Rashes

Division of General Internal Medicine and Geriatrics
Hospital Medicine
Revised 2015
Learning Objectives

- Identify rashes seen on the internal medicine ward service
- Recognize potentially life-threatening rashes
- Recognize the importance of medication history in identifying rashes and catalyst of rashes
Most of the rashes encountered on the internal medicine ward service do not have a specific treatment.

Patients with SJS, TEN, or SJS/TEN overlap syndrome should be considered for referral to a burn unit.

Antiviral treatment for shingles should begin within 72 hours of treatment.

Syphilis, erythema multiforme, RMSF may include palms and soles.

Differentiate stasis dermatitis vs cellulitis as their treatment differs significantly.
Syphilis

- Hallmark of secondary syphilis
- Can take any form EXCEPT vesicular lesions
- Usually diffuse, symmetric macular or papular eruption involving entire trunk and extremities
- Rash includes palms and soles
- Discrete red or reddish-brown lesions 0.5-2cm
- Often scaly but may be smooth
- Treatment – 3 doses of benzathine penicillin IM q 7 days
Drug Exanthems/Morbilliform Eruptions

- 2-3% of all hospitalized patients develop cutaneous rxn to Rx
- 75 – 90% are drug exanthems/morbilliform eruptions
- Others drug rashes include – urticarial, exfoliative dermatitis, Stevens-Johnson syndrome, drug reaction with eosinophilia and systemic symptoms
- Diffuse and symmetric eruption of erythematous macules or small papules and rarely pustules or bullae
- Predominantly trunk and proximal extremities
- Face, palms and soles may be involved
- Severe – mucosal and skin appendages
Drug Rashes

- Develops in 5 to 14 days of treatment – anticonvulsants, antibiotics
- May occur within 2 to 3 days in previously sensitized individuals
- May occur up to several days after the treatment has been stopped
- Typically clears 7 to 14 days after the drug is discontinued
- Pruritus, low-grade fever, mild eosinophilia
- Delayed type T-cell mediated (type IV) immune reactions, involve the activation of macrophages, eosinophils, or neutrophils
- Increased risk 2/2 genetic predisposition, underlying viral diseases and the administration of multiple medications
Drug Rashes

- Treatment – discontinue offending agent
- Symptomatic treatment of pruritis: corticosteroids and antihistamines
- Severe cutaneous reaction – short course of moderate/high dose systemic steroids
- Common offenders – PCNs, cephalosporins, sulfa, macrolids, quinolones, phenytoin and carbamazepine, allopurinol
Stevens-Johnsons, Toxic Epidermal Necrolysis and SJS/TEN Overlap Syndrome

- Extensive necrosis and detachment of the epidermis
- Variants of a disease continuum
- Distinguished by percentage of body surface involved
  - SJS <10% BSA
  - TEN >30% BSA
  - SJS/TEN overlap – 10-30% BSA
- Extensive partial to full-thickness necrosis and detachment of the epidermis.
- Erythematous macules, targetoid lesions, or diffuse erythema progressing to vesicles and bullae.
- May present with diffuse erythema
- Skin is often TTP
- Starts on face and thorax then spreads to other regions symmetrically, except palms and soles and scalp
- Vesicles and bullae form and within days the skin begins to slough
- Mucosal involvement can precede or follow the skin eruption – oral, ocular, urogenital, pharyngeal, tracheal, bronchial and esophageal.
SJS, TEN and SJS/TEN Overlap Syndrome

- Acute phase – lasts 8-12 days
  - Persistent fever, severe mucous membrane involvement, and epidermal sloughing. Re-epithelialization may begin after several days and typically requires 2-4 weeks.
- Fever and influenza like symptoms may precede lesions by 1-3 days.
- Early mucosal involvement include – photophobia, conjunctival itching or burning, pain on swallowing.
SJS, TEN and SJS/TEN Overlap Syndrome

- Six week mortality:
  - SJS 12%
  - SJS/TEN overlap 29%
  - TEN 46%
- Medications are a leading trigger – anticonvulsants, sulfa drugs
- Exposure precedes onset by 14 days (1-4 weeks)
- Re-exposure may result in onset of symptoms in as little as 48 hours
- Risk is limited to first 8 weeks of treatment
- Treatment – discontinue offending agent, supportive care, may need treatment at a burn center
SJS, TEN and SJS/TEN Overlap Syndrome

Pearls –

- Incidence is 100 fold higher among HIV infected individuals
- Can occur at any age
- More common in females
- Genetic factors associated with an increased risk
- Malignancy has increased risk
- Histologic finding are neither specific or diagnostic
- Early withdrawal of the offending agent may improve the prognosis
Erythema Multiforme

