Pediatric Visual Diagnosis

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Objectives

• Recognize common pediatric dermatologic conditions
• Expand differential diagnosis
• Review treatment plans
• Identify skin manifestations of systemic disease
A one week old child’s mother presents to your office with concerns that the child has a rash that has progressed since being discharged from the hospital. Birth history is unremarkable. Physical examine shows a splotch erythema with a central clear pustule.
Your likely diagnosis is?

a. Erythema toxicum
b. Neonatal pustular melanosis
c. Staph folliculitis
d. Milia
e. Neonatal acne
Erythema Toxicum
Erythema Toxicum

- Also described as a “flea bite”
- Intense erythema with / a central papule or pustule.
- 2-3 cm in diameter, on back, face, chest and extremities
- Usually in full term infants, appears usually beginning 24-48 hours
Erythema Toxicum

- Benign self limited with unknown etiology
- No treatment, it fades within 5-7 days.
- A smear of the pustule reveals numerous Eosinophils
Transient Neonatal Pustular Melanosis
Neonatal Pustular Melanosis

- 1-2 mm of vesiculopustules or ruptured pustules
- Usually present at birth, but disappear quickly within 24-48 hours
- Leaves pigmented macules with a collaret of scale
- Fades within 3 weeks to 3 month
- Occurs anywhere on the body, but more common on neck, forehead, lower back, and the legs
Neonatal Pustular Melanosis

- Unknown etiology, self limited.
- Gram stain shows neutrophils.
- Common concern is Staph aureus infection
Staph Infection in Newborn
Staph Infection in Newborn

- Lesions tend to appear in the later part of the first week of life or into the second week.
- Any body site may be involved with predilection to the diaper area.
- The bullae are flaccid, containing straw colored or turbid fluid, rupture easily leaving a moist denuded area.
Management

- CBC, Blood cultures
- Gram stain and culture wound sites
- Hospitalization and treatment with a systemic appropriate antibiotic should be instituted particularly for lesions around the umbilicus.
Miliaria Crystallina
Milia

- Small, firm 1-2 mm in diameter
- Tiny thin-walled sweat-retention vesicles rupture readily, then quickly desquamate
- Commonly seen on the face on neonates
- Consist of epithelial lined cysts arising from hair follicles
Milia

- Usually persistent, but may resolved within month to years.
- Usually appear with no apparent cause, but may also appear after skin injury.
- In the mouth it is called Epstein's pearls.
Miliaria Rubra (Heat rash)
Milia Rubra

- **Sweat duct obstruction** in deeper epidermal or dermal layers.
- **Erythematous papulopustular eruption**
- Usually over the face, upper trunk, and Intertiginous area of the neck.
- It is usually as a result of tight fitting cloth or use of occlusive lubricants during hot, humid weather.
Neonatal acne
Neonatal Acne

- Occurs in 20% neonates
- Thought related to be caused by stimulation of sebaceous glands by maternal and endogenous androgens
- Proposed cause - inflammatory reaction to skin colonization with Malassezia species
Neonatal acne

- Mean age 3 weeks
- Presence of inflammatory papules and pustules – no comedones
- Distribution limited to face
- Treat with daily cleansing with soap and water
- Application 2% ketoconazole or 1% hydrocortisone
Acne
Infantile acne

- 3 to 4 months of age
- Hyperplasia of sebaceous glands due to androgenic stimulation
- Inflammatory papules, pustules, and comedones
- Can treat with benzoyl peroxide, topical antibiotics, or topical retinoids
- No improvement – consider endocrinopathy
Question 2

A 7-year-old boy is brought to the clinic for an itchy rash that has been present for 2 weeks. He has been healthy except for intermittent asthma, and his mother reports that he frequently has very dry patches of skin. He has numerous linear vesicles and blisters on his arms, with surrounding erythema and mild edema. He has a few similar lesions on his anterior legs. He scratches the lesions frequently during your examination.
Your likely diagnosis is:

A. Atopic dermatitis
B. Scabies
C. Tinea Corporis
D. Pityrasis rosea
Atopic Dermatitis

- 3-5% of children 6 mo to 10 yr
- Described in 1935
- Ill-defined, red, pruritic, papules/plaques
- Diaper area spared
- Acute: erythema, scaly, vesicles, crusts
- Chronic: scaly, lichenified, pigment changes
Atopic Dermatitis

Hints to diagnosis

- Generalized dry skin
- Accentuation of skin markings on palms and soles
- Dennie-Morgan lines
- Fissures at base of earlobe
- Allergic history
Diagnostic Criteria

Major Criteria: At least 3 of the following:

1. Pruritus
2. Personal or family history of atopy (asthma, allergic rhinitis, atopic dermatitis)
3. Chronic or chronically relapsing dermatitis
4. Typical morphology and distribution
Treatment

