Dermatologic Conditions Missed by the Allergist

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Disclosure

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Objectives:

1. Discuss common dermatologic conditions presenting in the allergists’ practice
2. Discuss some differentiating features of these dermatologic diseases

Definition of Eczema

Inflammatory skin reaction
- Itching
- Erythema
- Scaling
- Clustered papulo-vesicles

Histology
- Always present at some stage of eczema:
  - spongiosis with acanthosis
  - superficial perivascular, lympho-histiocytic infiltrate

Secondary changes from scratching
- Excoriations/erosions
- Hemorrhage
- Lichenification
- Secondary infection
# 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

# 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**
Netherton syndrome

- Rare AR genodermatosis
  - Erythroderma
  - Trichorrhexis invaginata (bamboo hair)
  - Ichthyosis linearis circumflexa (ILC)
  - Atopic diathesis
  - Failure to thrive

- May have immunologic abnormalities
  - Transient neutrophil function defects
  - Impaired cellular & immune responses
  - Raised complement levels (C3 & C4)

Circinate, polycyclic plaques bordered by a characteristic double-edged scale

Irritant Contact Dermatitis

Primary diagnostic criteria
- Macular erythema, hyperkeratosis, fissuring with less vesiculation
- Glazed, parched or scalded
- Heal promptly on withdrawal offending agent
- Patch test (-)

Minor objective criteria
- Sharply circumscribed
- Evidence of gravitational influence (dripping effect)
- Less tendency to spread
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
  - Lymphomatoid papulosis
- **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

Psoriasis

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

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 %)

Pustular Psoriasis

- Localized
- Generalized
- Erythrodermic

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
- Lymphomatoid papulosis
**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

**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
Lichenoid skin eruptions

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

Lichen Planus

A disease characterized by "P-words":

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

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

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 immunoglobulin A)
  - less common: psoriatic arthritis, osteoarthritis, spondyloarthropathy; hepatitis; SLE
**Dermatitis Herpetiformis**

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

**Histopathology**

- Neutrophils in tips of dermal papillae
- Microabscesses containing neutrophils & eosinophils
- DIF: ~90% (+) Granular deposition of IgA at dermal papillae & occ along the DE border
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
Chronic Pruritus

Dermatologic With Primary Rash
- Xerosis
- Atopic Dermatitis
- Contact dermatitis
- Scabies
- Psoriasis
- Lichen Planus

Neurologic
- Notalgia
- Paraesthesia
- 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

Severity of Pruritus 0-10:
6 distracts from activities
8 awakens from sleep
10 is the worst imaginable

<table>
<thead>
<tr>
<th>SEVERE</th>
<th>MODERATE</th>
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<tbody>
<tr>
<td>Scabies, mite infestation</td>
<td>Psoriasis</td>
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<tr>
<td>Pediculosis, insect bites</td>
<td>Seborrheic dermatitis</td>
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<tr>
<td>Contact &amp; atopic eczema</td>
<td>Pityriasis Rosea</td>
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<tr>
<td>Urticaria</td>
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<td>Prickly Heat</td>
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<td>Lichen Planus</td>
<td>Asteatotic skin</td>
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<tr>
<td>Dermatitis Herpetiformis</td>
<td>Urticaria pigmentosa</td>
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Brachioradial Pruritus

- Localized to outer aspect of elbow & adjacent lower & upper arms but can generalize
  - may be on ACE-I
  - may have cervical pain
  - sun exacerbated but worse at end of summer rather than the beginning

- Causes:
  - Sunlight induced chronic episodic pruritus?
    - “solar pruritus”
  - nerve damage of cutaneous branch of radial nerve or cervical spine irritation

Neurologic Causes of Intense Itching

Notalgia Paraesthetica

- Persistent burning pruritus localized in mid-scapular area
  - but often widespread including scalp
- Mild lichenification & pigmentation
- May be a type of localized sensory neuropathy
  (nerve entrapment of posterior rami of spinal nerves at T2-T6)
- Capsaisin cream may be effective
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

Systemic Causes of Pruritus without Primary Skin Lesions

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

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

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

Generalized Pruritus That Can Precede Skin Disease

- Bullous Pemphigoid
- Mycosis Fungoides
- Polycythemia vera
- Hodgkin’s Disease
- Dermatitis herpetiformis
- Dermatomyositis
Pruritus workup: Labs

- Screening labs that are reasonable:
  - CBC with Diff, CMP, HIV, Hep B/C, TSH
- Screening labs that may be reasonable:
  - Peripheral smear, Iron studies
- As indicated:
  - B12, Folate, Stool O&P, SPEP/UPEP, drug screen, CXR, colonoscopy, 5-HIAA, MRI of brain
  - Skin biopsy
  - Indirect serum immunoflorescence
  - Sinus X Ray, ANA, specific IgE, UA