Say No to Drugs – But Which Ones?
An approach to the Drug Rash

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Disclosures

Served on Pfizer advisory board for digital media.

Many of the treatments/medications discussed today are in the setting of off-label usage.
Objectives for this Session

• Evaluate and properly initiate management for a new drug eruption in the hospitalized patient.
• Formulate a framework for when dermatology consultation may be necessary or advised.
• Analyze available patient characteristics and data to identify culprit drugs when faced with an adverse skin reaction to medication.

• We will NOT be talking about the severe cutaneous adverse reactions (SCARs). That will come next time when we talk about “Derm Emergencies!”
Some Review on Morphology

- Macule – flat, <1 cm
- Patch – flat, >1 cm
- Papule – raised, <1 cm
- Plaque – raised, > 1 cm
- Vesicle – fluid filled, <1 cm
- Bulla – fluid filled, >1 cm
- Pustule – pus filled
- Nodule
- Tumor
- Wheals

“Maculopapular”
A Different Approach

• **Red Flags**
  – Painful
  – Target lesions
  – Mucosal involvement
  – Systemic involvement
  – *Certain* blisters/bullae
  – Erythroderma
  – A rash in an immunosuppressed patient
Case 1
Urticaria

• Occurs minutes to hours after drug administration
• Can be only urticaria or can come with airway issues
• Histamine/cytokine mediated from mast cells
• Can be triggered from a variety of things (eg: infection, medications, pressure).
• By definition, each lesion should last at most ___ hours.
• If urticarial eruption lasts >6 weeks, considered chronic.
  – Pressure, solar, cholinergic, cold, heat, etc.
What Bedside Test Can You Do to Look for Histamine Release?
Treatment for Urticaria

- Given the pathophysiology, antihistamines are the mainstay of treatment.
  - Fexofenadine 180 POBID or Cetirizine 10 mg POBID (H1)
  - Famotidine 20 mg POBID (H2)
  - Diphenhydramine 25-50 mg POQ6h prn (H1 AND H2)
  - Maybe topical steroids
  - Prednisone if severe.
What Else Can Present with Urticaria?

• Schnitzler’s Syndrome
  – Associated with IgM gammopathy
  – Periodic fever, joint/bone pain, fatigue, weight loss

• Urticarial Vasculitis
  – Three “Ps” – Pain, persistence, pigmentation
Case 2
Morbilliform Drug Eruption

• “Measles-like”
• Type IV hypersensitivity reaction, so it takes time to occur
• 4-14 days after drug initiation and usually takes a few doses.
• Treat with topical steroids!
• Would antihistamines work?
Morbilliform Drug – Counseling

• Things will get worse before they get better
• Heals like a sun-burn
• Should NOT have mucosal symptoms or skin pain.
  – Call dermatology if you notice these!
• Discontinuation of the drug is usually advised.
• Repeat exposures will make it come back faster.
Case 3
History

• 55M with recent hospitalization for MSSA bacteremia, started on vancomycin at admission, but switched to nafcillin 5 weeks ago. Rash started yesterday.

• Patient reports feeling swollen, especially in the face. Also feels “sick” with muscle and joint aches.

• Admitted overnight.
What Is Your Next Step?

- A: Prescribe topical steroids, and set up outpatient dermatology appointment.
- B: Reassure that this will run its course, and set up outpatient dermatology appointment.
- C: Call Dermatology. This seems serious and you suspect early SJS/TEN.
- D: Call Dermatology. This seems serious and you suspect DRESS.
- E: Call Dermatology. This is much too far out for a drug rash, and they can help figure out what’s actually happening.
What Is Your Next Step?

- **A:** Prescribe topical steroids, and set up outpatient dermatology appointment.
- **B:** Reassure that this will run its course, and set up outpatient dermatology appointment.
- **C:** Call Dermatology. This seems serious and you suspect early SJS/TEN.
- **D:** Call Dermatology. This seems serious and you suspect DRESS.
- **E:** Call Dermatology. This is much too far out for a drug rash, and they can help figure out what’s actually happening.
Drug Rash with Eosinophilia and Systemic Symptoms

- Usually from antiepileptics, antibiotics, antivirals
  - HIV patients: “Never” go “back”
- Starts 3-6 weeks after first exposure to drug
- Mortality rate is 10%
  - Hepatotoxicity is most frequent cause
- Some cases thought to be from reactivation of HHV-6
Drug Rash with Eosinophilia and Systemic Symptoms

- Drug rash WITH systemic involvement
  - Check labs (CBC with diff, LFTs, BUN/Cr)
    - Worry about eosinophilia, cytopenias, atypical lymphocytes
  - Palpate lymph nodes and check for hepatosplenomegaly
  - ROS: arthralgia, edema, fever
  - Can have hypotension
  - If chest pain or hemodynamic instability: EKG, cardiac enzymes and consider TTE
- Steroids are mainstay of treatment
  - Bowel edema, so IV steroids commonly used
Drug Rash with Eosinophilia and Systemic Symptoms

- Dermatology consult advised
  - Steroid taper usually requires longer course
  - Can assist if first line treatment is not helping
  - Outpatient follow-up in dermatology
  - TSH to be checked 2-3 months later
    - Autoimmune thyroiditis
Diagnosing DRESS

• DRESS is a clinical diagnosis. A biopsy doesn’t help other than indicate possible drug rash.
• Regiscar scoring system can be used to help differentiate between: Unlikely, possible, probable, and definite DRESS.
You don’t need a rash or eosinophilia to have DRESS!
Pop Quiz

• One of your patients develops a rash during their admission. It looks like this:

• What is your diagnosis?

• What is your next step in management?

• What information do you need to manage?
### Make a Drug Chart!

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Based on the above chart, what is the most likely culprit?
- Vancomycin
- Cefepime
- Levofloxacin
- Phenytoin
- NSAIDs
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- Vancomycin
- Cefepime
- Levofloxacin
- Phenytoin
- NSAIDs
Approximate Time Courses

Drug initiation

1 wk    2 wks  3 wks  4 wks  5 wks  6 wks

Exanthematous

SJS/TEN

DRESS

AGEP

Urticaria/
Anaphylaxis
What is AGEP?

• Acute Generalized Exanthematous Pustulosis
• Occurs 1-2 days after exposure to drug
• Only need one exposure
• (Don’t forget about peri-operative antibiotics)
• Treatment is topical or systemic steroids if necessary
Case 4
Fixed Drug Eruption

- One of only a couple diagnoses that always come and go in the exact same spot.
- Think of pseudoephedrine, NSAIDs, abx
- Sexual contact can cause it if the partner took the offending agent.
- Biopsy can look like EM, so clinical exam is important.
Photos of Less Common Drug Reactions
https://en.wikipedia.org/wiki/Petechia
Take Home Points

• Time course is critical to identify culprit drugs. Each eruption has its own “window.”
• Beware of the dangerous rashes and red flags
• Always feel free to call your dermatology consultant if you need help.
Thank you!

Questions?

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