50 – Board Review Session 5

Drs. Gilbert (Moderator), Aronoff, Bennett, Boucher, Masur, and Patel

2020 INFECTIOUS DISEASE BOARD REVIEW

Board Review Session 5

Moderator: David Gilbert, MD
Faculty: Drs. Aronoff, Bennett, Boucher, Masur, and Patel

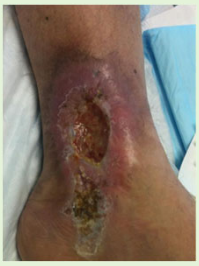
2020 INFECTIOUS DISEASE BOARD REVIEW

Answer Keys with Rationales

The answer key, including rationales, will be posted tomorrow to the "Board Review Answer Keys" section on the online materials site.

#1

This otherwise healthy patient, who has never left the Midwestern United States, has a chronic leg ulcer. He has had a negative stains and cultures for fungi, mycobacteria, Nocardia, or viral inclusions.



#1

This otherwise healthy patient with a chronic leg ulcer is most likely to have:

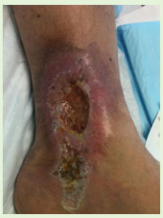
A) Common variable immunoglobulin deficiency

B) Lupus erythematosus

C) Hepatitis C

D) Ulcerative colitis

E) Mycobacterium ulcerans



#2

A 52 year old man has been in the ICU following a cocaine related stroke.

He was intubated following his stroke, developed staph epidermidis bacteremia from a PICC line (peripherally inserted central catheter), and is now off antibiotics (7 day course of daptomycin has been completed) ready to move to the rehabilitation floor. He has a Foley catheter and a peripheral IV line.

The patient is alert and oriented and has no new complaints.

#2

The resident preparing to transfer the patient calls an ID consult because the urine in the Foley bag is cloudy. The patient is afebrile with normal vital signs, no new physical findings, and he does not have pain over his bladder and no flank pain.

The medical resident has obtained a urinalysis on fresh urine from the Foley catheter. there are 50-75 WBC per high power field and 5-10 RBCs with 2+ bacteria but a negative leukocyte esterase. Culture is sent.

There are no changes in his complete blood count or chemistry profile.

The patient has no known antibiotic allergies.

50 – Board Review Session 5

Drs. Gilbert (Moderator), Aronoff, Bennett, Boucher, Masur, and Patel

#2

What would you suggest?

A) No change in regimen: follow for 48 hours with Foley in place, pending urine culture result and treat with antibiotic according to culture.

B) Replace the Foley, and treat with antibiotics if urine culture is positive according to urine isolate susceptibility pattern

C) Replace the Foley and treat empirically with ciprofloxacin

D) Remove the Foley and do a voiding test to determine if Foley is necessary; no antibiotic therapy

E) Remove the Foley and do a voiding test to determine if Foley is necessary; treat empirically with ciprofloxacin

#3

A 55 year old male undergoes emergency surgery for a ruptured appendix with severe bacterial peritonitis and septic shock.
He has no antibiotic allergy or intolerances.

Which one of the following antibiotics requires concomitant metronidazole IV?

A) Piperacillin-tazobactam

B) Ampicillin-sulbactam

C) Ceftolozane-tazobactam

D) Imipenem-cilastatin-relebactam

E) Eravacycline

#3

A 55 year old male undergoes emergency surgery for a ruptured appendix with severe bacterial peritonitis and septic shock.
He has no antibiotic allergy or intolerances.

Which one of the following antibiotics requires concomitant metronidazole IV?

A) Piperacillin-tazobactam

B) Ampicillin-sulbactam

C) Ceftolozane-tazobactam

D) Imipenem-cilastatin-relebactam

E) Eravacycline

#4

An 86-year-old man is admitted to the hospital for treatment of community-acquired pneumonia and receives IV ceftriaxone followed by oral moxifloxacin.

By day 4, his temperature is normal and he is ready for discharge when he develops loose stools with some abdominal cramping.

