Common Pediatric Rashes
What to Do and When to Worry
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Objectives
- Evaluate common rashes seen in children.
- Develop an appropriate differential diagnosis of common rashes.
- Acquire a management plan for common rashes.
- Know when referral to a pediatric dermatologist is needed.

Case 1
- A 3 year-old male presents to clinic with complaints of a 1-2 month history of cradle cap. His mom has been using selenium sulfide shampoo without any improvement.
- On exam he is a happy, playful child. Scalp exam is notable for some areas of greasy scale but there are no discreet areas of hair loss. He has palpable posterior cervical lymph nodes.

Tinea Capitis
- Caused by infection with a dermatophyte (trichophyton, microsorum, or epidermophyton species)
- Transmitted from other humans or dogs and cats
- DDx: seb derm, psoriasis
- Treatment = griseofulvin microsize 20-25mg/kg/day with dinner x 2-3 months or terbinafine x 4-6 weeks (10-20kg 62.5mg, 20-40kg 125mg, >40kg 250mg per day)
Tinea Corporis
Tinea Cruris

Tinea Pedis

Tinea Versicolor
Case 2

- 9 month-old female presents with dry, itchy skin since age 3-months. Worse on the cheeks and occasionally weepy. Mom says it gets better with hydrocortisone but never goes away.
- On exam the child is active and noted to have dry skin. Erythematous scaly plaques on the cheeks as well as the extensor surfaces of the arms and legs.

Atopic Dermatitis

- Chronic skin condition characterized by dry, itchy skin. Follows different patterns: infantile, childhood, lichen simplex chronicus, and nummular.
- Often associated with filaggrin mutations.
- Treatment: moisturization, avoid irritants, topical steroids, treat infection.

Topical Steroids

- Low-potency (safe on the face, groin, under arms for all patients AND infants < 1 year – when used less than 2-weeks at a time)
  - Hydrocortisone 2.5%, desonide
- Mid-Potency (safe on the body for children > 1 year when used less than 2-weeks at a time)
  - Triamcinolone
- High-Potency (select uses)
  - Clobetasol
- Topical Calcineurin Inhibitors
  - Tacrolimus (Protopic®) and Pimecrolimus (Elidel®)
Case 3

- 12 year-old female complains of non-itchy scaly plaques on her knees and elbows x 6-months.
- Physical exam is notable for erythematous plaques with silvery scale on her knees and elbows. She also has some nail pits.
Psoriasis

- Chronic skin condition characterized by erythematous scaly plaques on the extremities. Can also involve the axillae and groin (inverse pattern) and the scalp. In children can be itchy. Guttate pattern classically associated with strep infection.
- Treatment: topical steroids, topical vitamin D, phototherapy, biologics

Lichen Striatus

Case 4

- 3 year-old female presents with complaints of multiple itchy plaques on her trunk and extremities. Her mom denies any history of eczema.
- On exam she is noted to have several excoriated plaques on her trunk and extremities. On closer exam some of these plaques have several central papules. There are also a few skin-colored umbilicated papules that are seen on the neck.
Molluscum Dermatitis

- Immune reaction against the molluscum contagiosum virus.
- Can use topical steroids as needed.
- Will resolve once the molluscum infection resolves.
Case 5

- 11 year-old male complains of recurrent pruritic blisters on his arm that crust over and heal over a 10 day period but return several times a year.
- On exam he is noted to have several grouped vesicles with a honey crust.

Herpes Simplex Virus

- Transmission occurs from person to person, usually from a cold sore to other parts of the body.
- Contagious until crusted over.
- Treatment: acyclovir 80mg/kg/day divided q 8 hours

Zoster
Case 6

- 8 year-old girl presents to the clinic with depigmented patches around both eyes, over her knees, elbows, ankles, and waist x 1 year
- She denies antecedent rash or cutaneous symptoms.
- On physical exam she is in the 50th percentile for height and weight. She has depigmented patches around her eyes, waist, and extremities. Some have overlying white hairs.

Vitiligo

- Thought to be an autoimmune condition in which the melanocytes are destroyed.
- Depigmentation NOT hypopigmentation.
- A Wood’s lamp can be used to outline extent of involvement.
- It can be associated with thyroiditis or other autoimmune conditions.
- Treatment = topical steroids, TCI’s, phototherapy

Case 7

- You are called by the nurse to see a 7-month old male infant who is being hospitalized for RAD exacerbation and was just noted to have a diaper rash.
- On exam, there is redness in the diaper area (including the folds) with some satellite papules.

