Pediatric Infectious Disease Diagnosis that will make you a Star….. and Help Children

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No Conflicts of interest

Assymetric Periflexural Exanthem

Clinical Exam
- Starts axilla, inguinal, popliteal folds
- Many different viruses
- Children are clinically well
- Lasts 2-4 weeks and eventually spreads to be bilateral but much more prominent on one side
- Parents will usually remember it was one sided!

Differential diagnosis
- Zoster: one sided but more clustered and painful
- Contact dermatitis: typically more itchy and see linear or geometric areas

Workup and Therapy?
- Low potency topical steroid ointment or moisturizer, often no therapy needed

Hand Foot and Mouth (and Butt)

- DDX:
  - Eczema herpeticum: BUT this should be more clustered and only in places of past atopic dermatitis
  - Giannotti Crosti: BUT the involvement in the mouth and on the perianal areas (not the cheeks of the buttocks) and palms and soles would be unusual
  - Varicella: BUT the lack of truncal involvement would be unusual.

Enteroviral Infection
- Classically Coxackie A16
- Coxackie A6 is becoming more common and can be more exuberant and widespread
- CDC alert from 2012
- The acral predominance of true vesicles is the key

Pediatric Bottom Line: Atopic skin is immunosuppressed so it can be superinfected with many different pathogens

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a5.htm

Papular Acrodermatitis of Childhood (Giannotti Crosti)

Clinical Exam
- Juicy predominate (can look like vesicles!)
- Typically extensor surfaces (frictional)
- Knees/elbows/cheeks of face and butt
- Kids are well, not ill
- Spares the trunk
- Generally NOT itchy
- Can last 6-8 weeks

Differential diagnosis
- Atopic dermatitis
- Contact dermatitis should be itchier
- Scabies should be itchier

Workup and Therapy?
- Supportive Care, topical steroids ineffective
- EBV is the most common cause in USA so can check this, should at least palpate for hepatosplenomegaly
- Generally NOT from Hepatitis B in vaccinated children in USA

Papulopurpuric Glove and Stocking (PPGS)

Clinical Exam
- Purpuric and petechial macules on the arms and legs with fairly shapr cutoff at the knees and elbows
- **Kids usually feel well**
- **Never miss early rocky mountain spotted fever or meningococcemia**
- **I consider PPGS a diagnosis of exclusion**

Differential diagnosis
- Patients with Rocky Mountain Spotted fever and Meningogoccemia should be more ill and usually have headache

Workup and Therapy?
- Parvo virus causes this
- Did I mention not to miss Rocky Mountain Spotted Fever?

Effect of tonsillectomy on psoriasis: A systematic review

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Meta Analysis of 20 reports: 545 patients

Largest RCT: 29 patients
- 13/15 showed 30-90% PASI reduction
- Only 27% of the treatment group used topical therapy in 2 years after tonsillectomy.

Conclusion: Tonsillectomy seems to be a reasonable option for patients with clear correlation between Strep infection/ tonsillitis and their psoriasis.

DIAPER RASH: PERIANAL STREPTOCOCCAL INFECTION

Clinical description

- Spread is by direct contact
- Often painful
- Very red
- Can be multifocal (perianal, axillae, inguinal folds)
- Culture is simple with bacterial swab

Treatment

- Topical mupirocin
- Oral penicillins/cephalosporins

Pseudomonas "hot tub folliculitis"

- "Re-circulated water folliculitis"
- Biofilm makes organism hardy
- Distribution under the bathing suit where the water gets trapped
- Typical skin cultures may not pick up Pseudomonas! So tell the lab.
- RX: if needed, oral anti-pseudomonal antibiotics, Benzoyl peroxide wash

Neonatal HSV

- Aquired through 3 different mechansims
  - In utero through ruptured membranes or maternal viremia
  - Perinatal (evident within 1st 3 weeks, typically at 1-2 weeks)
  - Postnatal
- In utero is often severe with microcephaly, microphthalmia, seizures and vesicles or scars present at birth.
  - Skin can look like aplasia cutis
- Perinatal often presents in the skin at presenting sites or sites with broken skin (site of scalp electrode)

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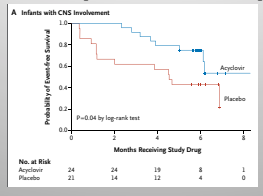
ORIGINAL ARTICLE

Oral Acyclovir Suppression and Neurodevelopment after Neonatal Herpes



- HSV lives in nerves
- Sporadic Reactivation is common
- If the reactiviation occurs in the brain it can be devastating

Staphylococcal Scalded Skin Syndrome (SSSS)

Typically children under 5 (including neonates)

- Caused by decreased renal excretion of toxin and lack of immunity to toxin
- Older children with SSSS may have imparied immunity or renal function

- Irritable, febrile infant

Skin: Generalized erythema

- Desquamation usually starts in flexures of neck, axillae and inguinal folds
- Associated Crusting of nares, perioccular areas
- No crusting on lips as in Stevens-Johnson Syndrome

Staphylococcal Scalded Skin Syndrome (SSSS)

- Caused by toxin released from localized *Staphylococcal* infection
- The toxin mediated fragile/sloughing skin is distant from the infection
  - SO:
    - Cultures from slough skin will be negative
    - You must find the primary source (mouth/nose/anus/foreign body)

Systemic antibiotics, meticulous wound care, pain management, fluid balance

- Exfoliative toxin

Antibiotic Susceptibility in Staphylococcal Scalded Skin Syndrome

Risk factor	Overall ($N = 21$)	Oxacillin resistant, $n = 3$	Oxacillin susceptible, $n = 18$	p	Clindamycin resistant, $n = 10$	Clindamycin susceptible, $n = 11$	p
Age, months, median (IQR)	18 (3–36)	32 (15–61)	[illegible]	0.31	3 (1–31)	31 (15–61)	0.03
Male, %	10 (48)	1 (33)	9 (50)	0.54	5 (50)	5 (46)	0.59
History of atopic dermatitis, %	5 (24)	1 (33)	4 (22)	0.58	3 (30)	2 (18)	0.45
Length of hospital stay, days, median (IQR)	3 (2–4)	2 (2–5)	3 (2–4)	0.60	3 (3–4)	3 (2–4)	0.38

When Compared to the the Antibiogram at the hospital:

- MRSA rate in SSSS patients:
  - 14% vs 48% expected
- Clindamycin Resistance Rate :
  - 48% vs 18% expected

Cutaneous Mold infections

- Risk factors
  - Prolonged neutropenia
  - Bone Marrow Transplant
  - IV sites
  - Areas of trauma
  - Tape occlusion
- Diagnosis/Treatment
  - Emergent tissue for histopathology and culture
  - Broad spectrum coverage including Fungal
  - Evaluation for surgical debridement
  - Consideration for granulocyte infusion or GMCSF