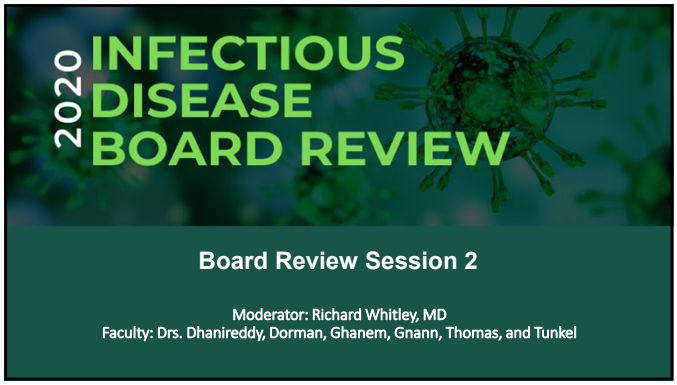
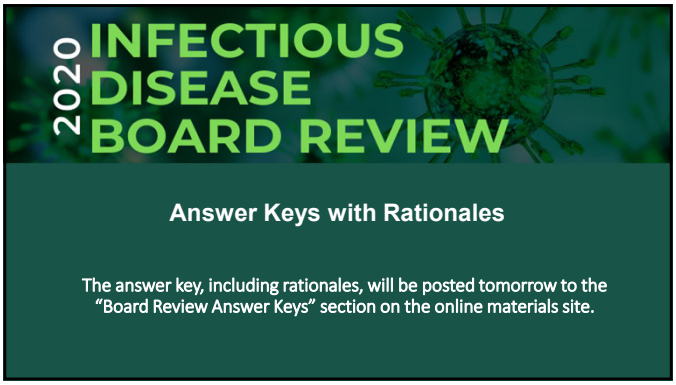
19 – Board Review Session 2

Drs. Whitley (Moderator), Dhanireddy, Dorman, Ghanem, Gnann, Thomas, and Tunkel





#1

You are called by a 41-year-old friend who two days ago visited a religious community in central Pennsylvania that doesn't believe in vaccination.

Today he learned that, right after his visit, several members of that community had been diagnosed with chicken pox (varicella). Your friend is well and has no chronic health problems.

He can't remember ever having had chicken pox but is sure he didn't get the varicella vaccine.

#1

Which one of the following is the most appropriate intervention for your friend?

A) Varicella-zoster immune globulin

B) Valacyclovir

C) Varicella vaccine

D) Measure varicella antibody titer

E) Intravenous immune globulin

#2

You are consulted about three rugby players from the same team who have skin lesions. The skin lesions have been present for two to three days.

Each player has 10 to 20 raised, clustered lesions on the face, neck, and arms that are about 2 to 5 mm in diameter and filled with a clear yellow fluid; there is a small ring of erythema around the base of each lesion.

The athletes say the lesions are mildly uncomfortable but not pruritic; they are very minimally tender.

Three days before the lesions were noted by the first athlete, they had engaged in a rugby match after which they attended a party and bathed in a hot tub.

#2

Which one of the following is the most likely cause of the skin lesions?

A) Pseudomonas

B) Mycobacterium

C) Herpes simplex

D) Contact dermatitis

E) Molluscum

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#3

A 50-year-old patient presents to the Hematology Service with paroxysmal nocturnal hemoglobinuria. They elect to treat the patient with eculizumab, and consult you for infectious disease advice. It is likely that the eculizumab therapy, if effective, will be continued for a long time, perhaps lifelong.

The patient has never had any significant illnesses and has no history of prior infection, has normal serum immunoglobulin levels, is HBV and HCV seronegative, and has no unusual occupational exposure.

#3

What preventive strategy would you recommend to reduce the infectious disease risks of eculizumab?

A) Trimethoprim sulfamethoxazole to prevent pneumocystis

B) Fluconazole to prevent candidiasis

C) Acyclovir to prevent HSV and VZV

D) Meningococcal quadrivalent and B vaccines

E) Test for latent tuberculosis

#4

A 47-year-old female in excellent health comes to consult you for a possible vaccine related complication. She reports that she receive an influenza immunization and a TdAP immunization on the instructions of her younger sister who had a newborn and wanted all visitors vaccinated.

Immediately after receiving the vaccinations in her left arm two weeks ago, her shoulder hurt. She has moderately severe pain on lifting her arm which is not relieved by non-steroidal anti-inflammatory drugs. The shoulder still hurts.

#4

She reports no fever and redness in the area of her shoulder. She has no trouble with strength in her arm or hand unless she raises her shoulder.

On examination, there is no warmth or redness of the shoulder but the patient has considerable pain when raising her left arm. No other joint is painful.

The patient is afebrile with a normal complete blood count.

#4

What diagnostic test would you order next?

A) Plain film of shoulder

B) Magnetic resonance image (MRI) of shoulder

C) Serum uric acid test

D) Joint washout for culture

E) Observation only for the next several weeks

#5

A 33-year-old man who emigrated from South Africa 2 years ago presents with fever, hemoptysis and a right apical cavity on CXR and is diagnosed with pulmonary tuberculosis.

