

Dermatologic Emergencies  
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I. Exfoliative Dermatitis

- A. Universal or very extensive scaling and itching erythroderma
- B. Often associated with hair loss
- C. Initially with erythematous plaques, which spreads rapidly
- D. Onset accompanied by general toxicity
- E. Skin becomes scarlet and swollen and may ooze straw-colored exudates
- F. Desquamation is evident within a few days

II. Erythroderma

- A. Generalized redness and scaling of the skin (90%)
- B. Systemic manifestations include peripheral edema, tachycardia, loss of fluid and proteins
- C. Etiologies
  - 1. Psoriasis
  - 2. Atopic dermatitis
  - 3. Cutaneous T-cell lymphoma (CTCL)
  - 4. Drug reactions
- D. Establishing the correct diagnosis
  - 1. Consideration for initial sites of involvement
  - 2. Additional clinical findings
  - 3. Histologic and molecular features
  - 4. Systemic abnormalities
  - 5. Complete medical history
- E. Cause remains unknown (idiopathic) in 25-30% of patients
- F. Drugs associated with erythroderma
  - 1. Common
    - a. Allopurinol
    - b. Beta-lactam antibiotics
    - c. Phenobarbital
    - d. Phenytoins
    - e. Sulfasalazine
    - f. Sulfonamides
    - g. Zalcitabine
  - 2. Less Common
    - a. Captopril
    - b. Carboplatin/cisplatin
    - c. Cytokines (IL-2/GM-CSF)
    - d. Dapsone
    - e. Diflunisal
    - f. Efalizumab
    - g. Hydroxychloroquine/chloroquine
    - h. Isoniazid
    - i. Isotretinoin/acitretin

- j. Lithium
- k. Mercury compounds
- l. Minocycline
- m. Nifedipine/diltiazem
- n. Omeprazole/Esomeprazole
- o. Thalidomide
- p. Vancomycin

G. Histology is nonspecific

- 1. Hyperkeratosis and focal keratosis
- 2. Epidermis shows mild acanthosis, scant superficial upperdermal infiltrate of mononuclear cells
- 3. May be small areas of spongiosis

H. Treatment

- 1. Topical steroids, soaks, compresses
- 2. Acitretin and cyclosporine are useful in psoriatic erythroderma
- 3. Isotretinoin is useful in erythroderma caused by RPR
- 4. Methotrexate
- 5. Systemic corticosteroids in severe cases
- 6. Discontinuing the offending drug in drug-induced cases

III. Infectious Etiologies

A. Meningococemia

- 1. Fever, chills, hypotension and meningitis
- 2. 1/2 to 2/3 patients develop petechial eruptions; most frequently on the trunk and lower extremities
- 3. Usually affects young children; more frequently males
- 4. Timely recognition and tx-rapid decompensation
- 5. Caused by Neisseria meningitidis
- 6. Treatment
  - a. PCN G
  - b. Chloramphenicol in PCN allergic
  - c. 3<sup>rd</sup> Gen Ceph if PCN resistance high

B. Necrotizing Fasciitis

- 1. 500-1500 cases/yr
- 2. 10% form gas
- 3. MC mixed infection observed
- 4. Mortality 20-40%

C. Scarlet Fever

- 1. Presentation: 24-48 hrs after Strep.
- 2. Pharyngitis onset
  - a. Cutaneous:
    - i. Widespread erythema with 1-2mm papules. Begins on neck and spreads to trunk then extremities.
    - ii. Pastia's lines – accentuation over skin folds with petechia.
    - iii. Circumoral pallor
    - iv. Other: strawberry tongue
- 3. Causes

- a. erythrogenic exotoxin of group A Strep
    - b. Culture to recover organism or use streptolysin O titer if testing late
  - 4. Treatment: PCN, E-mycin, Cloxacillin
- D. Erysipelas
- 1. Presentation: erythematous patch with a distinctive raised, indurated, advancing border. Affected skin is very painful and is warm to touch. Freq. associated with fever, HA, and leukocytosis >20,000.
    - a. face and legs are most common sites
    - b. involves superficial dermal lymphatics
  - 2. Cause: Group A strep., ( Group B in newborns)
  - 3. Differential:
    - a. Contact dermatitis: more itching, little pain
    - b. Scarlet fever: widespread punctuate erythema
    - c. Malar rash of Lupus and Acute tuberculoid Leprosy: Absence of pain and leukocytosis
  - 4. Treatment: systemic PCN for 10 days
- E. Furunculosis
- 1. Presentation: A perifollicular, round, tender abscess that ends in central suppuration.
  - 2. Etiology: S. Aureus
  - 3. Treatment: (avoid auto-inoculation, Eliminate carrier state)
    - a. use anti-staph cleansers
    - b. frequent laundering
    - c. Bactroban to nares of pt. and family members
      - i. BID to nares for one week (q 4<sup>th</sup> week)
    - d. Rifampin 600mg QD for 10 days with cloxacillin 500mg QID (or Clindamycin 150mg qd for 3 mo)
- F. Toxic Shock Syndrome
- 1. Presentation: acute, febrile, multi-system disease/widespread maculopapular eruption
  - 2. Causes:
    - a. S. Aureus
    - b. Group A Strep
  - 3. Diagnosis: CDC
    - a. temp > 38.9 C, erythematous eruption with desquamation of palms and soles 1-2 wks after onset. Hypotension
    - b. AND involvement of three or more other systems
    - c. AND test for RMSF, Leptospirosis and rubeola as well as blood urine and CSF should be negative
  - 4. Treatment:
    - a. systemic ABX
    - b. fluid therapy
    - c. drainage of S. Aureus infected site
- G. Cellulitis
- 1. Presentation: local erythema and tenderness which intensifies and spreads. Lymphangitis, fever and streaking may accompany infection

