Rash Decisions:
Identifying rashes in acute setting

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Case 1

- Pt presented with one week history of itching blisters on her hands
- Exam showed grouped blisters on an erythematous base

Diagnosis?

1. Cutaneous herpes
2. Contact Allergy
3. Impetigo
4. Hand dermatitis (atopic)
5. Psoriasis
Pt presents with 2 month history of itching rash on fingers
Exam showed erythematous plaques with scale and excoriation bilaterally

Diagnosis?

1. Cutaneous herpes
2. Contact Allergy
3. Impetigo
4. Hand dermatitis (atopic)
5. Psoriasis
Overview

• Dermatologic disease change in appearance over time.
• Need to be aware of “acute differentials” to diagnose disease in acute presentation
• Familiarity with the appearance acute skin disease is important
  – Prevent misdiagnosis
  – Alleviate discomfort and disability that may result from waiting for a disease to “declare itself”
Goals

• Acquaint learners with presentation of common dermatologic conditions in their acute phase
• Distinguish which acutely presenting characteristics of rashes can be used to make diagnoses
• Compare acute and chronic manifestations of disease
• Discuss treatment for acute dermatologic skin disease
Roadmap

• Examples of rashes that change over time
• Brief review of primary skin lesions
• Examples of rashes that look similar in acute phase
  – Urticarial rashes
  – Blistering (Vesicular) rashes
  – Eczematous rashes
  – Papulosquamous rashes (psoriasis, Pityriasis, etc)
  – Acute findings in rashes that are dangerous
Both rashes are hand dermatitis.

- Acute phase presents with fluid filled vesicles.
- These evolve into red, dry, flaky skin that is often excoriated.
- Change in appearance due to duration of disease.
Primary lesions

- Blisters and Bullae
- Wheals (Urticaria)
- Macules and Patches
- Papules and Plaques
- Nodules, tumors, etc
Secondary Changes

- Excoriations
- Erosion
- Scale development
- Coalescence of primary lesions
- May obscure defining characteristics of rashes
Part 1

URTICARIAL ERUPTIONS
26 year old male presented with 2 day history of hives

Diagnosis?

1. Urticaria (hives)
2. Urticarial Vasculitis
3. Urticarial Pemphigoid
4. Spider bite
5. Arthropod assault
Arthropod Assault (and Battery)
Acute vs Chronic Arthropod
Arthropod Assault

• Urticarial Wheals -> hemorrhagic (non-blanching) petechiae/purpura
• Grouped lesions
• Usually asymmetric presentation
• Pruritus is intense
• Pattern of outbreaks may help diagnose
• Antihistaminies and topical steroids
Case 4

82 y.o male with new onset hives and blisters

Diagnosis

1. Urticaria (hives)
2. Urticarial Vasculitis
3. Urticarial Pemphigoid
4. Spider bite
5. Arthropod assault
Bullous Pemphigoid

- Urticarial Bullous Pemphigoid
- Antibodies against basement membrane zone proteins causes split
- Urticarial lesions precede blister formation
- Intense pruritus often reported
Acute vs Chronic Pemphigoid
Chronic Pemphigoid

- More common in elderly
- Medications may be the cause
  - Antibiotics, antihypertensives
- Secondary infection
- Referral to specialist for care.
  - Prednisone short term and immunosuppressants long term
  - Mycophenalate mofetil, azathioprine
Part 2

VESICULAR ERUPTIONS
Case 5

28 y.o female with 2 day history of painful hives and blisters on upper arm

Diagnosis?

1. Urticaria (Hives)
2. Urticarial Vasculitis
3. Urticarial pemphigoid
4. Cutaneous Herpes (HSV)
5. Herpes Zoster (Shingles)
Shingles – acute presentation

- Initial presentation
  - Pain or tingling precedes cutaneous manifestation
  - Erythema that vesiculates
  - Blisters in same stage of development (mostly)
Cutaneous VZV (shingles) – acute

- Dermatomal distribution
- Immunocompromised may demonstrate multiple dermatomes (adjacent)
Acute VZV vs. Acute HSV
Chronic VZV and HSV

Image from Bologna et al 2nd Edition
Acute Chicken Pox vs. VZV
Diagnosis?
Acute Ocular HSV

- Second most common cause of corneal blindness
- Clinical Presentation
  - Keratoconjunctivitis
  - Eyelid edema
  - Tearing
  - Photophobia
- 10 gm/kg acyclovir TID given IV x 7 days or 500mg PO 5x/day x 7 days
- Emergent referral to ophthalmologist
Acute Ocular VZV

Image from Bologna et al 2nd Edition
Part 3
ECZEMATOUS ERUPTIONS
Case 6

4 y.o female with 3 week hx of pruritic, erythematous plaques on face, hands and back. Some secondary scale at periphery is noted

1. Granuloma Annulare
2. Tinea corporis (ringworm)
3. Impetigo
4. Atopic dermatitis
5. Psoriasis
Tinea continued

- **Tinea Corporis**
- Annular plaques that develop leading edge of scale
- May be pustular or bullous acutely
- Common *Trichophyton* species
  - *T. Rubrum*
  - *T. Floccosum*
- Zoophilic subspecies
  - *T. Mentagrophytes*
  - Exposure to livestock, pets (dogs, rats, etc)
  - May present with robust inflammatory reaction
Tinea Cruris
Tinea Corporis

- Tinea Corporis non-acute
- Annular, secondary scale becomes prominent
- Pruritus mild to severe.
Bullous Tinea

Acute

“Chronic”
Case 8

60 y/o male with new onset blisters on the soles bilaterally. Severe pruritus.

