

34 – Board Review Session 3

Drs. Gulick (Moderator), Bell, DuPont, Maldarelli, Saag, and Weinstein



2020 INFECTIOUS DISEASE BOARD REVIEW

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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

A 55-year-old female has been HIV infected for 15 years, and is well suppressed with an undetectable viral load during this period on efavirenz, tenofovir, and emtricitabine (Atripla).

She has heard about the new dolutegravir and lamivudine two drug regimen and would like to try this two drug combination instead of Atripla (efavirenz, tenofovir, emtricitabine) which she has tolerated well for many years.

She has been Hepatitis B surface antigen positive since she started her antiretroviral regimen. She has never had a positive plasma HBV DNA or elevated liver function tests.

#1

What would you recommend?

- A) Switching to dolutegravir-lamivudine is a good option
- B) Switching to dolutegravir-lamivudine following long term efavirenz is unlikely to control the HIV infection and thus not a good option
- C) Switching to dolutegravir-lamivudine would control the HIV infection but would likely lead to HBV breakthrough unless another HBV drug were added
- D) Switching to dolutegravir-lamivudine would be a good option for HIV suppression but would suppress HBV only if ribavirin were added

#2

A 33 year-old woman has a male sexual partner who is known to be living with HIV and intermittently takes his medications and sometimes refuses to wear condoms.

She is requesting HIV pre-exposure prophylaxis (PrEP) but is not sure she can comply with a daily pill.

#2

What do you offer her?

- A) Daily tenofovir disoproxil fumarate (TDF)/emtricitabine
- B) Daily rilpivirine
- C) "On demand" TDF/emtricitabine – 2 pills within 2-24 hours before sex followed by 1 pill 24 and 48 hours after
- D) "On demand" TAF/emtricitabine – 2 pills within 2-24 hours before sex followed by 1 pill 24 and 48 hours after
- E) Improve condom use to 100%

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#3

A 37-year-old man with no past medical history except HBV surface antibody positive after vaccination presents the morning after an episode of receptive anal intercourse with another man where the condom broke.

He is unaware of his sexual partner's medical history or whether he takes medications.

In addition to offering testing for HIV, hepatitis C, and bacterial STIs.

#3

What do you advise?

- A) No specific prophylaxis
- B) 2-drug prophylaxis with tenofovir disoproxil fumarate (TDF)/emtricitabine.
- C) 2-drug prophylaxis with tenofovir alafenamide (TAF)/emtricitabine
- D) 3-drug prophylaxis with TDF/emtricitabine + dolutegravir
- E) 3-drug prophylaxis with TAF/emtricitabine + efavirenz

#4

A 34 year old gay man presents requesting HIV pre-exposure prophylaxis (PrEP).

His past medical history is notable only for gonorrhea two months ago that was treated with IM ceftriaxone; he has had repeated negative HIV tests.

He notes "a few days of feeling feverish" but has not taken his temperature. On physical exam his temperature is 38.6 C. (101.5 F.), he has a non-tender 1 cm oral ulcer and a faint macular red rash, the remainder of the exam in normal.

#4

A rapid HIV oral test in the office is negative. In addition to routine blood work and HIV testing, what do you recommend?

- A) Start PrEP with tenofovir disoproxil fumarate (TDF)/emtricitabine
- B) Start PrEP with tenofovir alafenamide (TAF)/emtricitabine
- C) Start PrEP with generic tenofovir disoproxil fumarate (TDF)/lamivudine
- D) Start PrEP with tenofovir disoproxil fumarate (TDF)
- E) Hold PrEP until laboratory results return

#5

You are asked to see a 62 year old female admitted for acute myocardial infarction.

1 of 2 blood cultures drawn from a central venous catheter for a new fever on hospital day 3 was positive on day 4 for Gram-positive cocci in clusters, later identified as Staphylococcus epidermidis.

The aerobic bottle was positive at 33 hours but the anerobic bottle remained negative. Two peripheral blood cultures were obtained on day 4, the central venous catheter was replaced, and she was started empirically on vancomycin.

