Erythroderma

Basic Dermatology Curriculum

Updated August 5, 2011
Module Instructions

- The following module contains a number of blue, underlined terms which are hyperlinked to the dermatology glossary, an illustrated interactive guide to clinical dermatology and dermatopathology.
- We encourage the learner to read all the hyperlinked information.
Goals and Objectives

- The purpose of this module is to help medical students develop a clinical approach to the evaluation and initial management of patients presenting with erythroderma.

- By completing this module, the learner will be able to:
  - Identify and describe the morphology of erythroderma
  - Name common diseases and medications associated with erythroderma
  - Explain the potential morbidity and mortality in erythrodermic patients
  - Discuss the initial management of an erythrodermic patient
Erythroderma: The Basics

- Also called exfoliative dermatitis
- Defined as generalized redness or scaling of the skin, affecting a significant portion (over 90%) of the body surface area (BSA)
  - Vesicles and pustules are usually absent
  - May present with extensive telogen effluvium
- Erythroderma is not a specific diagnosis, but the clinical manifestation of a variety of underlying diseases
Erythroderma: Clinical Presentation

- Usually evolves slowly over months to years*
  - Common symptoms include: fevers, chills, malaise and pruritus
  - Patients may also experience peripheral edema, lymphadenopathy, secondary skin infection
  - Long-standing severe erythroderma is associated with diffuse alopecia (hair loss), keratoderma (hyperkeratosis of the stratum corneum), nail dystrophy (nail plate abnormalities), and ectropion (outward turning of the lower eyelid)
- Significant risk for morbidity and mortality, accounting for 1% of all dermatologic admissions to the hospital
- Complications of erythroderma include sepsis and high-output cardiac failure

* Except for drug reactions, which tend to develop more acutely
Medications Implicated in Erythroderma

- The most commonly implicated drugs include:
  - Anti-epileptics
  - Allopurinol
  - Antibiotics
    - Penicillin
    - Sulfonamides
    - Vancomycin
  - Calcium channel blockers
  - Cimetidine
  - Dapsone
  - Gold
  - Lithium
  - Quinididine
Case One

Mr. Robert Ashton
Case One: History

- **HPI:** Mr. Ashton is a 63-year-old man who presents to the dermatology clinic with a rapid progression of skin redness, which is covering most of his body.
- **PMH:** coronary artery disease s/p 3v CABG, hypertension, psoriasis.
- **Medications:** beta-blocker, aspirin, ace-inhibitor, statin, and topical clobetasol. No new medications.
- **Allergies:** none.
- **Family history:** no history of skin disorders.
- **Social history:** lives by himself in an apartment.
- **Health-related behaviors:** no tobacco, alcohol or drug use.
- **ROS:** pruritus, fatigue.
Case One: Exam

- Vital signs: T 38.0 (100.4°F), BP 95/68, HR 115, RR16, O2 Sat 97%
- Gen: no acute distress, patient is shivering
- Skin: diffuse erythema with overlying scale covering > 90% of the BSA
- Mucosal: no mucous membrane involvement
Evaluation of Erythroderma

- In general, evaluation of erythroderma begins with a thorough history, including a complete medication history.
- Physical exam requires special attention to the vital signs, nails, mucosa, lymph nodes and evaluation for hepatosplenomegaly.
- Baseline blood work, skin biopsy and, at times, cytologic or histologic evaluation of lymph nodes is the next step in evaluation.
  - Multiple (and repeat) skin biopsies may be necessary to make a definitive diagnosis.
Evaluation of Erythroderma

- Underlying malignancy may need to be excluded
- Regardless of the underlying cause, if a patient appears unstable or toxic, admission to the hospital is recommended
- The evaluation of a patient with erythroderma should include a dermatology consult
Mr. Ashton is a 63-year-old man with a history of psoriasis who presented with generalized erythema. Given his concerning vital signs, Mr. Ashton was admitted to the hospital for evaluation and treatment.
Case One, Question 1

What is the most likely diagnosis in this case?

a. Atopic dermatitis flare
b. Cutaneous T-cell lymphoma
c. Idiopathic
d. Psoriatic erythroderma
e. S. aureus scalded skin syndrome
Case One, Question 1

Answer: d
What is the most likely diagnosis in this case?

