Big Rashes in Little People: Adventures in Inpatient Pediatric Dermatology

Forum F115: Big Rashes in Little Patients

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No conflicts of interest
I will discuss off-label use of medication
Objectives

(1) To identify concerning eruptions in neonates
(2) To distinguish cutaneous infections that require inpatient admission
(3) To diagnose and treat acute mucositis in children
Case 1

• 6 day old male presents to outside hospital with fussiness and peeling skin→ sent home with “normal newborn desquamation”

• Diagnosis?
Staphylococcal Scalded Skin Syndrome

- Toxin-producing strains of Staph aureus -- hematogenous spread
- Usually MSSA (clinda resistance common at our institution)
  - Treat based on local antibiogram
- Rates are increasing especially in infancy
  - New strains of staph
  - Can be due to nosocomial infections in NICU
- Catch it early: periorificial + intertriginous erythema and skin pain PRIOR to desquamation

SSSS in Neonates

• Source: Omphalitis, balanitis from circumcision
• May be due to lack of antibodies to exfoliative toxin, decrease renal clearance of toxin
Case 2

• Afebrile 3-week-old male presented to ED with rash
• Primary team and ID concerned for vesicles in a newborn ➔ Full sepsis workup + initiation of IV antibiotics + acyclovir
• THEN derm is paged
Scabies in Babies

- Intact burrows and nodules more common due to immature/absent pincer grasp
- Higher mite burden
- Permethrin 5% cream FDA approved > 2 months
- Cohen et al. advocate for permethrin in newborns given minimal systemic absorption¹

Afebrile neonates with vesicles/pustules in the ER: Is a sepsis workup always necessary?

Management of afebrile neonates with pustules and vesicles in a pediatric emergency department

Christina S. Manice MD, Paul J. Planet MD, PhD, Herbert S. Chase MD, Christine T. Lauren MD
Case 3: Ulcers + Pus in the ED

- 11-year-old girl with a hx of poorly controlled atopic dermatitis, previously admitted with eczema herpeticum, comes to the ED with 1 week hx of worsening facial eruption

• Next steps?
Suprainfected AD

- Bacterial culture: MSSA and S. pyogenes
- HSV PCR: negative
- Inpatient treatment: Antibiotics + acyclovir + wound care
- S/P multiple courses of oral corticosteroids → cataracts
  - Now on CsA + MTX bridging to dupilumab
**Oral Corticosteroids in Atopic Dermatitis**

- My answer: don’t do it
- Can be used as a bridge to systemic therapy
- Adverse effects are numerous but salient ones for children with AD include rebound flares, HPA axis suppression (even with short courses), mood disturbance and growth retardation

Corticosteroids and Cataracts

Our Patient: Dense central cataracts, both anterior subcapsular as well as nuclear. Ophtho felt cataracts due to CS use. Patient had anterior vitrectomy and intraocular lens implantation

• Corticosteroids → posterior subcapsular cataracts
• AD → pathognomonic shield-shaped anterior subcapsular cataracts as well as posterior subcapsular cataracts

Case 4

• 14-year-old previously healthy male returning from Spanish camp with rash, fever, mucositis and conjunctivitis

Meds: None
PMH: Fully vaccinated
Imaging: Left lower lobe opacity on CXR
Mycoplasma-induced Rash and Mucositis (MIRM)

• Patients are predominantly young and male ("tweens")
• Prodrome nearly universal
• Cutaneous involvement variable
  • Mucositis without rash
  • Mucositis + scant rash
  • Mucositis + extensive rash (SJS-like)
• Excellent prognosis
Treatment

• Early consultation of dermatology, ophthalmology, urology
• Supportive care
• Antibiotics
  – Prevent neurologic and pulmonary sequelae
  – Effect on mucocutaneous complications unknown
• Immunosuppression
  – Corticosteroids, IVIG, Cyclosporine, Etanercept
# MIRM: Take Home Points

