



# What caused that?

a review of viral  
exanthems and  
enanthemms



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# Disclosures

I have no relevant relationships with ineligible companies to disclose within the past 24 months.

\*(Note: Ineligible companies are defined as those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.)

# Objectives

- Identify common viral exanthems and enanthems presenting in pediatric primary care.
- Recognize significant history and physical exam findings specific to viral exanthems and enanthems.
- Review general courses of illness and common therapies for viral exanthems and enanthems.

# Definitions

- Exanthem – a rash or eruption on the skin
- Enanthem – a rash or eruption on the mucous membranes

# Viral Exanthems

- Erythema Infectiosum
- Scarlet Fever
- Varicella
- Rubeola
- Rubella
- Roseola Infantum
- Molluscum Contagiosum
- Infectious Mononucleosis

# Question

- You are seeing a previously healthy female child for a sick visit. As you walk into the exam room, you notice that she has a maculopapular rash covering her trunk and extremities. What is your diagnosis?
- A. Roseola
- B. Measles
- C. Rubella
- D. Mononucleosis with a penicillin reaction

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- C. Rubella
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# History is EVERYTHING...

- When did symptoms start? What were the symptoms?
- Age of child?
- Fever?
- When did rash start? Before or after fever?
- Where did rash start? Where has it spread?



# Erythema Infectiosum (Fifth's Disease)

- Causative Organism:

- Parvovirus B19; incubation period 6-14 days

- Classic Presentation:

- Stage 1 – malar blush (slapped cheeks)
- Stage 2 – erythematous maculopapular eruption on extensor surfaces of extremities, occasional low-grade fever and malaise
- Stage 3 (weeks later) – reticular rash on proximal extremities

- Treatment:

- Supportive



# Scarlet Fever

- Causative Organism

- GABHS (not a virus)

- Classic Presentation:

- Origin of GABHS usually pharyngitis (erythema of tonsils, posterior pharynx, palate)
- Sandpaper-like erythematous rash initially involving trunk and then becoming more generalized
- Strawberry tongue

- Treatment:

- Treat GABHS with appropriate antibiotics



# Varicella

- Causative Organism:

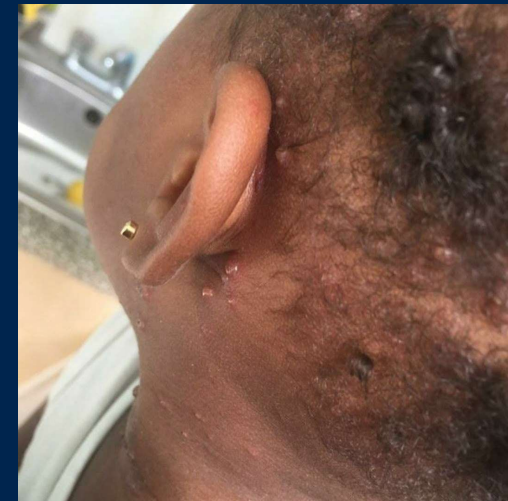
- Varicella Zoster
- Contagious for 5 days from onset of rash

- Classic Presentation:

- Prodrome of fever/chills/malaise/myalgia
- Rash 2-3 days after onset of prodrome
- Red papule that develops into a vesicle (dew drop on a rose petal) – appear anywhere on the body, usually in different stages of development/healing

- Treatment:

- Mostly supportive
- Acyclovir for those immunocompromised, or VZIG
- Vaccination for prevention



# Measles (Rubeola)

- Causative Organism:

- Rubeola virus
- Incubation period 10-14 days

- Classic Presentation:

- URI symptoms x several days, low grade fever with Koplik spots
- Then an increase in fever and rash appears – maculopapular rash beginning at scalp/hairline advancing down over several days to involve trunk and lower extremities
- Rash resolved in same direction as it appeared over 3-4 days



- Treatment:

- Supportive, but can have complications such as pneumonia; highly contagious, so quarantine is necessary
- Vaccination for prevention

# German Measles (Rubella)

- Causative Organism:

- Rubella virus
- Incubation period 14-21 days

- Classic Presentation:

- Mild prodrome with variable symptoms; posterior occipital and posterior cervical adenopathy
- 3-4 days after prodrome begins, rash appears as small pink maculopapular lesions on face, spreads quickly to neck, trunk, and extremities, disappears in about 3 days



- Treatment:

- Supportive
- Vaccination for prevention

# Roseola Infantum (Exanthem Subitum)

- Causative Organism:

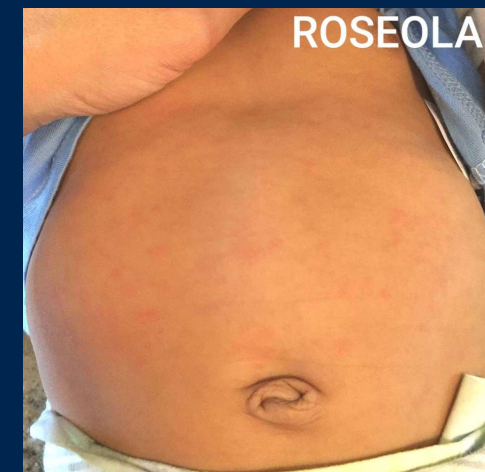
- Human Herpesvirus-6
- Most common exanthema in children < 3 years of age

- Classic Presentation:

- High fever for several days, otherwise asymptomatic
- Once fever resolves, erythematous maculopapular rash starts on trunk and spreads to extremities; usually gone within 24 hours

- Treatment:

- Supportive



# Molluscum Contagiosum

- Causative Organism:

- Pox virus

- Classic Presentation:

- Can be a single or multiple lesions
- Papular lesion with central umbilication
- Can spread by auto-innoculation

- Treatment:

- Will spontaneously clear over time
- Can use curettage or cryotherapy, topical meds
- Need dermatology if in compromising location such as eyelid



# Infectious Mononucleosis

- Causative Organism:

- Epstein Barr Virus (EBV)

- Classic Presentation:

- Starts with pharyngitis, fatigue, fever, occasional rash
- Often mis-diagnosed as GABHS pharyngitis and Amoxicillin given
- Maculopapular rash will appear about a week after starting antibiotics

- Treatment:

- For Mono: supportive care
- For Amoxicillin rash: does not indicate allergy





# Viral Enanthems

- Herpes Gingivostomatitis
- Herpangina (coxsackievirus A16)
- Hand, Foot, and Mouth (Coxsackievirus)

# Question

- You are seeing a previously healthy male infant for a sick visit. On exam of the oropharynx, you note vesicular/ulcerative lesions. What is your diagnosis?
- A. Herpangina
- B. Herpes Gingivostomatitis
- C. Coxsackievirus

# Question

- You are seeing a previously healthy male infant for a sick visit. On exam of the oropharynx, you note vesicular/ulcerative lesions. What is your diagnosis?
- A. Herpangina
- B. Herpes Gingivostomatitis
- C. Coxsackievirus

# History is EVERYTHING...along with Location, Location, Location....

- When did symptoms start? What were the symptoms?
- Age of child?
- Fever?
- When did lesions start? WHERE are the lesions?

# Herpes Gingivostomatitis

- Causative Organism:

- Herpesvirus Simplex Type I

- Classic Presentation:

- Ulcerative lesions confined to gingival surface/tongue/hard palate
- Can have lesions involving lips and circum-oral skin
- Otherwise, look fairly well

- Treatment:

- Supportive care



*Above: Primary HSV-1 with blisters in the mouth and gums.*

*Below: Primary HSV-1 with extension to the face.*



<https://www.healthychildren.org/English/health-issues/conditions/skin/Pages/Herpes-Simplex-Virus-Cold-Sores.aspx#:~:text=When%20a%20child%20develops%20a,sore%20throat%2C%20irritability%20and%20drooling.>

# Herpangina

- Causative Organism:

- Coxsackieviruses A&B

- Classic Presentation:

- Fever
- Vesicles and small erosive lesions of palate, uvula, and tonsillar pillars
- Difficulty swallowing

- Treatment:

- Supportive care to focus on rehydration and pain relief



# Hand, Foot, and Mouth

- Causative Organism:

- Coxsackievirus A16 most common, but others as well
- Usually 1-4 years of age



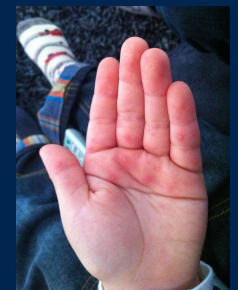
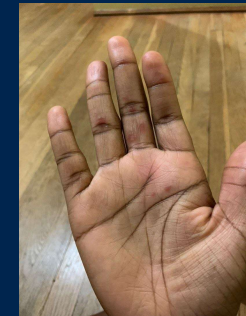
- Classic Presentation:

- Small vesicular lesions of palms and soles as well as vesicles and erosions of all mouth structures
- Usually lesions in all three places, but does not have to be



- Treatment:

- Supportive with pain relief for oral lesions



# Take Home Points

- When evaluating viral exanthems and enanthems, history is your most important tool.
- Pediatric viral infections are highly contagious.
- For most viral illnesses in pediatric patients, treatment is supportive.
- Complications that indicate more serious disease may require hospitalization (secondary infections, dehydration).



# References

- American Academy of Pediatrics Red Book - <https://publications.aap.org/redbook/book/347/Red-Book-2021-2024-Report-of-the-Committee-on>
- Centers for Disease Control – [www.cdc.gov](http://www.cdc.gov)
- Brown Skin Matters - <https://brownskinmatters.com/>



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