

26 – Daily Question Preview 3

Speaker: John Bennett, MD

2020 **INFECTIOUS DISEASE BOARD REVIEW**

Daily Question Preview 3

Moderator: John Bennett MD

2020 **INFECTIOUS DISEASE BOARD REVIEW** **PREVIEW QUESTION**

1.1

A 23-year-old man presents with a history of unprotected receptive anal sex with known HIV-infected man, and one week of fever, adenopathy.

HIV-1/2 ELISA is reactive, viral RNA level 500,000 c/ml. He is started immediately on antiretrovirals.

His confirmatory assay is negative, and repeat assays sent 3 weeks, 3 months, and one year after starting antiretrovirals are also negative.

ELISA remains reactive. HIV-2 assay is negative. Viral RNA on therapy is <40 c/ml.

2020 **INFECTIOUS DISEASE BOARD REVIEW** **PREVIEW QUESTION**

1.1

Which of the following is correct:

A) The patient was infected with a strain of HIV-1 that was not detected by the confirmatory assay

B) The patient is HIV-infected but did not develop a positive confirmatory assay because of the early antiretroviral therapy intervention

C) The patient never had HIV infection.

D) The patient had HIV but is now cured of HIV and antiretrovirals can safely be stopped

2020 **INFECTIOUS DISEASE BOARD REVIEW** **PREVIEW QUESTION**

1.2

A 49-year-old woman from Guinea-Bissau has a reactive HIV-1/2 ELISA and a HIV multispot positive for HIV-2 and negative for HIV-1.

CD4 cell count is 350 cells/ μ l.

2020 **INFECTIOUS DISEASE BOARD REVIEW** **PREVIEW QUESTION**

1.2

Which of the following is correct?

A) HIV-2 is less pathogenic than HIV-1 so she only needs therapy with one antiretroviral drug

B) She should not be treated with protease inhibitors because HIV-2 is naturally resistant to PIs.

C) She should not be treated with NNRTI therapy because HIV-2 is naturally resistant to NNRTIs.

D) Use of routine HIV-1 viral load assays is useful in patient management

2020 **INFECTIOUS DISEASE BOARD REVIEW** **PREVIEW QUESTION**

1.3

A 26-year-old otherwise healthy gay white man has his first HIV test as part of a new health plan. The fourth generation test is antibody reactive and antigen non-reactive.

A supplemental third generation HIV-1/2 ELISA is non reactive, and an HIV RNA test does not detect HIV RNA.

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1.3

The most likely explanation for these results is

- A) This person HIV infected and is an elite non-controller
- B) This person is HIV infected but is in the window period for HIV infection
- C) This person is infected with an HIV variant that is not detected by the supplemental test
- D) This person is not HIV infected

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1.4

A 27-year-old female commercial sex worker working in Washington, DC, visits your clinic and requests PrEP.

She shows you her home HIV test, which she took yesterday, and which is non-reactive. She has normal laboratory results and a negative pregnancy test.

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1.4

Which of the following is most appropriate next step?

- A) She can immediately initiate PrEP with tenofovir-FTC with no additional testing
- B) She requires additional testing with fourth generation Ag/Ab HIV test to determine whether she is infected with a non-B subtype of HIV-1 that is not detected by the home HIV test.
- C) She requires additional testing with fourth generation HIV test to determine whether she has early HIV infection not detected by the home HIV test.
- D) She should not initiate PrEP because PrEP does not work well in women

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1.5

83-Year-Old Man with Bloody Diarrhea Develops Renal Failure. He has a one week history of diarrhea with stools containing blood; he undergoes colonoscopy which looks like ischemic colitis

As his diarrhea improves his urine output decreases

Serum creatinine is 9, platelet count of 50,000, hematocrit 20 and LDH 1,000.