Diagnosis?

1. Foot dermatitis (dyshidrosiform eczema)
2. Tinea pedis (Athlete’s foot)
3. Bullous Tinea
4. Impetigo
Eczematous rashes
Hand / Foot Dermatitis
Hand / Foot dermatitis

- Subcorneal blisters precede eczematous eruption
- Mildly to severely pruritic
- Lateral fingers and palmar aspect often affected
- Often have a history of atopic dermatitis in childhood
Chronic Hand Dermatitis

• Scaley, eczematous plaques on the palms and soles
• May become painful
  – Frequently secondarily impetiginized
  – Fissures and cracks
• Chronic disease often requires treatment with antibiotics and steroids simultaneously
27 year-old male with a 1 week onset of asymptomatic new rash on his trunk

Diagnosis?

1. Psoriasis
2. Tinea corporis
3. Pityriasis Rosea
4. Roseola
5. Secondary syphilis
Pityriasis Rosea
Pityriasis Rosea

- Seasonality – more common in spring / early summer
- Treatment
  - UV light
  - Erythromycin 500 BID
  - Waiting (3 month average duration)
- Symptomatic treatment with topical steroids
- Role of HHV-6 or 7?
  - Isolation of virus from affected skin
  - Causality is debatable
P. Rosea vs. Guttate Psoriasis
P. Rosea vs Guttate Psoriasis

**P. Rosea**
- Herald patch
- Truncal predilection
- Thin, wafer scale
- Minimal pruritus

**G. Psoriasis**
- Extremities often involved
- Thick, raised scale
- Pruritus (variable)
16 y.o. complains of malaise. + fevers & photophobia, mouth pain. Currently on SMX/TMP for acne

Diagnosis?

1. Meningitis
2. Oculo-oral HSV
3. Stevens Johnson Syndrome (EM Major)
4. Mononucleosis
Steven’s Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN)

• SJS: 50% drug related
  – Infections (mycobacteria) or immunization reactions
  – Mucosal involvement and BSA of up to 10%

• Toxic Epidermal Necrolysis
  – Histologically same as SJS, but with 30% or greater BSA involvement
  – 95% of cases assoc. with drugs

• Common drugs causing SJS or TEN
  – Allopurinol, aminopenicillins, sulfa antibiotics, anti-epileptics (lamotrigine, phenytoin, carbamazepine, phenobarbital) and anti-retroviral drugs.
Part 4

SYSTEMIC DISEASE (EMERGENT) ERUPTIONS
SJS Evolution
SJS Resolution
**SJS/TEN Course and treatment**

**Stevens Johnson Syndrome**
- SJS mortality at 5%
- Infection and dehydration
- Ocular scarring
- Treatment in burn unit ICU
- Role of steroids and IVIG
- No consensus

**Toxic Epidermal Necrolysis**
- Mortality 25-35%
- SCORTEN Criteria evaluates risk
- Infection, shock, ocular involvement
- Steroids not commonly used
- Burn unit ICU care
- IVIG
Case 12

61 y.o female s/p hip replacement with 2 days of widespread rash, malaise, and elevated LFT’s

Diagnosis?

1. Erythema multiforme
2. Complex drug reaction
3. SJS/TEN
4. Leukocytoclastic vasculitis
Complex Drug Eruptions

- DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms)
- Acutely:
  - Targetoid lesions
  - Facial Swelling
  - Lymphadenopathy
  - Eosinophilia (very high)
  - Fevers
  - LFT enzyme elevation
  - Eosinophils in urine
Complex Drug Reactions 2

• AGEP (Acute Generalized Exanthematous Pustulosis)
• Acute Presentation
  – Erythematous papules
  – Facial Swelling
  – Hypocalcemia
  – Fevers
• Evolution to pustules
AGEP – Widespread pustule formation
Conclusions - 1

• Rashes change over time
• Urticarial eruptions may be the beginning of blistering rashes.
• Distribution and evolution of blisters can distinguish VZV and HSV
• Eczematous eruptions may preceded by blistering
• Pityriasis rosea and Psoriasis: Herald patch? Truncal limitation?
Conclusions - 2

• Oral and ocular erosions/inflammation are treated seriously and quickly
• Systemic reactions to drugs may present with facial swelling
Finish