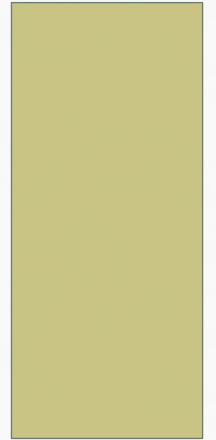


ECZEMA AND OTHER COMMON PEDIATRIC SKIN CONDITIONS

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LEARNING OBJECTIVES

- To review the diagnosis and management of the most common rashes in children including:
 - Molluscum Contagiosum
 - Roseola
 - Hand-Foot-and Mouth Disease
 - Erythema Infectiosum
- Special focus on the diagnosis, treatment and prevention of eczema.

ATOPIC DERMATITIS (ECZEMA)

- A chronic pruritic inflammatory skin disease that affects mostly children, but also some adults.
- Associated with a personal or family history of atopy which includes eczema, asthma and allergic rhinitis.
- Affects approximately 5-20% of children worldwide and around 11% in the USA.
- The incidence of eczema appears to be increasing.
- Higher in urban areas, developed countries (especially Western societies).

ATOPIC DERMATITIS



ATOPIC DERMATITIS



ATOPIC DERMATITIS



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ATOPIC DERMATITIS

- Risk Factors include: Family history of atopy (70%) and the loss of function mutations in the filaggrin gene involved in the skin barrier function (although the diagnosis of eczema is a clinical diagnosis).
- Children with an atopic parent have a 2-3x increased risk of developing AD. That risk increases to 3-5x if both parents are atopic.

PATHOGENESIS

- Multiple factors:
 - Skin barrier abnormalities
 - Defects in innate immunity response
 - Altered skin resident microbial flora

IMPORTANT FACTS

- The skin of children and teens with eczema:
 - Does not block out allergens (like dust mite droppings) as well as it should
 - Does not fight germs on the skin (bacteria like staph aureus) as well as it should
 - Is hypersensitive to these germs and allergens
 - Does not fight certain viruses very well (like HSV)
 - Can be very disruptive to normal childhood activities including sleep.

DIAGNOSIS

- Clinical diagnosis based on history, morphology and distribution of skin lesions and associated clinical signs:
- Major criteria:

- Evidence of pruritic skin, including the report by a parent of a child rubbing or scratching. (Mandatory)

Also need three or more of the following to make the diagnosis:

- Hx of skin creases being involved. These include: antecubital fossae, popliteal fossae, neck, areas around the eyes, ankles.
- History of asthma or hay fever (or hx of atopic disease in a first degree relative for children <4)

DIAGNOSIS

- The presence of generally dry skin within the past year
- Symptoms beginning in a child before the age of two years.
- Visible dermatitis involving flexural surfaces. For children under four years of age, this criterion is met by dermatitis affecting the cheeks or forehead and outer aspects of the extremities.

SEVERITY

- **Mild:** areas of dry skin, infrequent itching, little impact on everyday activities, sleep, well being
- **Moderate:** Areas of dry skin, frequent itching, redness. Moderate impact on everyday activities and wellbeing, frequently disturbed sleep.
- **Severe:** Widespread areas of dry skin, incessant itching, redness, severe limitation of everyday activities and psychosocial functioning, nightly loss of sleep.

MANAGEMENT

- Skin Creams and Ointments
- Antihistamines
- Antibiotics
- Environmental factors

SKIN CREAMS AND OINTMENTS

- Focus for Children with Mild to Moderate Disease – children with severe disease or disease that is resistant to basic treatments should be referred to pediatric dermatology for ongoing treatment and surveillance.
 - Topical Corticosteroids: For face and body: Desonide (0.05%) applied BID (thin layer).
 - For body hydrocortisone 2.5% or Betaderm 0.1% BID. These should be used for 2-4 weeks until flares are completely resolved
 - Protopic (Tacrolimus) 0.03%: Better for maintenance (especially in areas where flares tend to happen) but doesn't work as good as steroids for flares.

FLARE PREVENTION AND GENERAL MANAGEMENT

- Bathing: Daily baths in lukewarm water using a mild cleanser (like Dove unscented soap). Pat skin dry using a towel leaving skin a little damp.
- Moisturizing: Apply moisturizing cream to damp skin after bath. This “traps” water in the skin and helps to keep germs and allergens out. Avoid creams and lotions with perfume, urea and alpha hydroxyl acids.
 - Examples of good moisturizers: aveeno, glaxal base, vaseline, cetaphil, petroleum jelly.

CONTINUED...

