# 49 – Board Review Day 4

*Speaker: Drs. Gulick (Moderator), Bloch, Dorman, Dupont, Maldarelli, Saag, and Weinstein*


**Board Review: Day 4**

Moderator: Dr. Gulick
Faculty: Drs. Bloch, Dorman, Dupont, Maldarelli, Saag, Weinstein

## BOARD REVIEW DAY 4

**#46** An 88-year-old man who lives in a nursing home in a large U.S. city develops diarrhea and vomiting.

He has not recently taken antibiotics and is not on a proton pump inhibitor.

He develops diarrhea and is taken to a hospital where he is found to have advanced renal failure and ventricular arrhythmia and despite fluid therapy and cardiovascular drugs he dies 12 hours after admission.

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**#46** Which of the following is the most likely cause of his enteric syndrome and death?

A) Norovirus

B) *Aeromonas*

C) *Listeria monocytogenes*

D) *Shigella*

E) *Campylobacter*

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**#47** A 40-year-old healthy traveler to Nepal develops diarrhea consisting of passage of 2 soft stools/d with mild cramps. This has persisted for 9 days.

She is able to do what she came to do but needs to know where bathrooms are located at all times.

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**#47** What would you recommend she do about her enteric syndrome?

A) Ciprofloxacin 500 mg bid for 3 days

B) Azithromycin 1,000 mg single dose

C) Rifaximin 200 mg tid for 3 days

D) Fluids (soups, broth, non-carbonated drinks) only with or without loperamide she has with her

E) No therapy

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**#48** A 44-year-old man recently diagnosed with HIV is concerned about drug side effects and wants to start an ART regimen with the "lowest number of drugs possible."

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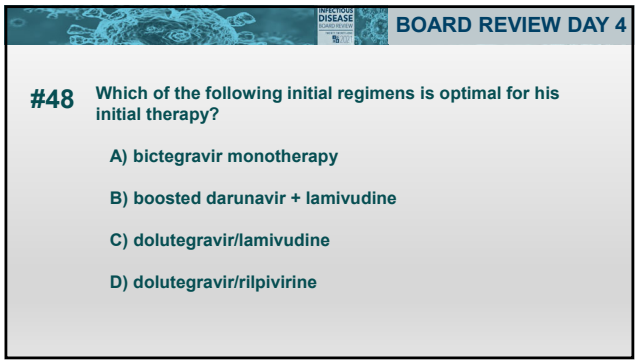