He is having 6-8 watery bowel movements a day. There is no blood in the stool. His albumin is 3.0, creatinine 1.9, and white blood cell count is 18,000/mm3. A stool specimen is submitted and is positive for Clostridium difficile toxin using PCR for the toxin B gene.

#4

Which of the following drugs would you use to treat this patient assuming you were choosing monotherapy?

A) IV Metronidazole

B) PO Metronidazole

C) IV Fidaxomicin

D) PO Rifaxamin

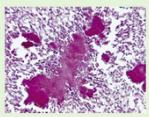
E) PO Vancomycin

#5

A 42-year-old woman was referred for management of an incarcerated, indirect, inguinal hernia on the right side. She had used an IUD for many years.

Her peripheral blood white cell count, C-reactive protein and erythrocyte sedimentation rate were normal. The patient was afebrile.

During operation on the hernial sac, a putrid, inflammatory, tumorous formation associated with the right ovary was found. The histopathologic picture of the resected ovary showed a highly active zone of abscess formation, with granular conglomerates of a filamentous microorganism (Figure).



50 – Board Review Session 5

Drs. Gilbert (Moderator), Aronoff, Bennett, Boucher, Masur, and Patel

#5

In addition to surgical resection, treatment should involve which of the following medications?

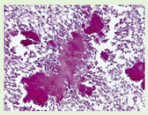
A) Penicillin

B) Voriconazole

C) Trimethoprim-sulfamethoxazole

D) Weekly amphotericin B

E) Ciprofloxacin



#6

A 27-year-old woman calls to say, "I've got another urinary tract infection." In the past six months, she was seen twice for complaints of dysuria and frequency.

The first time, a urine dipstick test was consistent with a UTI, and she responded to three days of antibiotics. The second time, which was two months ago, a culture was sent that grew a highly susceptible E. coli, and again her symptoms went away with three days of antibiotic treatment.

She is otherwise healthy, sexually active and never had any urinary symptoms before the current year.

#6

Which one of the following is the most appropriate approach to this patient's complaint?

A) Culture her urine

B) Image her urinary tract

C) Perform a bladder emptying study

D) Prescribe antibiotics for three days

E) Prescribe antibiotics for 2 weeks.

#7

A patient with HIV infection (CD4=25 cells/μL and VL 1 million c/ml) has cryptococcal meningitis (positive serum and CSF crypt antigen) with severe headaches and blurred vision.

The opening pressure on the initial LP was not measured.

Papilledema is seen on funduscopic exam. A CT scan shows no mass lesion or signs of herniation. The patient was started on Liposomal Amphotericin plus 5FC.

#7

Which of the following would you recommend in response to her persistent severe headache and blurred vision on day 2 of therapy:

A) Immediate institution of acetazolamide and monitor for first 6 hours before adding another intervention

B) Immediate institution of dexamethasone and monitor for 24 hours

C) Initiate daily lumbar punctures to reduce intracranial pressure

D) Double the dose of Liposomal amphotericin B to 1.2 mg/kg/day

E) Add Fluconazole 1200 mg to the antifungal regimen

#8

A 67-year-old patient on methadone for chronic pain (5 mg q 8 H) for several years due to severe low back pain is admitted for pneumococcal pneumonia and an empyema.
A chest tube is inserted and he is treated for pneumococcal pneumonia with bacteremia and empyema: vancomycin plus ceftriaxone is his initial regimen.

The day after his chest tube is inserted, the patient has considerable pain at the chest tube site. Acetaminophen and ketorolac are given in addition to has baseline methadone, but after 24 hours of this analgesic regimen the patient cannot sleep due to considerable, constant pain which he states in 10/10 in severity.

50 – Board Review Session 5

Drs. Gilbert (Moderator), Aronoff, Bennett, Boucher, Masur, and Patel

#8

What would you recommend for pain relief?