Candida Diaper Dermatitis

- Warmth, humidity, and occlusion leads to overgrowth of Candida albicans.
- Can often start as an irritant diaper dermatitis that gets secondarily infected with candida.
- Treatment: clotrimazole or oxiconazole cream several times a day until healed.
Irritant Diaper Dermatitis

Langerhans Cell Histiocytosis
Case 8

- A 6 month-old infant presents to clinic with complaints of a dry, flake scalp.
- Exam is notable for diffuse “greasy” scale throughout the scalp.

Seborrheic Dermatitis

- Cradle Cap, resolves around 1-year.
- Irritant reaction secondary to free fatty acids secondary to *Malassezia furfur* colonization.
- Treatment: reassurance, olive oil/toothbrush for scale, low-potency topical steroid, clotrimazole or oxiconazole cream.
Case 9

- 17-year-old female complains of an itchy scalp x 1 year. She denies any other skin complaints.
- On exam she is noted to have erythema and scale throughout her scalp. There is mild erythema around her eyebrows and under her nose.

Seborrheic Dermatitis

- Chronic condition. Not contagious.
- Irritant reaction secondary to free fatty acids secondary to Malassezia furfur colonization.
- Treatment: selenium or pyrithione zinc or ketoconazole shampoo, steroid foam.

Case 10

- A 2-year-old male presents to the emergency room with several erosions on his leg and diaper area.
- On exam he is fussy and is noted to have several large erosions on his right leg and diaper area with peeling skin along the edges.

Bullous Impetigo

- Caused by infection with Staphylococcus aureus bacteria.
- Production of a toxin cleaves desmoglein-1 in the skin which leads to blisters and erosions.
- Treatment: oral antibiotic such as clindamycin or TMP/SMX
A 4 year-old female is being treated with amoxicillin for otitis media. On day 7/10 she develops erythematous papules on her face, trunk, and extremities that are mildly pruritic. She is afebrile.

On exam she is active and playful and noted to have blanching erythematous papules on her face, trunk, and extremities.
Morbilliform Drug Reaction
• Occurs toward the end of a course of antibiotics, sooner with re-exposure.
• Thought to be a delayed-type hypersensitivity reaction.
• Treatment: Stopping the drug, avoidance in the future, antihistamines, and topical steroids.

Urticarial Drug Reaction

DRESS Syndrome
• Drug Hypersensitivity Reaction
• Anticonvulsant hypersensitivity reaction
• Characterized by fever, rash, mild edema of the face and hands, elevated liver enzymes.
• May also have eosinophilia, pulmonitis, carditis, and thyroiditis (late finding).

Case 12
• A 5 year-old male presents to the clinic with fever x 2 days and rash x 1 day. His fever responds to acetaminophen and he feels much better when afebrile but continues to have the rash.
• On exam, he is fussy and has a diffuse blanching erythematous macules.
Viral Exanthem

- Cutaneous exanthem secondary to viral infection. Occasionally pruritic.
- Resolves after 2-4 weeks.
- Caused by various viruses, most commonly EBV, HHV-6, HHV-7, parvovirus B-19, and respiratory viruses.
- Treatment: reassurance, antihistamines if symptomatic.

Unilateral Laterothoracic Exanthem

Giannotti-Crosti Syndrome
Case 13

- A 14-year-old male presents to the clinic complaining of worsening acne for the past 3 years. He has used Proactive and Benzaclin without improvement.
- On exam he has multiple open and closed comedones and erythematous papules on his face, chest, back. There is some mild scarring.

Acne

- Disease of the pilosebaceous subunit.
- Develops at puberty due to increased sebum production.
- Characterized by comedones (mild) to inflammatory papules, pustules, nodules (severe) and scars
- Treatment: Benzoyl peroxide and topical retinoid, oral antibiotic, hormonal therapy (females), isotretinoin

Case 14

- A 12-year-old boy presents to clinic with complaints of erythematous papules on his arms. They do not itch but he is bothered by their appearance. They have recently worsened since he started scrubbing them regularly with an exfoliating pad.
- On exam he has multiple erythematous perifollicular papules on his upper arms, thighs, and lateral cheeks.

