


22 – Photo Opportunity II:

More Photos & Questions to Test Your Board Preparation

Speaker: John Bennett, MD



INFECTIOUS DISEASE BOARD REVIEW
TWENTY TWENTY-ONE
ID BR 2021

Photo Opportunity: More Photos and Questions to Test Your Board Preparation

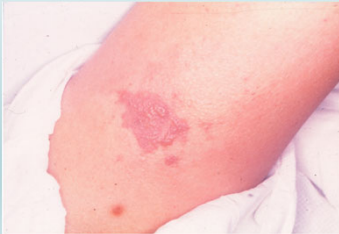
John E. Bennett, MD
Bethesda, Maryland

Disclosures of Financial Relationships with Relevant Commercial Interests

- None

Which of the following would be the most likely cause of this rapidly expanding skin lesion in this patient with acute myelogenous leukemia, profound neutropenia and fever:

- A. *Nocardia asteroides*
- B. *Streptococcus pyogenes*
- C. *Borrelia burgdorferi*
- D. *Pseudomonas aeruginosa*
- E. *Streptococcus anginosus*




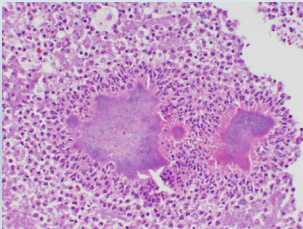
24 yr old male arrived in Washington, DC from Afghanistan 15 days ago for a World Bank conference, stayed and ate in hotel . Four days ago developed fever, cough, headache, anorexia, and sore throat. Three days ago was seen in ER, given azithromycin. One day ago developed nonpruritic rash on face, then torso. Today has temp 101.6F, maculopapular rash on face and trunk, small lymph nodes in neck and axilla, throat mild erythema, conjunctiva injected. Dry cough. WBC 4,200 with normal differential. Lives and works in Kabul. No sick relatives. Unsure about immunizations. No meds. Most likely cause of rash is:

- A. Dengue
- B. Scarlet fever
- C. Typhoid
- D. Measles
- E. Chickenpox



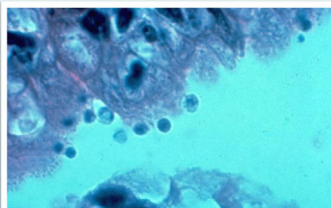
57 yr old female from Greece presented with fever, a tender red lump on the right flank and had the CT shown and liver biopsy H&E stain. The source of this infection is most likely which of the following:

- A. Sheep dog in Greece
- B. Her colonic flora
- C. Unpasteurized Greek cheese
- D. Fecal contamination of food
- E. Cholangitis



What is the most likely source of the 4-6 micron parasite emerging from the surface of the intestinal epithelium into the stool of an AIDS patient with profuse, watery diarrhea?

- A. Water
- B. Poorly cooked hamburger
- C. Cole slaw
- D. Raspberries
- E. Raw oysters

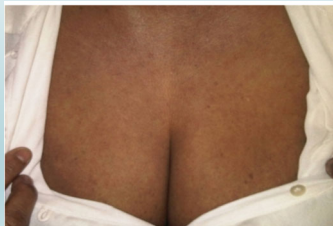


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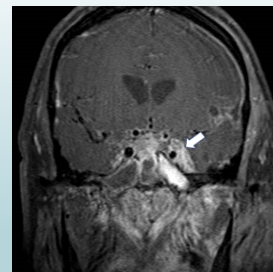
This 51 yr old woman presented with fever and rash two days after returning from Panama. She was born in Panama but lived in the USA for 30 years. Recently, she spent three weeks back in Panama, living with a cousin and visiting friends and family in Panama City. Everyone was well. She did not leave the city or eat anything unusual. The household where she stayed had a hamster and a dog but she didn't do any care of the pets. She felt fine until two days after returning, when she developed fever, a bad headache and muscle aches. The next day she noted a fine, nonpruritic rash across her upper body. She came to the emergency room that day where her temperature was 102F, there was a fine petechial rash on her arms and upper chest and two small tender occipital lymph nodes. Routine lab work was normal except for a WBC of 1,600, normal differential, no atypical lymphocytes and a normal platelet count of 168,000. She probably got this infections from which of the following:

- A. Food
- B. Mosquito
- C. Tick
- D. Dog flea
- E. Hamster urine



This patient with a cavernous sinus thrombosis would be expected to have which finding:

- A. Bell's palsy
- B. Loss of smell
- C. Deaf left ear
- D. Ocular palsy
- E. Blind left eye



A 38-year-old marine sergeant reported to sick bay a week after shore leave with the acute onset of fever, malaise and five pustular skin lesions including the one shown here.

He is acutely ill but his vital signs (other than temperature) are normal. He had pain on flexion and slight swelling in the right wrist; his wrist flexor tendons are quite tender. His left ankle was tender the day before but is now asymptomatic.

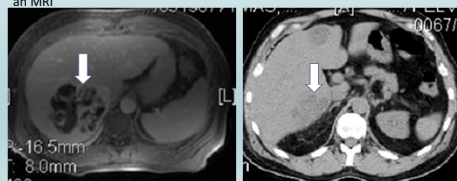
While on shore leave in a port city in Mexico he had sex with a commercial sex worker, consumed a lot of alcohol and passed out in an alley infested with rats and mice. The most likely organism to grow from his blood culture in 2-3 days is which of the following:



- A. Spirochete
- B. Gram negative bacillus
- C. Gram negative coccus
- D. Gram positive bacillus
- E. Endemic mycosis

A CT is shown from a previously healthy 51-year-old white male from Maryland who just returned from his first overseas trip, a three week cruise that began in the southern tip of Africa and ended in the Mediterranean Sea with ports of call all along the West and North African coast, Italy, and Greece. He often ate on shore to sample the local cuisine. His wife, who remained well, ate only on board. He had only been home a week when he had the onset of fever. Workup was normal except for a slight fever (38.3C) and mild leukocytosis (16000 leukocytes) without eosinophilia.

His liver is enlarged and tender. The following are noncontrast CT views and an MRI



Which of the following is the most likely cause of his liver lesion?

- | |
|--------------------------------|
| A. Enteric bacteria |
| B. Echinococcus multilocularis |
| C. Fasciola hepatica |
| D. Cysticercosis |
| E. Paragonimus westermani |

This 16-year-old girl from a dairy farm near Frederick, Maryland had the sudden onset in July of fever, severe headache, nausea, vomiting and muscle aches. On the fourth day, she developed the rash shown here on her wrists, palms, ankles, and soles.

She should immediately receive

- A. ceftriaxone
- B. Ampicillin
- C. Levofloxacin
- D. Doxycycline
- E. Meropenem



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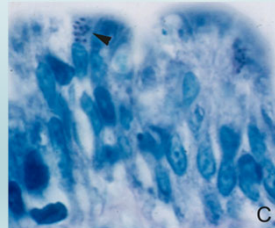
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This 55-year-old microscope repairman has an aquarium at home with tropical fish. This very slightly tender nodule appeared on the dorsum of his hand a week ago and has grown slightly larger. What is the best way to culture this organism?



- | |
|---|
| A. Addition of ferric citrate to mycobacterial agar |
| B. Use of fresh chocolate agar |
| C. Sabouraud's agar without antibiotics |
| D. Incubation on mycobacterial agar at 30°C |
| E. NNN medium |

A 38-year-old man who refused therapy for his far advanced HIV was admitted for inanition, weakness, profound weight loss and chronic diarrhea.



WHAT IS THE MOST LIKELY ORGANISM?

- | |
|-----------------------------|
| A. Cyclospora cayatanensis |
| B. Microsporidium africanus |
| C. Enterocytozoon bienewisi |
| D. Cryptosporidium parvum |
| E. Rhodococcus equi |

This 69-year-old male long-term alcoholic went into shock 3 days after eating raw oysters.