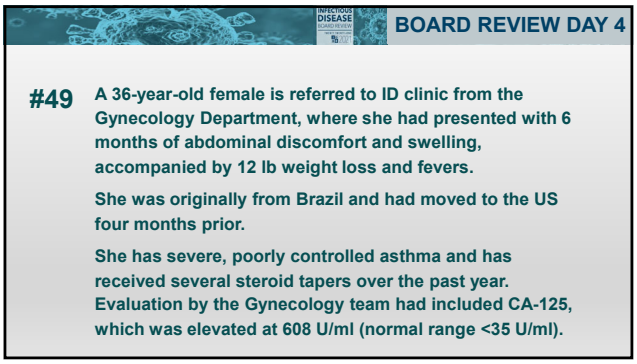


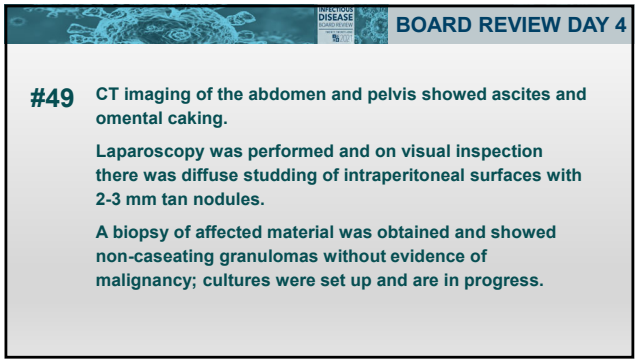


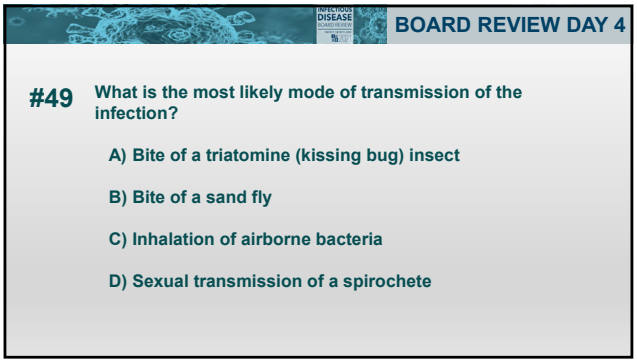


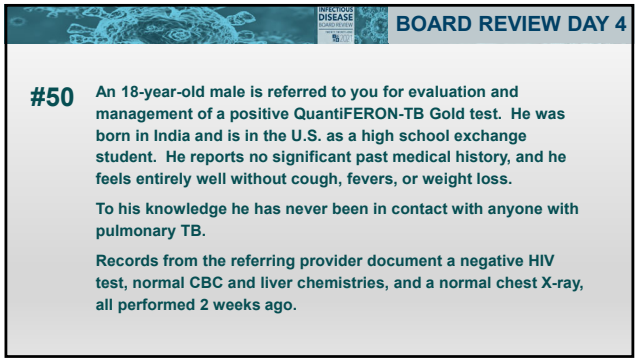


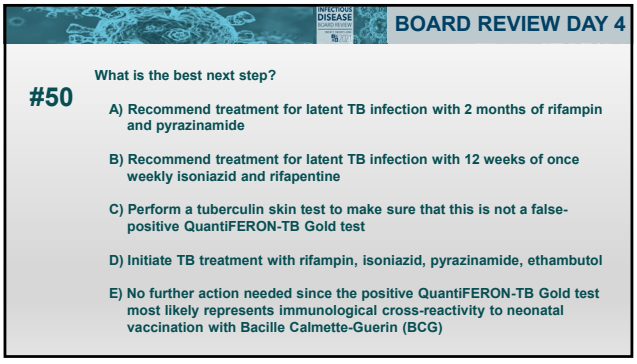

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## BOARD REVIEW DAY 4

**#51** A 71 y/o man with HIV disease transfers care to you with a history of taking and failing "nearly all HIV medications including T20 (enfuvirtide)".

He currently takes tenofovir alafenamide (TAF)/emtricitabine (FTC) + etravirine + darunavir + ritonavir with a CD4 15 and HIV RNA 233,140 copies/ml.

You send an HIV genotype, phenotype, and tropism test. The tropism test returns "dual/mixed virus".

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**#51** In addition to optimizing his antiretroviral regimen, you recommend:

A) Adding maraviroc

B) Adding double-dose maraviroc

C) Adding enfuvirtide

D) Adding ibalizumab

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**#52** A 22 y/o man is found HIV+ with a CD4 344 and HIV RNA 16,000 copies/ml and starts abacavir (ABC)/lamivudine (3TC)/dolutegravir(DTG) at an outside clinic.

After several days, he develops a rash, nausea and vomiting for which he does not seek medical attention. He discontinues his medications and feels much better.

Three months later, after urging from his mother, he presents to you now to restart HIV therapy.

He is asymptomatic, has a normal physical exam, CD4 322, and HIV RNA 15,000 copies/ml.

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**#52** What do you advise regarding ART?

A) Repeat CD4 and HIV RNA

B) Check G6PD before restarting ART

C) Check HLA-B*5701 before restarting ART

D) Restart ABC/3TC/DTG with instructions to call clinic for any symptoms

## BOARD REVIEW DAY 4

**#53** Over a 3-week period, 5 patients in a 12-bed ICU have infections with a carbapenem-resistant *Klebsiella pneumoniae* (KPC): Two have symptomatic urinary tract infections, 2 have ventilator-associated pneumonia, and 1 has a line-related bacteremia. These are the only KPC infections recognized in this ICU in the past 6 months.

Whole genome sequence (WGS) analysis of the isolates shows that four are nearly identical and one probably genetically unrelated.

