ID Questions
December Housestaff Quiz

1. A 14-year-old boy who has been working on a cattle ranch during the summer vacation has had a temperature of up to 40.0°C, diffuse myalgias, and back pain for 2 weeks. Physical examination reveals a febrile adolescent who has no pharyngeal erythema or exudate. He has mild hepatosplenomegaly. The remainder of his examination findings are normal.

Of the following, the laboratory test MOST likely to establish the diagnosis is a

A. blood culture
B. complete blood count
C. peripheral blood smear
D. throat culture
E. urine culture

2. You are evaluating a 2-year-old girl who recently was adopted from Russia for a 4-day history of temperature to 102.5°F (39.2°C), rash, coryza, malaise, conjunctivitis, and cough that have worsened over the last 24 hours. She had nasal congestion and rhinorrhea for 5 days prior to developing the fever, rash, and cough. The girl has been in the United States for 7 days. She was adopted from a rural orphanage, where she was exposed to farm animals, but information regarding her past medical history and immunizations is unavailable. Physical examination shows a tired-appearing, irritable toddler who is clinging to her adopted mother. She has a temperature of 103.0°F (39.5°C), bilateral conjunctival injection, profuse clear rhinorrhea, an erythematous buccal mucosa with scattered whitish specks (Item Q77A) on the left side, and an erythematous posterior pharynx with no tonsillar exudates. There is a confluent erythematous maculopapular rash on her face, trunk, and abdomen (Item Q77B), with scattered patches on her legs.

Of the following, the test MOST likely to confirm the diagnosis for this child is

A. blood culture
B. C-reactive protein measurement
C. serology
D. throat culture
E. urine culture

3. As you are leaving the supermarket, the cashier tells you that she is worried because her child recently had a positive tuberculin skin test. She had to take him to the health department for skin testing because he had been in contact with her father, who recently was diagnosed with active pulmonary tuberculosis. They told her that the boy's skin test was positive at "25," but his chest radiograph was normal. She is concerned because the doctor told her that the case is a little unusual because of the type of tuberculosis her father has. She asked the physician at the health department to write it down, and she hands you a piece of paper that says "INH resistant." The mother asks you what type of medication her boy should receive.

Of the following, the MOST appropriate antituberculous agent to prescribe for this boy is:

A. ciprofloxacin
B. ethambutol
C. isoniazid
D. pyrazinamide
E. rifampin
4. A 10-year-old boy is brought to the emergency department in July complaining of fever, headache, and confusion. He returned from a camping trip to Wisconsin yesterday. He spent time hiking and swimming but had no injuries or animal exposures. Physical examination reveals a febrile child who is confused and lethargic. Kernig and Brudzinski signs are present. He has many mosquito bites on his trunk and extremities. Cerebrospinal fluid evaluation reveals 100 white blood cells/mm³ with 80% lymphocytes, 10% polymorphonuclear leukocytes, and 10% monocytes; protein of 70 mg/dL; and glucose of 60 mg/dL.

Of the following, you are MOST likely to advise the parents of this child that
A. antiviral therapy can hasten recovery from this infection
B. mortality caused by this infection is uncommon
C. myocarditis is a clinical feature of this infection
D. seizures and focal neurologic findings will occur in their child
E. the infection could have been prevented with appropriate vaccination

5. A 6-year-old girl presents with a history of swelling on her jaw of 1 month's duration. The mother has been to a "couple of emergency rooms," but nobody can tell her what is wrong with the girl. The child's father died about 3 years ago from pneumonia, and the mother reports that she has "no energy," but she has not sought medical care. The mother states that her daughter has been fairly healthy except for frequent ear infections. On physical examination, the girl is afebrile; her weight is 16 kg (3rd percentile); her height is 105 cm (3rd percentile); and she has scarred tympanic membranes, bilateral parotid swelling, mild clubbing, and some fine crackles on lung examination.

Of the following, the MOST likely diagnosis is:
A. bacterial parotitis
B. common variable immunodeficiency
C. human immunodeficiency virus infection
D. lymphoma
E. mumps

6. You are seeing a 5-year-old boy who has developed diplopia, dysphagia, dry mouth, diarrhea, weakness in his arms, and shortness of breath over the past 18 hours. According to his records, he received his diphtheria, tetanus, acellular pertussis (DTaP), poliovirus inactivated (IPV), measles-mumps-rubella (MMR), and varicella booster immunizations about 1 month ago. He attended a class picnic 3 weeks ago that was held in a state park. He has no history of unusual exposures or ill contacts, and except for falling off his bike 5 days ago and scraping his arm, he has had no other trauma. Physical examination reveals an awake and alert boy who complains of "seeing double" and of pain with swallowing. His pupils are 3 mm bilaterally and sluggish, and his mucous membranes are dry. He takes shallow breaths, but his lungs are clear, and his abdomen is mildly distended. His left arm has a 4x4-cm abrasion that is mildly swollen, erythematous, and tender, with some serosanguineous drainage. His left arm has 2/5 strength and decreased tone. He has 1+ reflexes in the upper and lower extremities.