Examination in the emergency room revealed a dramatically abnormal lower extremity. What is the most likely source?



- | |
|-------------------|
| A. Streptococcus |
| B. Staphylococcus |
| C. Vibrio |
| D. Clostridium |
| E. Aeromonas |

A 19-year-old college student presented to the student health service with a sore throat and fever of three days' duration. He had not previously sought medical care because it was "dead week," studying for final examinations. He has not felt great, but he has been able to study and function fairly normally. Today, the rash shown in the photo appeared. It was nonpruritic. Except for a temperature of 101°F, some tonsillar exudates bilaterally and the rash, his examination was normal. A rapid strep test was negative so a throat culture was obtained and treatment withheld. The next day the culture was reported as having no beta-hemolytic streptococci.

What organism is most likely?

- | |
|------------------------------|
| A. Gram negative coccus |
| B. Gram positive bacillus |
| C. Gram negative bacillus. |
| D. Weakly acid fast bacillus |



This 40-year-old dentist presented with pain and swelling in his elbow of three days duration. He had full range of motion in the elbow despite discomfort on motion. He was afebrile. He has never had such episodes before, and is in good health, having recently finished a marathon. What is the diagnosis?



- | |
|--|
| A. Olecranon bursitis |
| B. Streptococcal cellulitis (erysipelas) |
| C. Septic arthritis |
| D. Tophaceous gout |

A. This 25-year-old college student who lived in India until immigrating to the United States at age 18 years and has not returned in the intervening 7 years. He lives with his sister, who is healthy. He works part time in a parking lot. He presented with progressive thoracic back pain of three weeks' duration. Transcutaneous aspiration of the vertebral mass was negative on Gram stain and routine culture. Chest xray was normal. The most likely portal of entry for this infection is

- | |
|---------------------------|
| A. Lung |
| B. Gastrointestinal tract |
| C. Skin |
| D. Urinary tract |




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60 yr old obese woman with CLL and poorly controlled diabetes mellitus was admitted a week ago and started on high dose prednisone and rituximab. She complained of pain in her buttocks and was found to be afebrile but to have the lesion shown in her gluteal cleft. Her absolute neutrophil count was 600/cu mm, blood glucose 189 mg/dl. The most likely cause is which of the following:

- A. varicella zoster virus
- B. Herpes simplex virus
- C. Candida albicans
- D. Rhizopus arrhizus
- E. Pseudomonas aeruginosa

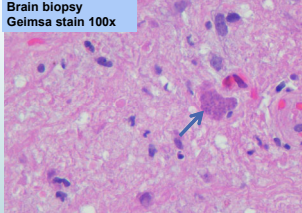


This 35 yr old woman became ill while vacationing in a resort in the Seychelles (Indian Ocean) with headache, fever, "aching all over" and a nonpruritic rash, which she captured by a cell phone photo of her arm. The fever and rash went away over a week so she flew home. The arthralgia never went away completely and now the pain in hand, feet, wrists and ankles are so severe she has not been able to return to her office job. Routine laboratory work is normal. The most likely cause is:

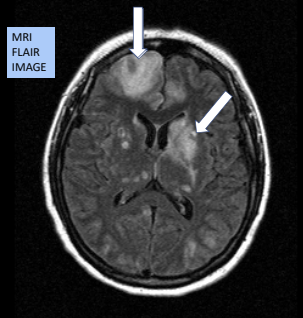
- A. Chikungunya
- B. Zika
- C. Parvovirus (Erythrovirus)
- D. Dengue
- E. Scrub typhus



Brain biopsy
Giemsa stain 100x



MRI FLAIR IMAGE



32 YR OLD HOMELESS MAN WITH ADVANCED HIV (CD4 10, VL 1.2 MILLION) HISTORY OF DRUG ABUSE, FOUND DOWN IN ALLEY. POSSIBLE SOURCE OF THIS INFECTION IS:

- A. RAT BITE
- B. LOUSE
- C. HUMAN FECES
- D. POOR COOKED CHICKEN
- E. POORLY COOKED BEEF

