Common Dermatologic Disorders: Tips for Diagnosis and Management
Part 2

Lindy P. Fox, MD
Associate Professor
Director, Hospital Consultation Service
Department of Dermatology
University of California, San Francisco
foxli@derm.ucsf.edu

Disclosures

• I have no conflicts of interest to disclose

Outline

• Part 1
  • Approach to the itchy patient
  • Eczemas and approach to treatment
  • Fungal infections of the skin
  • Onychomycosis
  • Grover’s disease
• Part 2
  • Acne, Rosacea, Perioral dermatitis
  • Drug eruptions
  • The red leg
  • Psoriasis as a systemic disease

Goals of this lecture

• Acne, Rosacea, Perioral dermatitis
• Drug eruptions
  – Tell the difference between a benign and serious drug eruption
  – Know which drug(s) to stop
• The red leg
  – Recognize the mimics of cellulitis
• Psoriasis as a systemic disease
Approach to the Adult Acne Patient

Acne Treatment Options- Topical
- Benzoyl peroxide
- Antibiotics - clindamycin, erythromycin, combination benzoyl peroxide and either of above
- Sulfur based preparations
- Azelaic acid
- Retinoids

Acne Treatment Options- Systemic
- Antibiotics
  - Doxycycline 100 mg po BID
  - Minocycline 50-100 mg po BID
  - Tetracycline 500 mg po BID
- Oral contraceptives
- Spironolactone
- Isotretinoin

Pathogenesis and Clinical Features of Acne
- Pathogenesis (treatment targets)
  - Excess sebum
  - Abnormal follicular keratinization
  - Inflammation from Propionibacterium acnes
- Clinical features
  - Non-inflammatory open and closed comedones ("blackheads and whiteheads")
  - Inflammatory papules and pustules
  - Cystic nodules
Acne Treatment

• Mild inflammatory acne
  – benzoyl peroxide + topical antibiotic (clindamycin, erythromycin)
• Moderate inflammatory acne
  – oral antibiotic (tetracyclines) (with or without topicals)
• Comedonal acne
  – topical retinoid
• Acne with hyperpigmentation
  – azelaic acid
• Acne/ROSacea overlap/seborrheic dermatitis-
  – sulfur-based preparations
• Hormonal component
  – oral contraceptive, spironolactone
• Cystic, scarring- isotretinoin
  – Teratogenic, hypertriglyceridemia, transaminitis, cheilitis, xerosis, alopecia (telogen effluvium)

Topical Retinoids

• Side effects
  – Irritating- redness, flaking/dryness
  – May flare acne early in course
  – Photosensitizing
  – Tazarotene is category X in pregnancy !!!

Topical Retinoids- How to Use Them

• Warn patients of side effects
• Start with a low dose: tretinoin 0.025% cream
• Wait 20-30 minutes after washing face to apply
• Use 1-2 pea-sized amount to cover the whole face
• Start BiW or TiW
• Moisturize 30 minutes after applying
• If using another topical acne therapy, use on alternate days
• Sunscreen daily

Acne in Adult Women

• Often related to excess androgen or excess androgen effect on hair follicles
• Other features of PCOD are often not present—irregular menses, etc.
• Serum testosterone can be normal
• Spironolactone 50 mg-100mg daily with or without OCPs
Acne Rosacea

- Chronic inflammatory condition of the “flush” areas of the face (nose, cheeks > brow, chin)
- F>M
- Middle age (30-50)
- Affected persons blush easily
- *Demodex folliculorum* may play a role

Acne Rosacea Triggers

- Alcohol
- Sunlight
- Hot Beverages (heat)
- Hot, Spicy food
- If it makes you flush it can flare rosacea
- Rosacea is NOT related to androgens!!

Acne Rosacea

- Erythema and Telangiectasias
- Papules and Pustules (NO COMEDONES!)
- Rhinophyma (W.C. Fields nose)
- Ocular Rosacea (keratitis, blepharitis, conjunctivitis)

Acne Rosacea Treatment

- Medical treatment only effective for the papular and pustular component
- Topical Antibiotics (metronidazole)
- Topical Sulfur
- Oral Antibiotics
  - Doxycycline 100 mg BID, Amoxicillin 500 mg BID, cefadroxil 500 mg BID
- Accutane very, very rarely
- Therapy may be required lifelong
Steroid Rosacea

- Topical steroids may exacerbate or induce an eruption resembling rosacea
- Stop the topical steroids; oral tetracyclines
- Rosacea may flare severely when the steroids are stopped

Perioral Dermatitis

- Women aged 25-35
- Very, very common
- Papules and small pustules around the mouth, with a narrow spared zone around the lips.
- Asymptomatic or mild burning sensation
- Triggered by topical steroids (especially mid potency or higher)