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**#53** The most likely epidemiologic explanation for these infections is that this cluster represents which of the following:

A) Is a pseudoepidemic

B) Results from lapses in infection control

C) Results from common source medication contamination

D) Represents a water-borne outbreak

E) Represents a food-borne outbreak

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**#54** A 56-year-old female presents c/o sore throat. She was in her usual state of health until 1 day prior to admission when she noted pain on swallowing and myalgias.

A rapid strep test at a walk-in clinic was negative and she was given a presumptive diagnosis of viral pharyngitis. That evening the pain progressed and she presented for ER evaluation.

She lives in rural Idaho and has well water. She raises chickens and has a pet goat.

She has not travelled outside of the region in the last year. She notes exposure to her 2-year-old grandson who had a fever the previous week.

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**#54** On presentation she is afebrile and vitals signs are stable. She is breathing comfortably on room air without stridor however she is spitting into a cup next to the bed because it hurts to swallow.

Oropharyngeal exam shows good dentition, normal mucosa and no tonsillar enlargement or inflammation. There is no cervical swelling or lymphadenopathy.

White blood cell count is 15.9, other labs are unremarkable.

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**#54** Which of the following is the most likely diagnosis in this patient?

A) Ludwig's angina

B) Streptococcal pharyngitis

C) Diphtheria

D) Pharyngeal tularemia

E) Epiglottitis

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**#55** A previously healthy 29yo female presents with 1 week of fevers, chills, and headache. She decided to seek medical care after she noted dark discoloration of her urine.

She lives in Connecticut and has a vacation home on Martha's Vineyard.

She is an avid hiker and notes many tick and mosquito bites in the last month.

She has traveled extensively for work, including a trip to South Africa 1 year previously where she visited a game preserve.

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**#55** On physical exam, her temperature is 102.8 F, heart rate is 118 bpm, and BP is 125/68. Otherwise, exam is unremarkable, with no rash, photophobia, or nuchal rigidity.

Laboratory studies include:

- WBC=5.8
- H/H=7.4/22
- Platelets=97
- AST/ALT=127/119
- Alk phos=384
- Total Bilirubin=1.7
- Haptoglobin <8
- LDH 784
- A lumbar puncture was done, with 1 WBC

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**#55** A Giemsa stain of a thin blood smear is below:

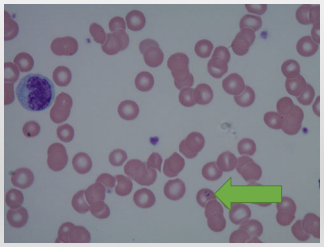

Photo courtesy of Alex Maris, MD PhD

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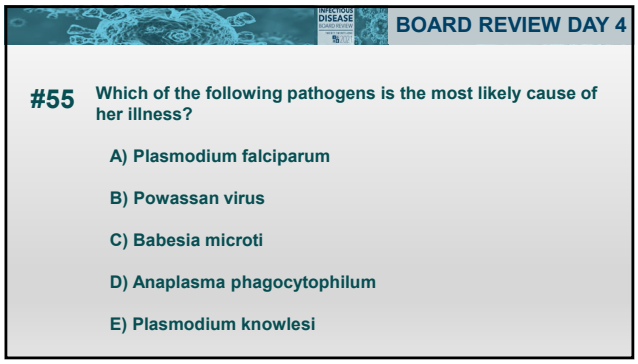