A) Stopping the methadone and administering increasing doses of codeine starting at 5 mg q4h

B) Maintaining the methadone dose and adding codeine at 5 mg q4h with increasing doses as needed

C) Stopping the methadone and prescribing fentanyl by patient controlled analgesia (PCA)

D) Continue current regimen of methadone, acetaminophen and ketorolac for 48 hrs. more before switching the regimen

#9

A 22-year-old university student was in his usual state of health until the evening prior to hospital admission when he went to bed with a headache. He told his roommate that he felt feverish; the following morning his roommate found him in bed, moaning and lethargic, and brought him to the Emergency Department.

In the Emergency Department, he appeared toxic and drowsy but was oriented. His temperature was 40°C, heart rate 124/min, and blood pressure 98/60 mm Hg.

His neck was stiff and he had a purpuric non-blanching rash most prominent on the trunk, legs, and wrists.
A lumbar puncture is performed revealing 5000 cells/l (10% lymphocytes, 90% neutrophils), a protein of 275 mg/dL and a glucose of 15 mg/dL.

#9 Gram stain of spinal fluid shows Gram negative cocci in pairs. Bacterial cultures are pending.

His cerebrospinal fluid was submitted to testing with a multiplex PCR panel, and returned the results below.

Viruses	Bacteria	Fungi
Cytomegalovirus NEGATIVE	Escherichia coli K1 NEGATIVE	Cryptococcus neoformans/gattii NEGATIVE
Enterovirus NEGATIVE	Haemophilus influenzae NEGATIVE	
Herpes simplex virus 1 NEGATIVE	Listeria monocytogenes NEGATIVE	
Herpes simplex virus 2 NEGATIVE	Neisseria meningitidis POSITIVE	
Human herpes virus 6 POSITIVE	Streptococcus agalactiae NEGATIVE	
Human parechovirus NEGATIVE	Streptococcus pneumoniae NEGATIVE	
Varicella zoster virus NEGATIVE		

#9

Which of the following is the most appropriate antimicrobial regimen for this patient?

A) Vancomycin and cefepime

B) Vancomycin and cefepime and acyclovir

C) C. Ceftriaxone and ganciclovir

D) Ceftriaxone and acyclovir

E) Ceftriaxone alone

#10 A 34 year old man who underwent renal transplantation for end stage renal disease due to focal sclerosing glomerulonephritis two months prior to presentation, presents to the Emergency Department in January with headache and fever of five days duration.

His post-transplant course was uncomplicated and he is receiving prednisone, tacrolimus, mycophenylate mofetil and trimethoprim-sulfamethoxazole.
He and his donor were cytomegalovirus and Epstein-Barr virus seropositive.

He lives in Minnesota and has been at home since the transplant. He has no personal history of or exposure to tuberculosis.
There is no history of travel to the desert Southwest of the United States, or outside of the United States and no animal exposure

#10 A lumbar puncture is performed revealing 50 cells/ml (90% lymphocytes, 10% neutrophils), a protein of 75 mg/dL and a glucose of 35 mg/dL. Gram stain of spinal fluid is negative and bacterial cultures are in progress.

His spinal fluid is submitted to testing with a multiplex PCR panel, and returns the results shown below.

Viruses	Bacteria	Fungi
Cytomegalovirus NEGATIVE	Escherichia coli K1 NEGATIVE	Cryptococcus neoformans/gattii NEGATIVE
Enterovirus NEGATIVE	Haemophilus influenzae NEGATIVE	
Herpes simplex virus 1 NEGATIVE	Listeria monocytogenes NEGATIVE	
Herpes simplex virus 2 NEGATIVE	Neisseria meningitidis Negative	
Human herpes virus 6 NEGATIVE	Streptococcus agalactiae NEGATIVE	
Human parechovirus NEGATIVE	Streptococcus pneumoniae NEGATIVE	
Varicella zoster virus NEGATIVE		

50 – Board Review Session 5

Drs. Gilbert (Moderator), Aronoff, Bennett, Boucher, Masur, and Patel