Perioral Dermatitis

Treatment

- Stop topical products
- Topical Antibiotics
  - clindamycin
- Oral tetracyclines
- Usually easy to control

Drug Eruptions
Case

- 46 year old HIV+ man admitted to ICU for r/o sepsis
- Severely hypotensive → IV fluids, norepinephrine
- Sepsis? → antibiotics are started
- At home has been taking trimethoprim/sulfamethoxazole for UTI

Question 1:
Per the drug chart, the most likely culprit is:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Day</th>
<th>Admit day</th>
<th>Rash onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. vancomycin</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>B. metronidazole</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>C. ceftriaxone</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>D. norepinephrine</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>E. omeprazole</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>F. SQ heparin</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>G. trimethoprim/sulfamethoxazole</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Drug reactions:
3 things you need to know
1. Type of drug reaction
2. Statistics:
   - Which drugs are most likely to cause that type of reaction?
3. Timing:
   - How long after the drug started did the reaction begin?
Drug Eruptions: Degrees of Severity

**Simple**
- Morbilliform drug eruption
- Minimal systemic symptoms

**Complex**
- Drug hypersensitivity reaction
- Stevens-Johnson syndrome (SJS)
- Toxic epidermal necrolysis (TEN)
- Systemic involvement
- Potentially life threatening

Common Causes of Cutaneous Drug Eruptions
- Antibiotics
- NSAIDs
- Sulfa
- Allopurinol
- Anticonvulsants

Morbilliform (Simple) Drug Eruption
- Begins 5-10 days after drug started
- Erythematous macules, papules
- Pruritus
- No systemic symptoms
- Risk factors: EBV, HIV infection
- Treatment:
  - D/C medication
  - Diphenhydramine, topical steroids
- Resolves 7-10 days after drug stopped
  - Gets worse before gets better

Hypersensitivity Reactions
- Skin eruption associated with systemic symptoms and alteration of internal organs
- “DRESS” - Drug reaction w/ eosinophilia and systemic symptoms
- “DIHS” = Drug induced hypersensitivity syndrome
- Begins 2-6 weeks after medication started
  - Time to abnormally metabolize the medication
- May be role for HHV6
- Mortality 10-25%
Hypersensitivity Reactions

Drugs

- Aromatic anticonvulsants
  - phenobarbital, carbamazepine, phenytoin
  - THESE CROSS-REACT
- Sulfonamides
- Dapsone
- Allopurinol (HLA-B*5801)
- NSAIDs
- Other
  - Abacavir (HLA-B*5701)
  - Nevirapine (HLA-DRB1*0101)
  - Minocycline, metronidazole, azathioprine, gold salts
- Each class of drug causes a slightly different clinical picture

Hypersensitivity Reactions

Clinical features

- Rash
- Fever (precedes eruption by day or more)
- Pharyngitis
- Hepatitis
- Arthralgias
- Lymphadenopathy
- Hematologic abnormalities
  - eosinophilia
  - atypical lymphocytosis
- Other organs involved
  - myocarditis, interstitial pneumonitis, interstitial nephritis, thyroiditis

Hypersensitivity Reactions

Treatment

- Stop the medication
- Follow CBC with diff, LFT’s, BUN/Cr
- Avoid cross reacting medications!!!!
  - Aromatic anticonvulsants cross react (70%)
    - Phenobarbital, Phenytoin, Carbamazepine
    - Valproic acid and Keppra generally safe
- Systemic steroids (Prednisone 1.5-2mg/kg)
  - Taper slowly- 1-3 months
- Allopurinol hypersensitivity may require steroid sparing agent
  - NOT azathioprine (also metabolized by xanthine oxidase)
- Completely recover, IF the hepatitis resolves
- Check TSH monthly for 6 months
- Watch for later cardiac involvement (low EF)

The Red Leg
Case

- 83 yoF admitted for slowly increasing LE erythema and poor response to outpatient antibiotics
- HPI: increasing LE erythema, edema over 3 weeks, somewhat painful

The red leg

<table>
<thead>
<tr>
<th>Infectious</th>
<th>Non-Infectious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulitis/erysipelas</td>
<td>Vasculitis</td>
</tr>
<tr>
<td>Necrotizing fasciitis</td>
<td>Pigmented purpuric dermatosis</td>
</tr>
<tr>
<td>Pyomyositis</td>
<td>Asteatotic dermatitis</td>
</tr>
<tr>
<td></td>
<td>Pretibial myxedema</td>
</tr>
<tr>
<td></td>
<td>Erythema nodosum</td>
</tr>
<tr>
<td></td>
<td>Contact dermatitis</td>
</tr>
<tr>
<td></td>
<td>Stasis dermatitis</td>
</tr>
</tbody>
</table>