- Acute, immune mediated
- Round erythematous papules evolve into target lesions with 3 concentric zones of color change
  - Dusky central area or blister
  - Dark red inflammatory zone surrounded by pale ring of edema
  - Erythematous halo on the periphery
- Symmetrical distribution on extensor surfaces
- Spreads in a centripetal manner
- Face, neck, palms, soles, flexor surfaces of extremities
- Major – mucosal involvement
- Lesions appear over 3-5 days and resolve within 2 weeks
Erythema Multiforme

- 90% caused by infection – MCC HSV
- May recur
- Ages 20 – 40, male predominance
- May occur at sites of trauma or sunburn
- <10% due to medications
- Usually asymptomatic, but some have pruritus or burning
- Supportive care +/– topical steroids and antihistamines for pruritus
- Severe oral mucosal involvement may require systemic steroids
Rocky Mountain Spotted Fever

- Gram negative, obligate intracellular bacterium with a tropism for vascular endothelial cells
- Highest incidence was among ages 40 – 64
- American dog tick, Rocky Mountain wood tick
- Usually spring or early summer
- Fever, headache, rash, malaise, myalgias, arthralgias, nausea
- Rash never occurs in up to 10% of patients
- Rash onset within 3-5 days of illness
- Blanching erythematous rash with macules (1-4mm) that become petechial over time
- May develop petechial rash without a prior maculopapular eruption
- Begins on the ankles and wrists and spreads to the trunk
- Palms and soles highly characteristic of RMSF and occurs in later-stage disease
- May be fatal if untreated
- Treat with doxy 100mg bid for 7 days
Herpes Zoster

- VZV has 2 distinct forms – chicken pox, shingles
- Shingles – reactivation of endogenous latent VZV within the sensory ganglia
- Painful, unilateral vesicular eruption in dermatomal distribution
- Erythematous papules -> grouped vesicles or bullae
- Lesions crust in 7-10 days
Herpes Zoster

- Development of new lesions > week after presentation raises concern for immunodeficiency
- Recurrences more common in immunocompromised host
- Immunocompromised may have multiple dermatomes involved and rash may cross the midline
- Post herpetic neuralgia
- Viral culture, direct immunofluorescence testing confirm diagnosis
- Consider isolation for selective cases
- Treat with acyclovir 800mg 5 times q day, famciclovir 500mg TID, valacyclovir 1000mg TID for 7-14 days
<table>
<thead>
<tr>
<th>Finding</th>
<th>Stasis Dermatitis</th>
<th>Cellulitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>Chronic</td>
<td>Acute</td>
</tr>
<tr>
<td></td>
<td>Acute exacerbations, superimposed</td>
<td>Rapidly spreading</td>
</tr>
<tr>
<td>Local symptoms</td>
<td>Pruritus</td>
<td>Pain</td>
</tr>
<tr>
<td>Constitutional symptoms (fever, chills, myalgia)</td>
<td>Absent</td>
<td>Variable</td>
</tr>
<tr>
<td>Examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>Bilateral</td>
<td>Unilateral</td>
</tr>
<tr>
<td></td>
<td>Favors anterior and medial lower leg</td>
<td>Any body site</td>
</tr>
<tr>
<td>Appearance</td>
<td>Scaling, pebbly fibrotic plaques</td>
<td>Smooth</td>
</tr>
<tr>
<td></td>
<td>Erythema and brown discoloration</td>
<td>Erythema</td>
</tr>
<tr>
<td></td>
<td>Edema</td>
<td>Edema</td>
</tr>
<tr>
<td>Erosion or ulceration</td>
<td>May develop</td>
<td>Present if traumatic inoculation</td>
</tr>
<tr>
<td></td>
<td>Slow to heal</td>
<td></td>
</tr>
</tbody>
</table>
Treatment of Stasis Dermatitis vs. Cellulitis

Stasis Dermatitis Treatment:
- Compression (unless severe peripheral arterial disease)
- Elevation
- Recommendation to avoid diuretics

Cellulitis Treatment:
- Elevation, hydrate skin
- Treat the underlying predisposing condition
- Antibiotics
When to call Dermatology

- NOT ALWAYS!
- Hemodynamic Instability
- Diagnostic Dilemma


Oxman MN. Immunization to reduce the frequency and severity of herpes zoster and its complications. Neurology 1995; 45:S41.


References


References


Cunha BA. Clinical features of Rocky Mountain spotted fever. Lancet Infect Dis 2008; 8:143.


Revision History

- Original Version: Cathryn Caton, MD and Keri Holmes-Maybank, MD 2014
- Revised 5/14/2015: Pamela Charity, MD