Of the following, the MOST likely cause of this patient's condition is
A. botulism
B. cerebral vascular accident
7. An 8-year-old boy presents with a 2-day history of cough, nasal discharge, headache, and sore throat. Twice during the previous 6 weeks, following a positive throat culture for group A beta-hemolytic streptococci, he was treated with 250mg of oral penicillin two times daily. His mother reports that her son completed a full 10 days of treatment on both occasions. On physical exam his temperature is 101.1F. He has a prominent cough with clinical findings of bilateral conjunctival injection, clear nasal discharge, and erythematous enlarged tonsils. A throat culture is obtained, which is again positive for group A beta-hemolytic streptococci. Which of the following is the most likely cause for the persistence of a positive throat culture in this patient?
   A. infection with penicillin-resistant group A beta-hemolytic streptococci
   B. inadequate length of antimicrobial therapy
   C. Streptococcal carrier state
   D. Inadequate dosage of antimicrobial therapy
   E. Inappropriate choice of antimicrobial therapy

8. A 9-year-old previously healthy boy presents for evaluation of a progressively worsening cellulitis of his left leg. Two days ago, he sustained an abrasion to his shin after falling off his bicycle onto a gravel road. Over the last 12 hours, he has developed a temperature of 102.0°F (38.9°C), and the wound has become very erythematous, swollen, and tender, with some red streaking. On physical examination, the boy has a temperature of 101.5°F (38.6°C) and a 5x6-cm abrasion of the anterior lateral surface of his left shin that is draining a serosanguineous discharge. The abrasion is surrounded by an 8-cm area of erythema, swelling, and induration, with a red streak extending up toward his knee. The area is tender to palpation, and he limps when walking. There is some shotty left inguinal adenopathy. A complete blood count shows a peripheral white blood cell count of 16.0x10^3/mcL (16.0x10^9/L) with a differential count of 65% neutrophils, 5% band forms, 25% lymphocytes, and 5% monocytes. Of the following, the MOST likely pathogen causing this patient's condition is
   A. *Staphylococcus aureus* (methicillin-resistant)
   B. *Staphylococcus aureus* (methicillin-sensitive)
   C. *Staphylococcus epidermidis*
   D. *Streptococcus pyogenes*
   E. *Streptococcus pneumoniae*

9. A 13-year-old girl presents with a 2-day history of fever, sore throat, and a rash that began on her arms and legs and spread to her chest and back. Physical examination reveals pharyngeal exudate; bilateral cervical adenopathy; and a "sandpapery" rash over her arms, legs, and trunk. A rapid diagnostic test for group A *Streptococcus* yields negative results. At 48 hours, a throat culture is growing small colonies with narrow bands of hemolysis on sheep blood agar. Of the following, the MOST appropriate antibiotic for treating this patient is
   A. ceftazidime
   B. erythromycin
   C. penicillin
10. A worried mother brings her 4-year-old son to your office because his right eye has been red for 3 days. She assumed it was pink eye that he contracted at child care, but she now is concerned because he has developed swelling in front of his right ear, and his eye has become redder. They live in a wooded area and got a new kitten 6 weeks ago, but there is no history of the kitten scratching the child. Physical examination reveals a well-appearing child who has obvious conjunctival injection of the right eye but no discharge or pain. You palpate a 2x2-cm tender, mobile preauricular lymph node and a 2x3-cm anterior cervical lymph node on the right. The remainder of the physical examination findings are normal.

Of the following, the MOST likely pathogen causing this boy's symptoms is

A. *Bartonella henselae*
B. *Francisella tularensis*
C. *Haemophilus influenzae*
D. *Pasteurella multocida*
E. *Staphylococcus aureus*

11. A family in your practice has adopted a 1-year-old child from Africa. On the initial health supervision visit, you note that the pale-appearing girl is short but has normal weight for age. Physical examination is normal except for mild edema of the hands and feet and upper eyelids. Her gross motor and personal social skills are at age level, with slight diminution in language and fine motor skills. Laboratory test results include a lead concentration of 5 mcg/dL (0.24 mcmol/L), hematocrit of 29% (0.29), mean corpuscular volume of 69 fL, creatinine of 0.4 mg/dL (35.4 mcmol/L), and 1+ protein on urine dipstick analysis. Human immunodeficiency virus rapid test results are negative.

Of the following, the MOST likely cause of this child's signs and symptoms is

A. hookworm infection
B. kwashiorkor
C. marasmus
D. nephritic syndrome
E. tuberculosis