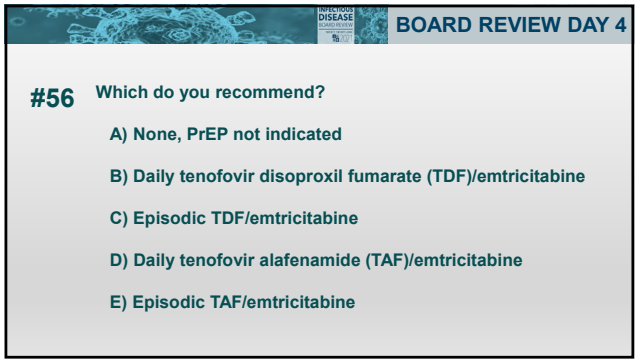


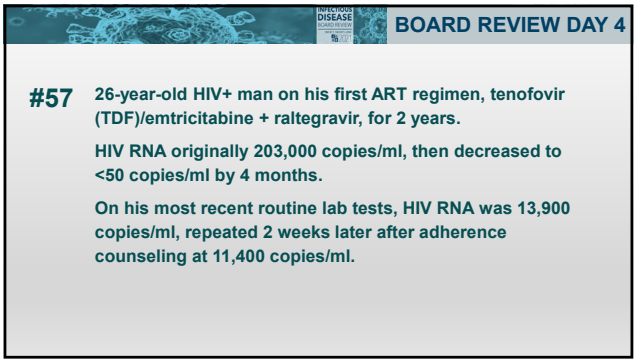


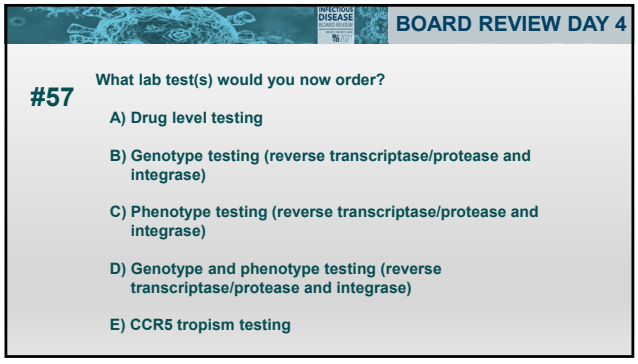


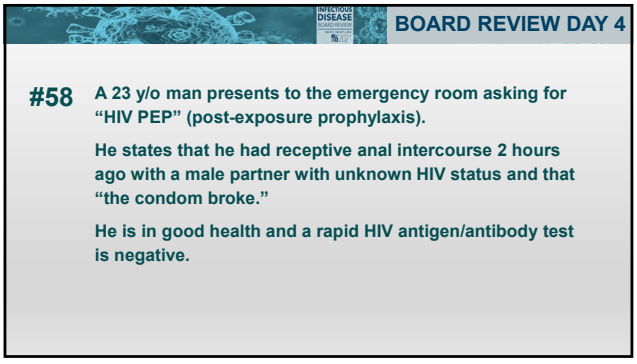

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**#58** Which do you recommend?

A) No PEP – low-risk exposure

B) Start PEP when HIV drug-resistance testing results available

C) Start PEP now with zidovudine/lamivudine + lopinavir/ritonavir

D) Start PEP now with tenofovir (TDF)/lamivudine + dolutegravir

E) Start PEP now with single-dose nevirapine

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**#59** A 32-year-old man returns for routine follow up in the HIV clinic and is found to have new elevations in his liver function tests.

He has no complaints and his physical exam is normal.

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**#59** Lab evaluation from this visit reveals:

- Normal electrolytes
  - AST 130 u/ml (35 u/ml last visit)
  - ALT 180 u/ml. (25 u/ml last visit)
  - Bilirubin 0.8 mg/dl
  - Alk phos 110 mg/dl
- RPR non-reactive
- Urine / rectal NATs negative for GC and Chlamydia

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**#59** He has been on BIC / FTC / TAF (Biktarvy-bictegravir, emtricitabine & tenofovir alafenamide) for the last 2 years with undetectable virus.

His last CD4 count 1 year ago was 855 cells /ul.

Three years ago he was diagnosed with HCV (no evidence of cirrhosis on fibroscan at that time) and he received treatment with sofosbuvir and ledipasvir for 12 weeks, achieving an undetectable HCV RNA at month 4 post-treatment.

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**#59** At the time of his HCV treatment he was vaccinated for Hepatitis A and Hepatitis B.

His post vaccine hepatitis B surface antibody (anti-HBs) titer was >10 milli-international units/mL.

He reports frequent sexual activity with same sex partners; at least 4 – 6 different partners per month over the last 5 months.

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**#59** Which of the following is most likely responsible for his increased liver enzymes:

A) Hepatitis A infection

B) Hepatitis B infection

C) Hepatitis C infection

D) Drug induced liver injury (DILI)

E) Cirrhosis

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