Cellulitis

- Infection of the dermis
- Gp A beta hemolytic strep and S. aureus
- Rapidly spreading
- Erythematous, tender plaque, not fluctuant
- Lower leg
- Rarely bilateral
- Patient often toxic
- WBC, LAD, streaking
- Treat tinea pedis

Stasis Dermatitis/Venous Insufficiency

- Due to venous hypertension
- Often bilateral, L>R
- Itchy and/or painful
- Red, hot, swollen leg
- No fever, elevated WBC, LAD, streaking
- Varicosities, edema, venous ulceration, hemosiderin deposition
  - Pinpoint yellow-brown macules and papules = hemosiderin
- Superimposed contact dermatitis common
**Stasis Dermatitis/ Venous Insufficiency**

- End stage is permanent sclerosis (sclerotic panniculitis / lipodermatosclerosis) with “inverted champagne bottle” legs
- Treat with topical corticosteroids, leg elevation, and compression stockings

**Stasis Dermatitis/ Venous Insufficiency and Lymphatic Insufficiency**

- As complication of recurrent infection and obesity, edema becomes firm (non-pitting)
- Skin becomes pebbly, hyperkeratotic and rough (elephantiasis verrucosa nostra = lymphostasis verrucosa cutis)
- Ulceration in this setting (with lymphatic and venous insufficiency) is significantly harder to heal

**Contact Dermatitis**

- Itch >>> pain
- Patient is non-toxic
- Erythema and edema can be severe
- Topical meds and Rhus dermatitis (Poison Oak) are common causes
- Treat with topical steroids for most cases, but systemic steroids for Rhus dermatitis (2-3 weeks)

**Contact Dermatitis**

- Leg ulcers are commonly complicated by allergic contact dermatitis
- Common causes
  - Applied antibiotics (Neomycin, Bacitracin)
  - Topical anesthetics (benzocaine)
  - Other (Vitamin E, topical benadryl)
- Avoid all topical antibiotics to leg ulcers (except topical metronidazole to prevent odor)
Vasculitis

- “Palpable purpura”
- Degree increases from cephalad to caudad
- Favors dependent areas (lower legs)
- May itch, sting, or burn
- Associated sx: fever, malaise, arthralgias
- Characteristic skin biopsy
- Broad differential- consult dermatology

Pigmented Purpuric Eruption

- 1-3 cm patch/plaques on the lower leg
  - Confluent tiny papules with hemorrhage
- Brown-yellow hyperpigmentation due to iron deposition
- Location: Pretibial
- Natural history: Chronic
- Elderly males favored
- Asymptomatic or pruritic

Asteatotic Dermatitis

- Occurs on the lower legs, the flanks, and the arms
- Spares the armpits, groin, face
- First stage: flaking of the skin, pruritic
- Second stage: cracking of the skin looking like the bed of a dry lake; itchy and stings
- Third stage: Weepy dermatitis, ITCHY
- Treatment
  - Moisturize
  - Mid potency topical steroid (TAC) ointment

The Red Leg:
Key features of the physical exam:

<table>
<thead>
<tr>
<th></th>
<th>Fever</th>
<th>Pain</th>
<th>Warmth</th>
<th>Bilateral</th>
<th>Streaking</th>
<th>Lymphadenopathy</th>
<th>Elevated WBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulitis</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Almost never</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider another diagnosis</td>
<td>No</td>
<td>+/-</td>
<td>+/-</td>
<td>often</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Question 2: Which of the following is NOT true about psoriasis

1. Psoriasis affects 2-3% of the US population
2. Psoriasis is an independent risk factor for MI
3. Pustular psoriasis is life-threatening
4. Patients with psoriasis have an increased mortality rate
5. Smoking has no influence on psoriasis severity

Psoriasis

- 2.1% of the US population has psoriasis
- Most frequent onset 15-35 years
- Hereditary component (36% of patients have a family member with psoriasis)
- 4.5 million adults, 1.5 million have moderate to severe disease (>3% of body)
- Overall cost to treat exceeds $3 billion per year in the US

Source: National Psoriasis Foundation: www.psoriasis.org

Psoriasis

- Erythematous, well demarcated plaques with an adherent, silvery scale
- Involves elbows, knees, scalp, umbilicus
- Nail involvement (pits, subungual hyperkeratosis, oil spots)
- May be extensive
- Look for typical areas of involvement
Psoriasis Aggravators