#5

The Staph.

Epidermidis from hospital day 3 (before the line was removed and before antibiotics were started) is growing coagulase-negative staphylococcus with the following MICs in mcg/ml:

- vancomycin 2 mcg/ml
- daptomycin MIC 0.5
- linezolid 2
- clindamycin 1
- TMP/SMX 0.5/5

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#5

The other 3 blood cultures prior to starting vancomycin have no growth at 48 hours.

Since removing the line and starting vancomycin, the patient is afebrile with no localizing signs or symptoms.

White blood count remains normal.

#5

What would you recommend?

- A) Continue vancomycin for 5 days
- B) Switch to IV daptomycin and complete 5 days of therapy
- C) Switch to oral linezolid to complete 5 days of therapy
- D) Discontinue vancomycin and start daptomycin
- E) Discontinue vancomycin

#6

A 56-year-old alcoholic woman with adult onset diabetes mellitus and depression fractured her right hip falling down the stairs.

She had an open reduction and internal fixation repair one week ago, but developed redness and drainage of the wound secondary to a vancomycin resistant *E. faecium* (VRE) infection of the operative site.

She was started on linezolid. You are called to see her on day 10 of hospitalization (day 8 of linezolid) because of anxiety, tremulousness, fever to 39.6°C, agitation and confusion.

The patient takes metformin (Glucophage) and glipizide for her diabetes mellitus and citalopram (Celexa) for her depression.

#6

If this is a drug reaction, which one of the following is most likely?

- A) Delirium tremors
- B) IgE mediated allergic reaction
- C) IgG mediated allergic reaction
- D) Hyper-serotonin syndrome
- E) Malignant hyperthermia

#7

A 40-year-old businessman develops diarrhea while traveling to Thailand.

The illness progresses to passage of grossly bloody stools. He has been ill three days when he returns home.

He is still passing bloody stools and is weak, febrile and tachycardic when you see him.

#7

What treatment do you recommend while you are awaiting culture results?

- A) a single dose of ciprofloxacin (500 mg)
- B) a single dose of tinidazole (2 grams)
- C) rifaximin 200 mg three times a day for three days
- D) only oral rehydration therapy
- E) single dose of azithromycin (1,000 mg)

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#8

Six months after an otherwise healthy young international traveler returns home to the United States from India, she presents for medical evaluation.

She has been sick since she visited India although her symptoms have changed. She initially had a bout of diarrhea, passing grossly bloody stools that responded to three days of ciprofloxacin.

During the next six months, she experienced recurrent bouts of abdominal pain, abdominal bloating and loose stools without frank diarrhea. The abdominal pain is cramping and exacerbated by eating.

#8

What do you suspect is the diagnosis?

- A) Post-infectious irritable bowel syndrome (IBS)
- B) Chronic Cyclospora infection
- C) Chronic norovirus infection
- D) Clostridium difficile diarrhea
- E) Celiac disease

#9

A 22 year-old woman recently underwent HIV testing done as part of a routine annual check-up. She's had 3 prior male sexual partners and used condoms "most of the time"; her last episode of intercourse was 3 months ago.

Testing reveals:

HIV antigen/antibody screening test: positive
HIV-1 Supplemental immunoassay: negative
HIV-2 Supplemental immunoassay: negative
HIV-1 RNA: 12 copies/ml

#9

What's the correct interpretation?

- A) She has chronic HIV-1 infection
- B) She has chronic HIV-2 infection
- C) She has acute HIV-1 infection
- D) She has HIV, but is a long-term non-progressor
- E) She does not have HIV

#10

A 26-year-old man who had a negative HIV test 6 months ago presents to urgent care following unprotected sex with another man 10 days ago.

He feels "flu-ish" and has a fever of 101.2 F; the rest of his physical examination is normal. A rapid test for HIV is positive.

He is willing to start antiretroviral therapy if you recommend it.