Keratosis Pilaris

- Autosomal dominant condition.
- Characterized by perifollicular dry skin with plugs, giving it the appearance of goose bumps.
- Treatment: gentle skin cleanser such as Dove® or Cetaphil®, moisturization, avoid scrubbing or picking, ammonium lactate cream, or urea cream.
Case 15

- An 8 year-old female presents to clinic with complaints of a red ring on her foot for 2 months. Her family has dogs and cats and they have been using terbinafine cream twice a day for the past month without improvement.
- Exam is notable for a c-shaped ring with raised erythematous borders and central clearing. There is no scale.

Granuloma Annulare

- Benign condition characterized by dermal papules and annular plaques.
- Etiology unknown.
- Histologic exam reveals foci of degenerative collagen associated with palisaded granulomatous inflammation.
- Treatment: reassurance, topical steroids, intralesional steroids.

Case 16

- A 14 year-old boy complains of diffuse rash on his trunk for 1-week. He initially noted a scaly plaque on his abdomen prior to developing the diffuse rash. He complains of mild pruritus.
- On exam he appears healthy and has multiple erythematous round, scaly papules and plaques on his trunk and proximal arms. On his back the distribution is in a Christmas tree pattern. He has sparing of his palms and soles.
Pityriasis Rosea

- Thought to be a reactive process, secondary to an infection such as HHV-6 or HHV-7.
- Lasts 6-8 weeks on average.
- Important to r/o secondary syphilis.
- Treatment: reassurance, topical steroids and antihistamines if pruritic, phototherapy; conflicting evidence regarding use of oral antibiotics.

Pityriasis Lichenoides Chronica (PLC)

Pityriasis Lichenoides et Varioliformis Acuta (PLEVA)

Secondary Syphilis

Case 17

- 8 year-old female presents with complaints of pruritic, hyperpigmented rash on her arm.
- She has no significant PMH and is not taking any medications.
- On exam she has multiple hyperpigmented papules on her arm.
Lichen Planus

- Papulosquamous skin condition characterized by multiple flat-topped pruritic purple papules. Often involves the mouth and genitalia.
- Self-limited, resolves over several years.
- Treatment: topical steroids, topical calcineurin inhibitors, phototherapy

Case 18

- 2-month old female presents for a well-child check with an erythematous vascular tumor on her face. Her parents state that it was not present at birth but has been growing rapidly since 3-weeks of life when it first appeared as a small red papule.
- On exam she is an active infant with a soft erythematous vascular plaque on her face.

Infantile Hemangioma

- Neoplasm made up of capillary vessels.
- GLUT-1 positive.
- Not present at birth, appears within first 1-3 weeks of life and then grows rapidly until 4-6 months of age. Starts to involute around 1 year of age; 50% have completely involuted by age 5 years, 100% by age 10 years.
- Treatment: active non-intervention, systemic propranolol, topical timolol

Case 19

- A 6-month-old boy presents with multiple pruritic papules on his trunk and extremities. The parents state that he was recently treated for scabies by the ER without improvement. Nobody else is itching at home.
- On exam he has multiple erythematous papules and excoriations on his trunk and extremities. He has worse involvement of the wrists and ankles and diaper area. Upon closer examination of the mother she has a few erythematous papules on her wrists.
Scabies

• Parasitic infection caused by the mite *Sarcoptes scabei*.
• Highly contagious among close contacts.
• Characterized by papules and burrows involving the wrists, ankles, web spaces, waist, and genitalia with secondary id reaction involving the trunk. Can be bullous.
• Treatment: permethrin 5% cream, ivermectin 0.2mg/kg.
Case 20

- 8 year-old male presents to clinic with a several week history of a pruritic rash on his dorsal foot. He admits to walking around outside without shoes on a regular basis.
- On exam he has a serpiginous plaque on his dorsal foot.

Cutaneous Larval Migrans

- Caused by infection with the hookworm *Ancylostoma braziliense*.
- Definitive hosts are dogs and cats.
- Humans are accidental hosts through contact with animal feces.
- Limited to the skin.
- Treatment: ivermectin, topical thiabendazole.
• The End
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