- Medications
  - Systemic steroids (withdrawal)
  - Beta blockers
  - Lithium
  - Hydroxychloroquine
- Infections
  - Strep-children and young adults
  - Candida (balanitis)

Psoriasis and Comorbidities

- Psoriasis linked with:
  - Arthritis
  - Cardiovascular disease (including myocardial infarction)
  - Hypertension
  - Obesity
  - Diabetes
  - Metabolic syndrome
  - Malignancies
    - Lymphomas, SCCs, ?
    - Solid organ malignancies
  - Higher mortality

Psoriasis patients more likely to:
- Be depressed
- Drink alcohol
- Smoke

Severity of Psoriasis

- Mild: 0-2% body surface area
- Moderate: 3-10% BSA
- Severe: >10% BSA, or marked/disabling involvement of special sites: face, hands, feet, genitalia

Treatment protocols are based on severity of disease, interference with function, location

* Using the size of the patient’s palm to represent 1% BSA

Psoriasis and Comorbidities

- Arthritis
- Cardiovascular disease (including myocardial infarction)
- Hypertension
- Obesity
- Diabetes
- Metabolic syndrome
- Malignancies
- Lymphomas, SCCs, ?
- Solid organ malignancies
- Higher mortality

Psoriasis patients more likely to:
- Be depressed
- Drink alcohol
- Smoke

Risk of Myocardial Infarction in Patients With Psoriasis

- Psoriasis independent risk factor for MI
- Risk for MI:
  - Greatest in young patients with severe psoriasis
  - Attenuated with age
  - Remains increased after controlling for other CV risk factors
- Magnitude of association is equivalent to other established CV risk factors
Psoriasis and Comorbidities

- In patients with psoriasis, important to
  1. Recognize these associations
  2. Screen for and treat the comorbidities according to American Heart Association, American Cancer Society, and other accepted guidelines

Treatment for Psoriasis

- Topical therapy
  - Steroid ointment (start mid-potency)
  - Calcipotriene (Dovonex)
  - Tazarotene (Tazorac)
  - Coal tar
  - Tacrolimus (Protopic) / pimecrolimus (Elidel)
  - Combination agents:
    - calcipotriene/betamethasone dipropionate (Taclonex)

- Phototherapy - refer to dermatologist
  - Broadband UVB or Narrowband UVB
  - PUVA: psoralens + UVA
  - Excimer laser

- Systemic therapy - refer to dermatologist
  - Acitretin (oral retinoid)
  - Methotrexate
  - Cyclosporine
  - Biologics (etanercept, infliximab, adalimumab, ustekinumab)

  **Systemic steroids are NOT on this list!**

Psoriasis Treatment

Case 1: Mild

- Sequential Therapy
  - Phase 1: Induction
    - Topical steroid (halobetasol propionate 0.05%) PLUS Calcipotriene twice daily for 2-4 weeks to elbows/knees
  - Phase 2: Transition
    - Calcipotriene twice daily. Use combination with topical steroids twice daily only on weekends
  - Phase 3: Maintenance
    - Calcipotriene twice daily only
    - Moisturize whole body
Psoriasis Treatment
Case 2: Inverse Psoriasis

- Mild steroids 1st - HC, desonide, or aclometasone
- Calcipotriene too irritating for most
- Topical tacrolimus or pimecrolimus
- Concurrent yeast/tinea triggering psoriasis?

Psoriasis Treatment
Case 3: Guttate Psoriasis

- 3-22% of psoriasis patients
- Raindrops
- Young patients after strep infection
  - Consider checking ASO, throat culture, treating for strep
- May clear spontaneously or evolve into plaques
- UVB best anecdotally (refer to dermatology)

Case 4

- 55 yr old male
- COPD, HTN, non-small cell lung cancer and mild psoriasis
- Presents with low grade fever and diffuse erythema (erythroderma)
- Meds:
  - ACE inhibitor x 3 months
  - 1 week of pulsed prednisone with rapid taper for COPD flare

Psoriasis Treatment
Case 4: Pustular Psoriasis

- Pustular and erythrodemic variants of psoriasis can be life-threatening
- Patients who carry a diagnosis of psoriasis and are given systemic steroids for another reason
- High cardiac output state with risk of high output failure
- Electrolyte imbalance (Ca^{2+}), respiratory distress, temperature dysregulation
- Best treated with hospitalization and cyclosporine or acitretin
Common Dermatologic Disorders: Tips for Diagnosis and Management

- Consider spironolactone for women with hormonally triggered acne
- Approach a drug eruption by considering the type of rash, timing of drug exposures, and statistical likelihood of a drug leading to rash
- Cellulitis is almost never bilateral
- Psoriasis is associated with cardiovascular comorbidity