- Clothing: some can irritate skin so make sure your child:
 - Wears cotton clothing as much as possible
 - Avoids wool, or rough fabric
 - Wears loose, light clothing in summer
 - Has 2 pairs of winter boots (one kept dry)
 - Wears leather shoes
 - Wears rubber gloves (over cotton gloves, if possible for when getting them wet)

CONTINUED...

- Dust mites: dust mite droppings are allergens and can make eczema worse. Controlling dust mites includes: vacuum the bedroom carpets daily (or as often as possible) or replace carpets. Use special mattress and pillow covers under cotton liners or mattress covers. Change furnace filters every 3-4 weeks. Wash sheets every week.
- Swimming: Make sure the child has a shower or bath right after swimming.

CONTINUED...

- Food: In rare cases, some foods can cause a flare up of eczema. Some foods that may cause problems: Milk products, Eggs, Chocolate, Nuts, Shellfish, Fruits. *Allergy Testing.
- Ask the parent to keep track of which foods appear to cause flares.
- Ask the parent to not give the food for 2 weeks, then give it and see if the eczema flares.
- Sunscreen: Some children are more sensitive to certain sunscreens: use ones for sensitive skin like Aveno, Neutrogena sensitive skin.

HABIT REVERSAL

- Often the itch-scratch-flare cycle become habitual.
- Habit reversal can be helpful with older children
- Try to help children become more aware of their itching and teach them more constructive ways to deal with the itch: moisturizing or pinching.

HOME REMEDIES

- For more severe eczema:
 - Infection control baths: in the bath put $\frac{1}{4}$ to $\frac{1}{2}$ cup of bleach 2x a week. Let the child sit in the bath 5-10mins.
 - This helps to minimize any bacteria on the skin that is causing secondary infections to the eczematous area.
- Moisture wraps: applied after moisturizers and medicated creams to stay on overnight.
- Visit [www. eczemacenter.org](http://www.eczemacenter.org) for more info.

SUMMARY

- Eczema is common in childhood.
- It is part of the atopic triad.
- Mild and moderate eczema can usually be well controlled with topical steroids for flares and good advice on preventative strategies.
- Environmental triggers are common and need attention paid to them to minimize their effect on the child.
- Refractory or severe cases should be seen by dermatology.