2. Group A strep and S. Aureus are usually causative
  3. Gangrene and sepsis possible particularly in compromised pt.
  4. Treatment: PCNase-resistant PCN, 1<sup>st</sup> Gen. Ceph
- H. Rocky Mountain Spotted Fever (*Rickettsia rickettsii*)
1. Bite of tick: *Dermacentor variabilis*, *D. andersoni*, *Rhipicephalus sanguineus*, *Amblyomma cajennense*, *A. aureolatum*
  2. Fever 90%
  3. Rash 3-5 days (earlier macular, later maculopapular, 50% of cases petechial)
  4. Doxycycline(100mg BID in adults) with some investigators recommending continuation of antibiotic for at least 3 days after defervescence while others recommend a 10-day course
- I. SJS & TEN
1. Systemic symptoms, amount of epidermal involvement and confluence are key factors
  2. Causes:
    - a. Greater than 100 meds have been reported as a cause
    - b. Most common
      - i. TMP/sulfamethoxazole ( 10/100,000)
      - ii. Fansider-R, sulfadoxine with pyrimethamine (10/100,000)
      - iii. carbamazepine (14/100,000)
    - c. antibiotics (especially long-acting sulfa drugs and penicillins)
    - d. other: anticonvulsants, anti-inflammatory and allopurinol
  4. Presentation:
    - a. fever and influenza-like symptoms often precede the eruption
    - b. skin lesions appear on face and trunk and spread rapidly (within 4 days) to their maximum extent
    - c. initial lesions are macular and are followed by desquamation
    - d. two or more mucosal surfaces are also eroded with oral and conjunctiva being most frequently affected
    - e. difficulty with swallowing, photophobia, painful urination, and extensive respiratory and alimentary tract involvement
  5. Skin bx usually performed to exclude other diseases
  6. Management
    - a. similar to extensive burn
      - i. patients who are very ill or have > 30-50% loss of epidermis should be transferred to burn unit
      - ii. IVIG in 10 pts in doses up to 0/75 g/kg/day for 4days led to response in 48 hrs and skin healing within 1 week
- J. Erythema Multiforme
1. Erythema mutiforme minor
    - a. locations: dorsal feet, limbs, elbows, knees, palms and soles
    - b. EMM appears 1-3 wks after the herpes lesion
    - c. Tx: self-limited, supportive care
    - d. if HSV: antivirals improve/steroid worsen; sunblock

- e. if SJS or TEN, stop suspect medications, admit to burn unit, IVIG, steroids, etc.
- 2. Oral erythema multiforme
  - a. usually limited to orolabial involvement
  - b. concomitant skin involvement in 25%
  - c. tongue, gingival and buccal mucosa are the most severely affected
  - d. erosions +/-pseudomembrane
  - e. important to r/o Candida, because topical antifungal therapy leads to improvement in 40% of cases in which Candida is found, otherwise prednisone
- 3. Erythema annulare centrifugum
  - a. most common gyrate erythema
  - b. unknown pathogenesis
  - c. polycyclic, trailing scale at inner border
  - d. eccentric growth 2-3mm per day
  - e. asymptomatic but chronic, recurrent
  - f. evaluate for Tinea
  - g. recommended: good H&P, CBC, LFT's, UA and CXR to r/o internal cancer
  - h. responsive to topical steroids
- 4. Erythema nodosum
  - a. young adult women
  - b. crops of bilateral deep tender nodules, pretibial
  - c. overlying skin shiny, red
  - d. acute onset with arthralgia, malaise, edema
  - e. in 2-3 days, lesions flatten and have a bruised appearance; may last days or weeks
- 5. Erythema nodosum in sarcoid
  - a. MC nonspecific cutaneous finding in sarcoidosis
  - b. young females
  - c. anterior shins
  - d. good prognosis
  - e. Lofgren's Syndrome = EN with fever, arthralgias, hilar adenopathy, & fatigue
- K. Marshall's syndrome
  - a. skin lesions that resemble Sweet's but is followed by Cutis Laxa changes
  - b. Primarily affects children
  - c. small red papules expand to urticarial targetoid plaques with hypopigmented centers
  - d. eosinophilic infiltrate may be seen
  - e. biopsies demonstrate loss of elastin
- L. Urticaria
  - 1. 15-25% of the general population have had this condition
  - 2. urticaria can be acute or chronic
  - 3. Types of lesions