Additional testing reveals he is HIV+ with an HIV RNA 122,000 copies/ml and a CD4 cell count of 47.

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#5

What do you recommend?

A) Start TB meds first, then start ART within 2 weeks.

B) Start TB meds first, then start ART within 8 weeks.

C) Start ART first, then start TB meds within 2 weeks.

D) Start ART first, then start TB meds within 8 weeks.

#6

You are consulting on a hospitalized 53 y/o man with cavitary pneumonia.

Yesterday the result of a GeneXpert MTB/RIF test performed on sputum showed "MTB detected" and "rifampin resistance detected."

You started him on moxifloxacin, linezolid, clofazimine, pyrazinamide, and ethambutol for presumed multidrug-resistant (MDR)-TB, pending additional information about drug susceptibility. In discussions with the local health department TB program, the plan is to add bedaquiline.

#6

What additional bedaquiline-specific periodic safety monitoring will be required while the patient is receiving bedaquiline?

A) Periodic audiology examination to assess for high frequency hearing loss

B) Periodic serum bedaquiline drug levels to ensure that concentrations are within established target range

C) Periodic electrocardiogram to assess for QTc prolongation, and serum electrolytes

D) Visual acuity testing

E) 6-minute walk tolerance

#7

An asymptomatic male with HIV (CD4= 500 cells/mm3, Viral Load <20 copies/uL), on dolutegravir-lamivudine, has had multiple anonymous sexual exposures (oral, rectal and genital) over the past few weeks and requests that he be screened for sexually transmitted diseases.

You perform the following tests:

Syphilis
- RPR negative

Chlamydia: NAAT for rectal, and first catch urine:
- both negative

Gonorrhea: NAAT for oral, rectal and first catch urine:
- urine positive

#7

What is the best regimen for this patient's gonococcal infection?

A) Ceftriaxone 250 mg IM

B) Ceftriaxone 250 mg IM and azithromycin 1 gram PO

C) Cefixime 400 mg PO

D) Azithromycin 2 grams PO

E) Doxycycline 100 mg PO

#8

A 42-year-old recently divorced woman presents complaining of a vaginal discharge. She reports a new sex partner in the past month. She denies abdominal pain, nausea, vomiting, or a rash. She has a history of gastric reflux but is otherwise healthy.

On examination, a thin grey vaginal discharge is noted. Her cervix appears normal and there is no evidence of cervical motion tenderness or adnexal tenderness. A wet mount examination of a drop of the vaginal discharge reveals motile trichomonads but is otherwise normal. Testing for HIV performed two months earlier was negative.

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#8

Which of the following is the most appropriate treatment for her infection?

A) Boric acid vaginal suppository

B) Metronidazole, single oral 2g dose

C) Metronidazole, 500 mg orally twice daily for one week

D) Paromomycin 6% topical vaginal cream

E) No therapy

#9

A 62-year-old male computer engineer from Seattle is 90 days post allo-HSCT for myelodysplastic syndrome and has been receiving valacyclovir prophylaxis because of a positive pretransplant test for antiHSV antibody.

The patient has had several episodes of severe graft versus host disease, two being associated with CMV detection in the blood by PCR, for which valganciclovir was substituted for valacyclovir for 2 to 3 week periods, ending 4 weeks ago.

#9

Two weeks ago the patient had the onset of fever and severe diarrhea. Reappearance of CMV in the blood by PCR has led to initiation of intravenous ganciclovir on the third day of diarrhea.

Persistence of diarrhea for seven days despite high dose steroids for presumed GVHD of the colon led to infectious disease consultation. Stool was negative for Clostridium difficile toxin by PCR and the CMV PCR in blood was unchanged over the first five days.

#9

What would be the most appropriate next step?

A) Oral metronidazole

B) Oral vancomycin

C) Change from ganciclovir to foscarnet

D) Colonoscopy

E) Stool for Strongyloides

#10

A 73 year old woman with T cell prolymphocytic leukemia has been treated with alemtuzumab (Campath) for 10 weeks and is awaiting a stem cell transplant. She is receiving trimethoprim-sulfamethoxazole and acyclovir prophylaxis.

During the tenth week of therapy, she develops low-grade fever and non-specific fatigue and myalgias. Her physical examination is unremarkable except for new shotty cervical adenopathy and some mild enlargement in her liver and spleen. Her hemoglobin, white blood count, and platelet count have fallen but she is not neutropenic. Her chest x-ray is normal.

She has not traveled since her diagnosis of leukemia and has no unusual exposures.

#10

What would be the next best step for diagnosing the likely cause of this syndrome?

A) Bone marrow biopsy

B) Serum PCR for toxoplasma

C) Serum PCR for CMV

D) Lymph node biopsy

E) CT scan of chest and abdomen

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#11

A 64-year-old female with a history of chronic lymphocytic leukemia (CLL) for several years was recently diagnosed with Richter's transformation to diffuse large B cell lymphoma.

