

Pediatric Dermatology and Infectious Diseases: Review Questions

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QUESTIONS

Choose the single best answer for each question.

- 1. A 16-year-old boy is brought to the emergency department (ED) for evaluation of a skin rash. The patient first noticed a large, scaly, pink, oval-shaped lesion on his trunk 6 days ago. He now has numerous smaller, oval-shaped papular lesions on his trunk arranged in a “Christmas tree” pattern. Which of the following is the most likely diagnosis for this patient?**
 - A) Contact dermatitis
 - B) Nummular eczema
 - C) Pityriasis rosea
 - D) Rhus dermatitis
 - E) Tinea corporis
- 2. Which of the following skin reactions is characterized by symmetrical, red, tender nodules that are 1 to 5 cm in diameter and are usually located over the pretibial surfaces?**
 - A) Erythema multiforme
 - B) Erythema nodosum
 - C) Fixed drug eruption
 - D) Hereditary angioedema
 - E) Urticaria
- 3. Which of the following skin infections does NOT respond to treatment with topical antifungal creams?**
 - A) Tinea capitis
 - B) Tinea corporis
 - C) Tinea cruris
 - D) Tinea pedis
 - E) Tinea versicolor
- 4. An 11-month-old male infant is brought to the ED for evaluation. His mother reports that he developed a fever 4 days ago. His temperature has been as high as 103°F and has been minimally responsive to acetaminophen. His mother states that yesterday “the fever broke,” but the boy developed a rash. She says that lesions first appeared on his trunk**
 - A) Erythema infectiosum
 - B) Roseola
 - C) Rubella
 - D) Rubeola
 - E) Varicella
- 5. A 2-year-old girl is brought to the ED for evaluation of a fever that has persisted for 5 days. Her parents also report that her hands and feet have been swollen. On physical examination, the child has an injected pharynx and a reddish tongue. She also has cervical lymphadenopathy and a morbilliform rash. Which of the following is the most likely diagnosis for this patient?**
 - A) Kawasaki syndrome
 - B) Staphylococcal scalded skin syndrome
 - C) Stevens-Johnson syndrome
 - D) Streptococcal scarlet fever
 - E) Systemic lupus erythematosus
- 6. A 5-year-old boy is brought to the ED for the evaluation of intermittent abdominal pain and a low-grade fever that has lasted for 2 days. His mother has noticed that his feet are swollen and that he has developed a rash. On physical examination, the child has palpable purple lesions on his lower extremities and buttocks. Which of the following is the most likely diagnosis for this patient?**
 - A) Ecthyma
 - B) Erysipelas
 - C) Henoch-Schönlein purpura
 - D) Meningococcemia
 - E) Rocky Mountain spotted fever

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EXPLANATION OF ANSWERS

1. (C) **Pityriasis rosea.** Pityriasis rosea is a benign, self-limited rash that is common in adolescents. A viral prodrome often precedes the eruption of skin lesions in this disease. The rash usually reaches its peak in approximately 2 weeks and fades over 4 to 6 weeks. Contact dermatitis is often characterized by well-demarcated erythema, which is triggered by contact with an environmental irritant. Nummular eczema is an acute papulovesicular eruption. Rhus dermatitis is the most common allergic contact dermatitis caused by exposure to poison ivy. Tinea corporis, commonly known as “ringworm,” is a superficial fungal skin infection.
2. (B) **Erythema nodosum.** The described rash most likely represents a hypersensitivity reaction that is most often seen in children younger than 10 years. Erythema multiforme is an acute hypersensitivity reaction that can be caused by various infections or medications. Fixed drug eruptions occur in the same cutaneous site after re-exposure to an offending medication. Hereditary angioedema is characterized by recurrent bouts of swelling that can involve the face, extremities, and gastrointestinal tract. Urticaria, commonly known as “hives,” is characterized by well-demarcated skin wheals.
3. (A) **Tinea capitis.** Tinea capitis is a fungal infection of the scalp and is almost always caused by *Trichophyton tonsurans*. Topical antifungal medications do not penetrate deeply enough into the scalp to be effective in treating the infection; therefore, oral administration of antifungal medications is necessary. Tinea corporis, tinea cruris, tinea pedis, and tinea versicolor can be treated with topical antifungal medications.
4. (B) **Roseola.** Roseola is a febrile illness primarily affecting children between age 6 and 36 months. Typically, the course begins with an abrupt febrile illness, with the fever typically lasting approximately 3 days. In most cases, a morbilliform rash appears as the fever defervesces. Erythema infectiosum (fifth disease) is a viral exanthem caused by parvovirus B19. Rubella (German measles) is a viral exanthem, with which children often have little or no prodromal illness. Rubeola (measles) is a highly contagious

acute illness that is often associated with a viral prodrome. The rash is often seen on day 3 or 4 of the illness as the prodromal symptoms, including fever, peak. Varicella (chicken pox) commonly presents as erythematous papules that enlarge to form thin-walled vesicles. Classically, the patient with varicella has lesions in various stages of eruption.

5. (A) **Kawasaki syndrome.** Diagnostic criteria for Kawasaki syndrome include the presence of fever for at least 5 days and the presence of 4 of the following 5 signs: bilateral conjunctival injection, changes in the mucous membranes of the upper respiratory tract, changes in the peripheral extremities, a characteristic rash, and cervical lymphadenopathy. Staphylococcal scalded skin syndrome is seen most commonly in infants and young children. In this syndrome, the infecting organism produces an exotoxin that causes cleavage of the skin between the dermis and epidermis. Stevens-Johnson syndrome, also known as bullous erythema multiforme, is a systemic disorder associated with large epidermal and mucous membrane lesions. Streptococcal scarlet fever is an exanthem that occurs as a result of an erythrogenic toxin excreted by streptococci. Systemic lupus erythematosus is an autoimmune disease that has a wide spectrum of clinical presentation.
6. (C) **Henoch-Schönlein purpura.** Henoch-Schönlein purpura is an inflammatory vasculitis characterized by nonthrombocytopenic petechiae/purpura, arthritis, gastrointestinal symptoms, and various renal manifestations. Erysipelas is an infection involving a localized area of the dermis and superficial lymphatic system and is caused by group A β -hemolytic streptococci. Ecthyma is an ulcerative skin lesion that penetrates into the dermis. Rocky Mountain spotted fever is an acute, infectious disease caused by *Rickettsia rickettsii*. Common manifestations of the disease include fever, headache, and a characteristic rash. Meningococcemia is a life-threatening infection, characterized by a rash that is often generalized, with petechiae and purpura.

SUGGESTED READING

Zitelli BJ, Davis HW, editors. Atlas of pediatric physical diagnosis. 3rd ed. St. Louis: Mosby-Wolfe; 1997.

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