a. Atopic dermatitis flare (no history of atopic dermatitis. AD erythroderma tends to present more with weeping and crusting)

b. Cutaneous T-cell lymphoma (hard to tell the difference, but CTCL erythroderma may present with symmetric islands of uninvolved skin. Also may spare areas of skin that are frequently folded, such as the abdomen)

c. Idiopathic

d. **Psoriatic erythroderma** (patient has known psoriasis)

e. *S. aureus* scalded skin syndrome (usually presents with cutaneous tenderness and widespread superficial blistering and denudation)
Erythroderma: Etiology

- Frequently the result of the generalization of an underlying dermatosis
  - **Psoriasis**
  - **Atopic dermatitis**
  - Chronic actinic dermatitis

- Drug eruptions

- Idiopathic

- Malignancy
  - Cutaneous T-cell lymphoma
  - Paraneoplastic erythroderma

- **Seborrheic dermatitis**
- Pityriasis rubra pilaris
- **Allergic contact dermatitis**
Psoriatic Erythroderma

- Erythrodermic psoriasis is a severe form of psoriasis that can arise acutely or follow a more chronic course.
- Can arise in patients with long-standing psoriasis or can occur de novo as the initial presentation of psoriasis.
- There are a number of triggers for erythrodermic psoriasis, including:
  - Discontinuation of potent topical or oral treatment, medications used for other conditions, infection (including HIV), pregnancy and emotional stress.
Case Two

Mrs. Grace Barringer
Case Two: History

- **HPI:** Mrs. Barringer is a 54-year-old woman with progressive redness, starting on the scalp and progressing towards the trunk and extremities over the last three weeks
- **PMH:** asthma, chronic dry, itchy skin, and hay fever
- **Medications:** daily multivitamin, albuterol inhaler as needed, moisturizers, occasional antihistamines
- **Allergies:** none
- **Family history:** noncontributory
- **Social history:** lives with her husband, has three grown children
- **Health-related behaviors:** no tobacco, alcohol or drug use
- **ROS:** itches, emotional distress over skin changes
Case Two: Exam

- VS: T 98.6, HR 105, BP 110/60, RR 14, O2 sat 100%

- Skin: large erythematous plaques with overlying scale and crust
Case Two, Question 1

What is the most likely diagnosis?

a. Atopic dermatitis
b. Cutaneous T-cell lymphoma
c. Idiopathic
d. Pityriasis rubra pilaris
e. Psoriatic erythroderma
Case Two, Question 1

Answer: a

What is the most likely diagnosis?

a. **Atopic dermatitis** (History of asthma, hay fever and chronic, dry itchy skin suggestive of atopic dermatitis)

b. **Cutaneous T-cell lymphoma** (Hard to tell the difference, but CTCL erythroderma may present with symmetric islands of uninvolved skin. Also may spare areas of skin that are frequently folded, such as the abdomen)

c. **Idiopathic** (Possible, but atopic dermatitis more likely given history of atopic disease)

d. **Pityriasis rubra pilaris** (Typically presents with a reddish orange, scaling dermatitis with islands of normal skin)

e. **Psoriatic erythroderma** (No history of psoriasis)
Case Two, Question 2

Which of the following treatments should take priority in any patient with erythroderma?

a. Leg elevation
b. Oral antibiotics
c. Remove any potential offending and unnecessary medications
d. Topical corticosteroids
Answer: c

Which of the following treatments should take priority in any patient with erythroderma?

a. Leg elevation
b. Oral antibiotics
c. Remove any potential offending and unnecessary medications
d. Topical corticosteroids
Initial Management of Erythroderma

Regardless of the underlying cause, the initial management of erythroderma remains the same:

• Remove any potential offending and unnecessary medications
• Address nutrition, fluid and electrolyte balance
• Provide local skin care with soaks or wet dressings to weeping or crusted sites, bland emollients and mid-potency topical corticosteroids
Initial Management Continued

- Oral antihistamines for relief of pruritus (and anxiety)
- Warm, humidified environment to prevent hypothermia and improve moisturization of the skin
- Treat secondary infection with systemic antibiotics
- Treat peripheral edema with leg elevation
- Evaluate for signs and systems of cardiac or respiratory compromise
Erythroderma: Prognosis

- Prognosis depends on the underlying cause
- Determining the underlying etiology and removing any contributing external factors (especially medications) remain the most important factors in treatment
Erythroderma is a clinical manifestation of a variety of underlying diseases

- Defined as generalized redness or scaling of the skin, affecting a significant amount of the BSA
- Potential risk for morbidity and mortality and hospitalization is often required
- Initial management of erythroderma includes removing any potential offending and unnecessary medications
Acknowledgements

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End of the Module