- a. popular wheals 1-2mm
  - b. wheals are 1-8 cm edematous plaques
  - c. angiodema skin colored enlargement of portions of the face (eyelids, lips, or tonguer) or an extremity
4. Chronic uricaria
- a. can be present in up to 25% of pts with urticaria
  - b. lasts more than 6 wks
  - c. rarely IgE dependent
  - d. etiology unknown in 80-90% of cases
  - e. stress is often and exacerbating factor
  - f. primarily affects adults
  - g. Female:Male is 2:1
  - h. in pts with chronic urticaria of more than 6 months duration 20% will still have symptoms 10 years later
  - i. avoid: aspirin, ACE inhibitors, other NSAIDS
5. Acute urticaria
- a. usually large wheals
  - b. often IgE dependent with atopic background
  - c. often related to parasites, penicillin, alimentary agents
  - d. can also be complement mediated
  - e. often accompanied by angioedema
6. Types of Urticaria
- a. Cholinergic urticaria
  - b. Cold-induced urticaria
  - c. Pressure –induced urticaria
  - d. Solar urticaria
  - e. Aquagenic urticaria
  - f. Angioedema
7. Urticaria Management
- a. In general systemic corticosteroids should be avoided
  - b. topical steroids should be used judiciously
  - c. topical antipruritics
  - d. symptomatic therapies: tepid or cold baths or showers; colloid baths, Sarna lotion, , Prax lotion; Domeboro soaks
- M. Pemphigus Vulgaris
- 1. easilyrupture bullae
  - 2. bulla is clear at first but may become hemorrhagic or even seropurulent then form erosion
  - 3. appear first in the mouth and then commonly in the groin, scalp, face, neck, axillae, or genitals
    - a. mouth lesion first appear in 60% of the cases
    - b. mucosa with painful erosion
    - c. mouth odor is offensive
    - d. esophagus may be involved and sloughing of entire lining to form a cast
  - 4. Nikolsky sign is present
  - 5. Drugs which induces pemphigus

- a. Penicillamine for tx of RA, most often for foliaceous type
  - b. Captopril, penicillin, thiopronine, interleukin-2, rifampin
- 6. Epidemiology: M=F, usually 5<sup>th</sup> and 6<sup>th</sup> decades, rare in young person
- 7. Etiology: autoimmune blistering disease mediated by intercellular antibodies
- 8. IgG throughout epidermis, C3 reliably found
- 9. Desmoglein-3 antibody detected
- N. Pemphigus Erythematosus
  - 1. Senear-Usher syndrome
  - 2. Resembles lupus erythematosus
  - 3. Positive for lupus band in 80% of patients
  - 4. Histologically resemble Pemphigus foliaceus
  - 5. Dosage of prednisone required for control usually is much lower than that of Pemphigus Foliaceus.
- O. Pemphigus Vegetans
  - 1. Vegetative plaques after rupture of bulla
  - 2. Usually in intertriginous areas
  - 3. Characteristic of foul odor
- P. Bullous Pemphigoid
  - 1. Occurs most frequently in the elderly
  - 2. Age of average onset is 65-75 yrs
  - 3. Etiology: circulating basement membrane zone antibodies for the IgG class present 70%
  - 4. Site of IgG binding has been localized to the lamina lucida, with accentuation near hemidesmosome
  - 5. Bullous pemphigoid antigen 1 (BPAg1) and 2 (BPAg2) identified in 90% of patients
  - 6. Large bullae
    - a. when rupture, shows large denuded area and do not materially increase in size
    - b. denuded areas show a tendency to heal spontaneously
    - c. begins at a localized site, frequently the shin
    - d. young girls may be initially seen with localized vulvar erosions and ulcers that resemble signs of child abuse
  - 7. Treatment:
    - a. same treatment for pemphigus, with the expectation that disease will respond readily with lower dose of corticosteroid
    - b. in severe case, pulse therapy with methylprednisolone giving 15mg/kg in 16ml bacteriostatic water over period of 30-60 minutes daily for 3 doses
    - c. Imuran is commonly used in resistant cases
    - d. additional treatment options include methotrexate and mycophenolate mofetil
    - e. nicotinamide 500mg TID combined with tetracycline 500mg QID works 10 out of 14 pts.
  - 8. Herpes Simplex
  - 9. Herpes Zoster