<table>
<thead>
<tr>
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<th><strong>EM</strong></th>
<th><strong>SJS/TEN</strong></th>
<th><strong>MIRM</strong></th>
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<tr>
<td><strong>Demographic</strong></td>
<td>Young, Male</td>
<td>Adult</td>
<td>Young, Male</td>
</tr>
<tr>
<td><strong>Trigger</strong></td>
<td>HSV</td>
<td>Drug</td>
<td>Mycoplasma</td>
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<tr>
<td><strong>Distribution</strong></td>
<td>Acral</td>
<td>Generalized</td>
<td>Varies</td>
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<tr>
<td><strong>Morphology</strong></td>
<td>Targets</td>
<td>Atypical Targets</td>
<td>Polymorphous</td>
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<tr>
<td><strong>Mucositis</strong></td>
<td>Rare</td>
<td>Always</td>
<td>Always</td>
</tr>
<tr>
<td><strong>Sloughing</strong></td>
<td>No</td>
<td>Always</td>
<td>Rare</td>
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<tr>
<td><strong>Recurrence</strong></td>
<td>Common</td>
<td>Rare</td>
<td>Occasional (8%)</td>
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<tr>
<td><strong>Prognosis</strong></td>
<td>Excellent</td>
<td>Mortality: Adults: 5-15% Children: 2%</td>
<td>Excellent</td>
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</table>
Case 5: When there’s no M in MIRM

• 11-year-old male with 1 week of fever, cough, worsening mucositis

• Evaluated outside and treated with Valtrex, then amoxicillin for ? Positive rapid strep swab --> admitted to CNMC
Case 6:
When there’s no M in MIRM

• Mycoplasma PCR
• Azithromycin
• Methylpred 1mg/kg
• Topical clobetasol
• Recommended NG tube + foley + aggressive pain control
Case 6:
When there’s no M in MIRM

- Worsening mucositis, new bullous skin lesions
- Mycoplasma PCR neg
- Chlamydia pneumonia neg

**Day 5:** IVIG x 3 days

**Day 8:** Skin bx c/w bullous EM; DIF neg
Case 6:
When there’s no M in MIRM

• Mucositis worsening, developing new bullous skin lesions despite steroids + IVIG

**Day 9:** Receives PICC line

**Day 11:** Start cyclosporine 5mg/kg, plan 5 day course
Case 6:
When there’s no M in MIRM

**Day 13**: No new skin lesions 1 day after starting CsA, patient had a popsicle, steroids being tapered
Case 6: When there’s no M in MIRM

Day 16: Steroid taper completed, CsA stopped

Day 17: New bullae develop on vermillion lip

- Workup initiated for PNP
  - CT C/A/P WNL
  - IIF sent out

- Restarted methylpred + CsA
Case 6:
When there’s no M in MIRM

**Day 18-22:** Foley and PICC removed

**Day 22:** Discharged home on prednisone 1mg/kg and tacrolimus 3mg PO BID

- All infectious workup neg
- IIF negative
Case 6:
When there’s no M in MIRM

• Outpatient 12 weeks post-onset with no recurrence
• Steroids weaned → will get HPA axis eval
• Weaning tacrolimus
Pediatric Paraneoplastic Pemphigus

• PNP described by Anhalt in NEJM in 1990
• Exceedingly rare
• Refractory stomatitis with polymorphous skin lesions
  • Skin eruption can PRECEDE malignancy
• Castleman’s disease, thymoma, NHL, CLL, sarcomas, rare tumors

Cyclosporine in SJS/TEN

- 96 studies (3248 patients)
- Glucocorticosteroids and cyclosporine were the most promising systemic immunomodulating therapies for SJS/TEN
Etanercept in SJS/TEN

• First reported in adults
• Case series of 10 patients included 3/10 with high risk of death based on SCORTEN
• Single dose of 50mg administered as soon after diagnosis as possible
• All patients responded promptly to treatment without AE

Etanercept in Children with SJS/TEN

Pediatric Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis Halted by Etanercept

Geneviève M. Gavigan, Nordau D. Kanigsberg, Michele L. Ramien

Journal of Cutaneous Medicine and Surgery
Back to Our Patient

• Prolonged ACUTE infection induced mucositis?
• Smoldering auto-immune bullous disease despite negative DIF/IIF?
• What to do if mucositis recurs?
Conclusions: It’s fun taking care of inpatients!

(1) Staphylococcal scalded skin syndrome is increasing in frequency, especially in infants. Watch out for periorificial/intertriginous erythema in a fussy newborn.

(2) Herpes is everywhere: distinguish punch out ulcers from purulent plaques of impetigo + florette-like crusts of coxsackie. Little kids with eczema herpeticum are SICK.

(3) Think MIRM in tween boys with febrile prodrome + mucositis +/- skin involvement.

(4) Not all MIRM is caused by mycoplasm → IRM?
Questions?

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