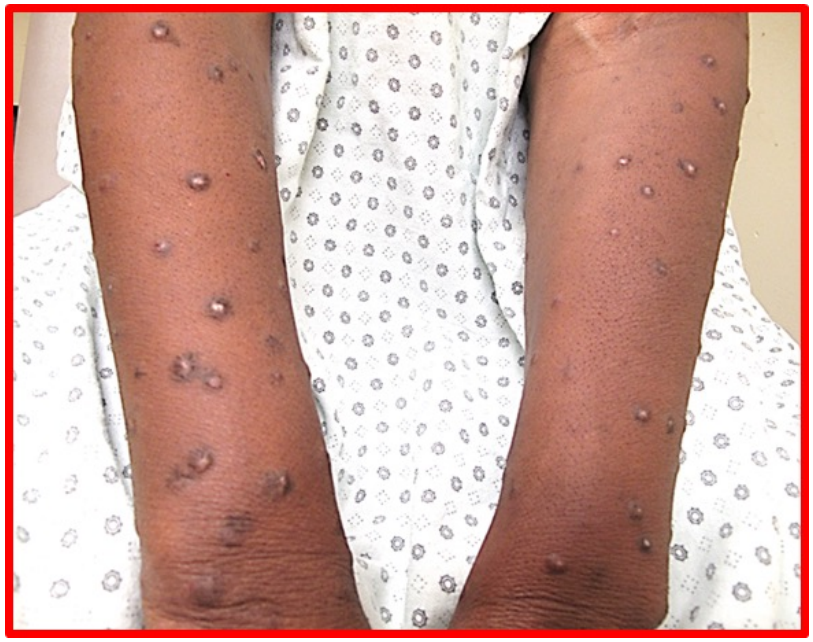
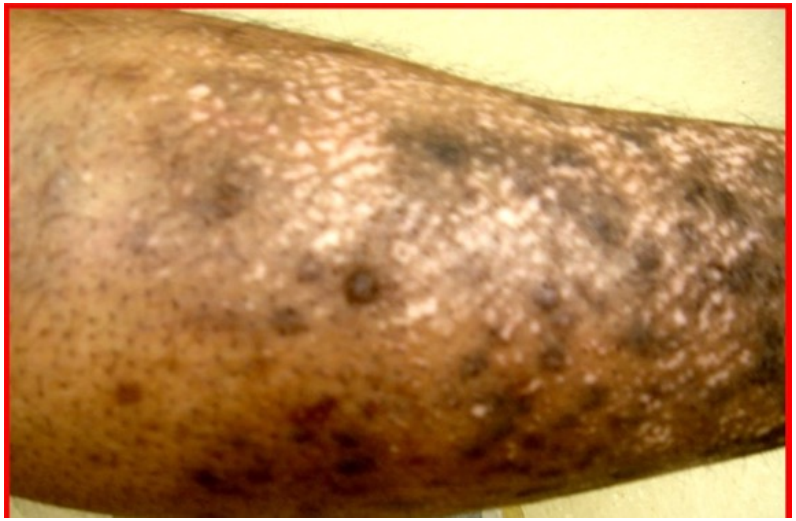
# Prurigo Nodularis







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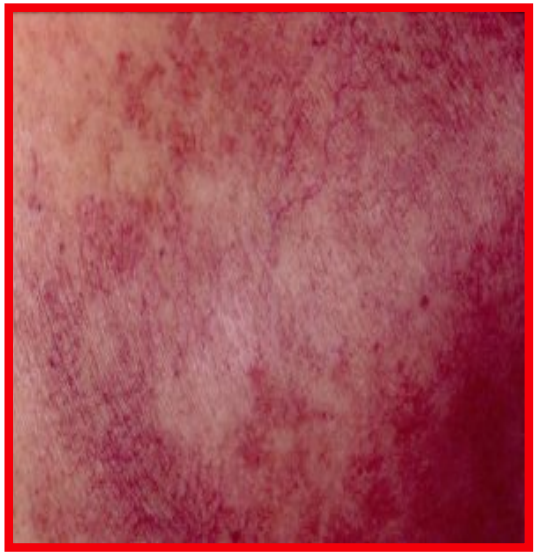
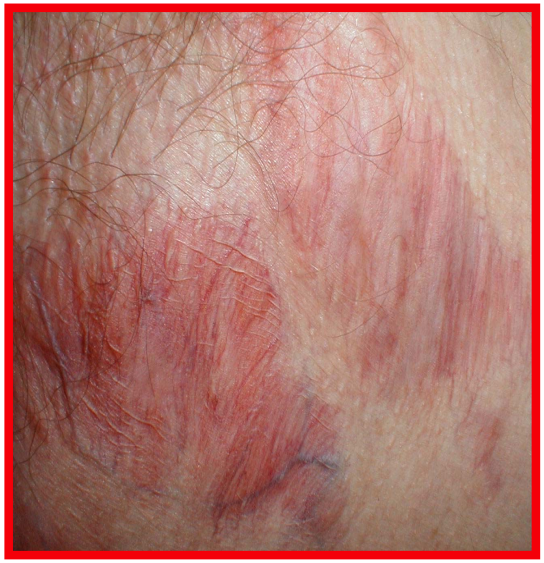
# Difficult to monitor Topical  Corticosteroid side effects

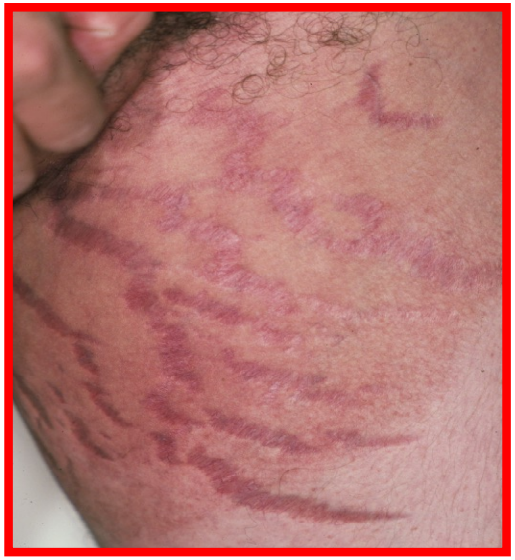
Telangiectasia



Striae



Atrophy



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# Other Social and Ethnic Differences

- Black compared to Caucasian/white children in the US
  - **higher prevalence** of AD
  - **increased persistence** of childhood AD
  - **more severe** AD
  - more sleep impairment
- Black & Hispanic with AD compared to Caucasian children
  - **lower household income**
  - **more likely to be uninsured or underinsured**
  - **reported insufficient time** during the patient-physician encounter
- Black children and adults with AD
  - **less likely to have an ambulatory visit for AD &/or more likely to have an ED** or urgent care visit & be hospitalized for AD

Lower income and lack of private insurance do not account for all of the racial/ethnic disparities observed in AD

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# Thank you

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