Her oncologist recommended starting R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone) chemotherapy given the advanced stage disease.

The patient has a history of recurrent and severe sinopulmonary infections and hypogammaglobulinemia. As a result, she has been on monthly intravenous immunoglobulin (IVIG) for the past two years.

#11

The patient's hepatitis B serology obtained a year ago showed:

- HBsAg: nonreactive
- Total HBc Ab: positive
- HBsAb: positive
- HBV viral load: negative

Her oncologist referred her to be seen by you for further recommendations about the patient's hepatitis B.

#11

What is the most appropriate next step?

A) Treat only if monthly serum quantitative HBV viral load becomes positive while she gets treated with R-CHOP

B) Start tenofovir plus emtricitabine pre-R-CHOP

C) Start entecavir pre-R-CHOP

D) Administer a single hepatitis B vaccine booster dose

E) Review pre-IVIG hepatitis B serology before making a decision

2020 INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

#12

A 32 year old woman is referred for 'hepatitis' recognized by her primary care physician.

She is otherwise well.

She was born in Philippines but has lived in the USA for 2 years. She is a nurse on a medicine floor. Married with 2 children: 7 and 5 years old.

#12

She brings a lab slip with the following:

- Total anti-HAV pos;
- IgG anti-HBc pos;
- IgM anti-HBc neg;
- HBsAg pos; HBeAg pos;
- anti-HBe neg;
- HBV DNA 8.2 log IU/ML;
- ALT 24 U/L; AST 18 U/L;
- anti-HCV neg.

#12

Which of the following recommendations is most appropriate:

A) HBV vaccinate husband and children

B) Advise to use condoms

C) Test husband and children for HBsAg

D) Advise to stop work and initiate look-back investigation of a sample of patients

E) Advise against future pregnancies

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#13

You treated a 54 year old man for chronic HCV infection with a direct acting regimen.

At baseline he was genotype 1a and HCV RNA was 6.5 log IU/ml. Baseline ALT was 92 U/L. He was HCV RNA undetectable after 4 weeks of treatment and again 12 weeks after treatment was done. ALT was 28 U/L. He is otherwise well.

Now he returns 2 years later because his primary tested him and his ALT is 84 U/L and HCV RNA is 6.8 log IU/ml and genotype 1a.

#13

Which is most likely?

A) He has HBV relapse from DAA treatment

B) He has HCV relapse

C) He was reinfected by HCV

D) He has steatohepatitis

#14

A previously healthy 30-year-old woman presented with right temporal headache, eye pain, diplopia and decreased vision in the right eye.

On exam, her temperature was 102°F. Her left eye had normal extraocular movement and vision. On the right, there was periorbital edema, proptosis, chemosis, and ptosis; the right eye was fixed in the midline.

Vision in the right eye was reduced to count fingers at 3 feet. She underwent a lumbar puncture; CSF analysis revealed glucose 69 mg/dL, protein 180 mg/dL, 3,000/mm^3 WBC (82% P, 18% L).

An MRI is ordered.

#14

#14

The most likely diagnosis is:

A) Superior sagittal sinus thrombosis

B) Cavernous sinus thrombophlebitis

C) Bacterial endophthalmitis

D) Mucormycosis

E) Right ethmoid sinusitis

#15

A previously healthy 60-year-old woman presents to the emergency room complaining of headaches, fevers, nausea, and vomiting for the past 4 days. Two days prior to her ER presentation, she noted difficulty with balance.

Earlier this morning, she noted left facial numbness. She denied any night sweats, photophobia, or neck stiffness. She has not traveled outside of the United States and has lived her entire life in Baltimore, Maryland.

She lives with her husband and two daughters in a row house. They own 2 cats and a dog. She denies smoking, alcohol use, or injection drug use.

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#15

On physical examination, her temperature is 38.3°C, blood pressure is 120/60 mmHg, heart rate is 109 beats/minute, and respiratory rate is 13 breaths/minute. She is alert and oriented but appears uncomfortable. Higher cortical functions, extraocular movements and visual fields were intact. Limb tone, motor strength and reflexes were normal. Plantar responses were flexor.

Abnormalities included left facial hypoaesthesia, right facial weakness and left gaze-evoked nystagmus. She was noted to have gait ataxia. The remainder of her physical examination was unremarkable.

#15

- Her peripheral white cell count and differential were normal.
- A comprehensive metabolic panel was normal.
- Lumbar puncture and CSF examination revealed a lymphocytic pleocytosis with 500 white blood cells/mm^3 (94% lymphocytes). CSF glucose level was normal and protein level was slightly elevated. No organisms were visualized on Gram stain of the CSF. CT scan without IV contrast was unremarkable.
- Postgadolinium T1-weighted MRI images of the brain showed multiple ring-enhancing abscess-like lesions in the brainstem with mild meningeal enhancement.

#15

Which of the following is the most likely etiology of her clinical presentation?

A) Behcet's disease

B) Cytomegalovirus (CMV)

C) Herpes simplex virus type 2

D) Listeria monocytogenes

E) Mycobacterium tuberculosis