- Moisturize
- Baths only
- Anti-histamine
- Topical steroids to red and rough areas
- Immune modulators
Avoidance of Triggers

• Perspiration and overheating
• Irritating clothes – soft cotton
• Avoid harsh soaps, detergents, fabric softeners, products with fragrance, and bubble baths
• Exposure to tobacco
• IgE mediated food allergy
  – Milk, eggs, soy, wheat, peanuts
Complications
Bacterial Secondary Infection

- Red and honey colored crusting
- Usually *S. aureus*
- More potent topical steroid
- Topical or oral antibiotics
Eczema Herpeticum

- Widely scattered clusters of 1-mm excoriated red, papules, vesicles, and crusts
- Herpes simplex virus (HSV) infection
- Treatment
  - acyclovir
  - antihistamine
Scabies

• Intense pruritus
• Diffuse, papular rash
  – Between fingers, flexor aspects of wrists, anterior axillary folds, waist, navel
• May be vesicular in children < 2 years
  – Head, neck, palms, soles
  – Hypersensitivity reaction to protein of parasite
Scabies

- Sarcoptes scabiei mite
- Pruritic burrows pathognomonic (irregular, tortuous, and slightly scaly)
- In infants, burrows are widespread with involvement of trunk, scalp, extremities, palms and soles
- Consider in infants with widespread dermatosis that involves the palms and soles
Scabies - Treatment

- 5% permethrin cream for infants, young children, pregnant and nursing mother
  - Kwellada-P or Nix
  - Cover entire body from neck down
  - Include head and neck for infants
  - Wash after 8-14 hours

- Can use Lindane for older children
Scabies - Treatment

- Not after a hot bath
- All family members at same time
- Whole body treatment inc, scalp, neck, face, ears and under nails
- Repeat week later
- Pruritis can last for weeks
Tinea Corporis

- Contact with other individuals, domestic animals including young kittens and puppies
- Most common group of dermatophytes
  - Trichophyton
  - Microsporum
  - Epidermophyton
- Invade keratin, the protein that forms the outermost epidermis, nails, and hair
Tinea Corporis

- Face, trunk or limbs
- Pruritic, circular, slightly erythematous
- Well-demarcated with scaly, vesicular or pustular border
- Mistaken for atopic, seborrheic or contact dermatitis
- Treatment: Topical or oral antifungal
Pityriasis Rosea

• Begins with herald patch
  – Large, isolated oval lesion with central clearing
• More lesions 5-10 days later
• Christmas tree distribution
• Treatment: anti-histamines
Question 3

A 2 year old female presents to your clinic with a 3 day history of high fever up to 103 and irritability. Mother reports that her throat seems to bother her because she refuses to eat and cries when she drinks her milk. She started developing a rash on her buttock and hands. Her immunizations are up to date.
Your likely diagnosis is:

- a. Hand foot mouth disease
- b. Scarletina
- c. Erythema Infectiosum
- d. Roseola
- e. Herpes Simplex
Hand-Foot-Mouth Disease

- Painful, shallow, yellow ulcers surrounded by red halos
- Found on buccal mucosa, tongue, soft palate, uvula and anterior tonsillar pillars
- Oral lesions without the exanthem = herpangina
- Exanthem involves palmar, plantar and interdigital surfaces of the hands and feet +/- buttocks
- Due to Coxsackie A virus
Streptococcal Scarlet fever
Streptococcal Scarlet Fever

- Flushed face,
- Perioral pallor, and a
- Diffuse, blanching, erythematous rash that has a sandpapery consistency on palpation.
- Pastia lines
- Confirm with culture
- Treat with penicillin
Erythema Infectiosum
Fifth Disease

- Parvovirus B19
- Mostly preschool age
- Recognized by exanthem
- Contagious before rash
- Resolution between 3 and 7 days
Erythema Infectiosum  
(Fifth Disease)

- On day 1, warm, erythematous, nontender, circumscribed patches appear over the cheeks.
- These fade on the following day, as an erythematous, lacy rash develops on the extensor surfaces of the extremities.
- No preceding symptoms
- No treatment needed
Roseola

- 6 to 36 months
- Human herpesvirus 6
- High fever without source and irritability for 3 days
- Rash develops as fever decreases
Herpes Simplex

- Gingivostomatitis most common 1st infection in children
  - Fever, irritability, cervical nodes
  - Small yellow ulcerations with red halos on mucous membranes

- Involvement more diffuse – easy to differentiate from herpangina and exudative tonsillitis

- Treatment: supportive
Herpetic Whitlow

- Lesions on thumb usually 2° to autoinoculation
- Group, thick-walled vesicles on erythematous base
- Painful
- Tend to coalesce, ulcerate and then crust
- May require topical or oral acyclovir
Conclusions

- Not all that itches is eczema
- Treatment is often supportive for viral exanthems
- Remember rashes as a sign of systemic illness