#10

While awaiting further lab testing, you would recommend:

- A) Start tenofovir disoproxil fumarate/lamivudine/doravirine
- B) Start tenofovir alafenamide/emtricitabine/elvitegravir/cobicistat
- C) Start abacavir/lamivudine/dolutegravir
- D) Start tenofovir alafenamide/emtricitabine/bictegravir
- E) Hold ART until testing returns.

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#11

A 23 year old man with HIV and pre-treatment HIV RNA 2.2 million copies/ml started tenofovir alafenamide (TAF)/emtricitabine + raltegravir and suppressed his HIV RNA to <20 copies/ml by 6 months; subsequent HIV RNA levels were <20 copies/ml at 9 months and 12 months, but 1507 copies/ml at 15 months, repeated at 5440 copies/ml.

When questioned, the patient admitted to missing occasional doses but vows to improve his adherence.

Genotype shows RT: M184V, PR: L63P, Integrase: Y143R and N155H.

#11

Which of the following regimens would you recommend?

- A) TAF/FTC + dolutegravir (double-dose)
- B) TDF/FTC/doravirine
- C) TDF/FTC/efavirenz
- D) TAF/FTC/elvitegravir/cobicistat

#12

A 59-year-old MSM with hypertension controlled on an ACE inhibitor takes PrEP with daily tenofovir disoproxil fumarate (TDF)/emtricitabine. His pre-PrEP creatinine was 1.1 mg/dL (creatinine clearance ~75 cc/min).

On routine follow-up testing, his creatinine is now 1.4 mg/dL (creatinine clearance ~55 cc/min).

A urinalysis is negative for protein, glucose, or cells.

#12

What do you advise?

- A) Stop PrEP, use condoms
- B) Repeat labs in 3 months
- C) Change to every other day TDF/emtricitabine
- D) Change to daily tenofovir alafenamide (TAF)/emtricitabine
- E) Change to "on demand" TAF/emtricitabine

#13

A 25-year-old woman is 3 months pregnant and is found to be HIV+, HIV RNA is 96,000 copies/ml and CD4 cell count is 625 cells/ μ L. She is willing to start ART if you recommend it.

What is the most appropriate strategy?

- A) Hold ART until the 3rd trimester
- B) Start tenofovir alafenamide/emtricitabine/bictegravir
- C) Start tenofovir disoproxil fumarate/emtricitabine + dolutegravir
- D) Start tenofovir disoproxil fumarate/lamivudine/doravirine

#14

A 21-year-old college student is seen in the University Health Service for symptoms of abrupt onset, including headache, myalgia, fever (T 102.2°F) and cough. Some of her friends have been ill with similar symptoms. The student has just returned from winter break in the last week from her home in state. She has had symptoms for three days. Her roommate, who is otherwise in good health, does not have respiratory symptoms.

She is a non-smoker and has no significant past medical history. She is on an oral contraceptive as her only prescription medicine, but she has taken some of her roommate's guaifenesin. Her last influenza immunization was while in high school.

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#14

On exam, she has a temperature of T 100.0°F, unlabored respirations with a rate of 16, BP 100/70 and pulse of 88.

Her lung fields are clear.

According to the CDC and state Health Department reports, seasonal influenza is circulating in the state, and there is a high incidence of influenza-like illness.

#14

Which of the following is the best recommendation?

- A) Perform a rapid influenza diagnostic test (RIDT)
- B) Perform a rapid point-of-care molecular test for influenza
- C) Prescribe either oseltamivir or baloxivir
- D) Recommend student stay in her room until at least 24 hours after resolution of fever (and not using antipyretics)
- E) Recommend her roommate receive oseltamivir chemoprophylaxis for influenza

#15

You are asked to examine a person under investigation (PUI) for COVID-19. Your gown and garb should be which of the following?

- A) Cover gown, surgical mask, and gloves
- B) Cover gown, N-95 respirator, and gloves
- C) Cover gown, N-95 respirator, gloves, and disposable shoe covers
- D) Cover gown, N-95 respirator, gloves, and goggles
- E) Cover gown, N-95 respirator, gloves, disposable shoe covers, and goggles