VIRAL INDUCED SKIN LESIONS



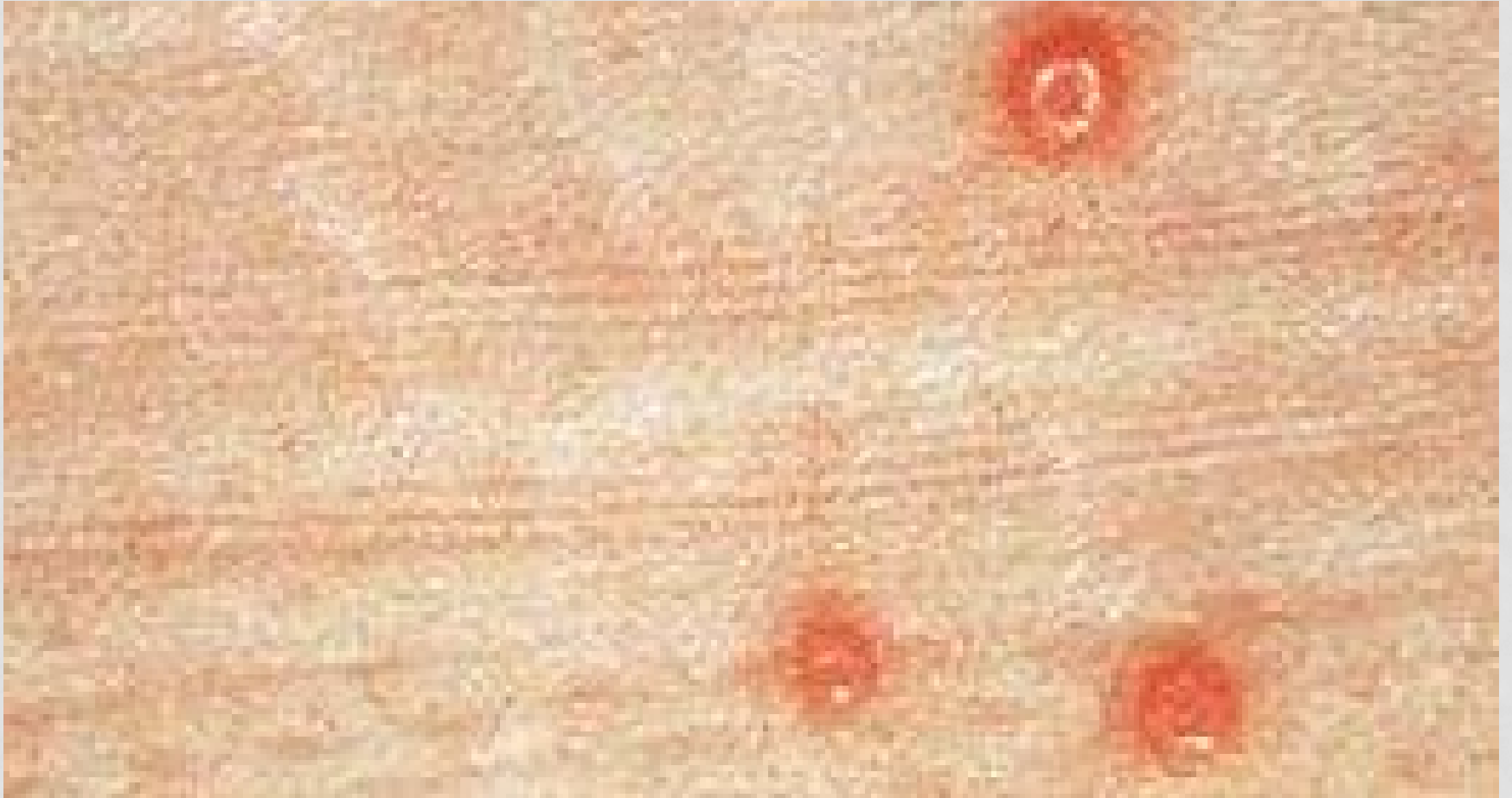
MOLLUSCUM CONTAGIOSUM



MOLLUSCUM

- Caused by a virus called the poxvirus
- Causes a chronic localized infection with small papules on the skin of an infected individual
- Similar to the virus that causes smallpox
- Common disease of childhood, but also common in adolescents and adults.
- Transmitted with skin to skin contact and autoinoculation. However it can also be spread via fomites on bath sponges or towels.
- Can occur anywhere on the body except the palms and soles of the feet.

DIAGNOSIS



TREATMENT

- Lesions will naturally resolve in immunocompetent individuals usually within 2 months but not uncommon to take up to a year.
- Due to the self-limited nature of the problem, no need for always treating the lesions.
- Some that are on the face, particularly large or bothersome can be treated.

TREATMENT

- Cantharidin: topical blistering agent that is commonly used. After application, should be washed off in 4-6h Treatment should be performed by the clinician and NOT given to parents to administer at home. Treatments can be repeated every 2-4 weeks.
 - Formation of a small blister, resolution of the lesions without scarring
 - At least 2 clinician visits usually needed
 - Transient burning, pain erythema and pruritus
 - Transient dyspigmentation can occur but resolves in months

TREATMENT

- Curettage: Directly removing the lesions
 - Bleeding
 - Pain
 - Scarring
- Cryotherapy: liquid nitrogen on a cotton swab applied to the lesions for 6-10s can be performed. Well tolerated in adolescents but can be painful in children. Scarring and temporary or permanent hypopigmentation are potential adverse effects. Hypopigmentation in darker individuals also possible.

ADVICE TO PARENTS

- Not necessary to remove children from daycare or school.
- To reduce the risk of transmission, should cover lesions that are exposed with a Band-Aid.
- No need to restrict from public swimming pools
- Bathing two children together could increase risk of transmission.

VIRAL EXANTHEMS

- Broad topic
- Seen regularly co-existing with viral symptoms (cough, rhinorrhea, fever)
- Some specific diseases with specific rash patterns that are important to know about to differentiate from more worrisome rashes.

ERYTHEMATOUS MACULES

- Usually non-palpable lesions that vary in pigmentation from the surrounding skin.
- Important questions to help differentiate:
 - Distribution of the lesion
 - Pruritus?
 - Medications? Drug rashes and viral exanthems are often similar in appearance
 - Photodistribution?
 - Secondary characteristics? Hypo or hyperpigmentation?

ROSEOLA



HAND-FOOT AND MOUTH



ERYTHEMA INFECTIONIOSUM



VIRAL EXANTHEMS

- As with most viral exanthems, the treatment is just supportive.
- Analgesic for babies and children that have oral involvement so that feeding/hydration are minimally effected.
- If fever persists beyond 5 days, medical treatment should be considered to rule out other, more serious causes of fever and rash.

SUMMARY

- MC: Clinical diagnosis, central umbilication caused by Poxvirus. Contagious. No treatment necessary.
- Viral exanthems are common.
- Most need supportive care only
- Hydration remains the most worrisome feature
- Fever and rash for longer than 5 days need assessment for other causes.

SPECIAL THANKS

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REFERENCES

- www.uptodate.com
- Nelson's Pediatrics
- www.eczemacenter.org
- Dr. Michele Ramien 😊

THANKS + QUESTIONS!