Stool culture on Sorbitol MacConkey Agar grows no sorbitol-negative E. coli and stool sample is positive for Shiga toxin 2 by EIA

He is treated with Eculizumab, a humanized monoclonal antibody inhibits the terminal sequence of complement

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1.5



Colonoscopy Shows "Ischemic Colitis"



Peripheral Smear Shows Red Cell Fragments

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1.5

What is the likely cause of dysentery and renal failure in the elderly man?

- A) Ischemic bowel disease
- B) Non-O157 Shigatoxin producing E. coli (STEC)
- C) O157:H7 strain of STEC
- D) Shigella dysenteriae 1 (Shiga bacillus)
- E) Campylobacter jejuni



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1.6 A patient develops numbness of lips, burning and tingling of his extremities, and abdominal pain and vomiting 30 minutes after a meal in Jamaica, progressing to respiratory failure.

What is the likely diagnosis?

- A) Scombroid
- B) Paralytic shellfish poisoning
- C) Ciguatera
- D) Neurotoxic shellfish poisoning
- E) Monosodium glutamate toxicity

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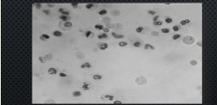
PREVIEW QUESTION

1.7

A 35-year-old woman develops diarrhea, cramps and is passing bloody stools with fever while snorkeling with her family in Cozumel, Mexico.



Grossly bloody stool



Many leukocytes of stool microscopically indicate diffuse colonic inflammation

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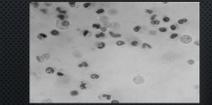
1.7

What is the preferred treatment for this patient With dysenteric traveler's diarrhea?

- A) Azithromycin 1,000 mg
- B) Ciprofloxacin 500 mg twice daily X 3 days
- C) Levofloxacin 500 mg
- D) Rifaximin 200 mg three times/d for 3 days
- E) Oral fluids only



Grossly bloody stool



Many leukocytes of stool microscopically indicate diffuse colonic inflammation

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PREVIEW QUESTION

1.8

A 43-year-old HIV+ man has CD4 900-1200 and HIV RNA consistently <200 copies over the last 11 years.

Do you recommend starting ART?

- A) Yes, all current guidelines recommend starting.
- B) No, he's a long-term non-progressor and doesn't need ART.
- C) No, he should wait until his viral load level is confirmed >200 copies/ml.
- D) No, he should wait until CD4 is confirmed <500.

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PREVIEW QUESTION

1.9 You have been monitoring a 36 year old HIV+ man with CD4 ~350, VL 636,000 who is now ready to start ART, but wants the "simplest regimen possible."

Which of these regimens do you recommend?

- A) zidovudine/lamivudine + darunavir (boosted)
- B) tenofovir/emtricitabine/rilpivirine
- C) abacavir/lamivudine + efavirenz
- D) lamivudine/dolutegravir
- E) tenofovir/emtricitabine + dolutegravir

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PREVIEW QUESTION

1.10 A 52-year-old woman is admitted for progressive SOB, is intubated, undergoes BAL and is found to have PCP. HIV Ab test is positive, CD4 103, HIV RNA 135,000 copies/ml. She is day 4 of IV trimethoprim-sulfa and corticosteroids and still intubated.

When should she start ART?

- A) Immediately
- B) In the next 2 weeks
- C) After completing 21 days of trimethoprim-sulfa
- D) At her first outpatient clinic visit

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1.11 A 55-year-old treatment-naïve man with HIV disease, CD4 320 and HIV RNA 67,000 cps/ml

Lab testing reveals: toxoplasma Ab+; CMV Ab+; HAV total Ab+; HBV surface Ag+, core Ab+, surface Ab-; HCV Ab-; RPR NR

Of the following, which ART regimen would you recommend?

- A) abacavir/lamivudine/dolutegravir
- B) abacavir/lamivudine + atazanavir (boosted)
- C) tenofovir (TAF or TDF)/emtricitabine + zidovudine
- D) tenofovir (TAF or TDF)/emtricitabine + darunavir (boosted)

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1.12

A 34-year-old HIV-negative nurse sustains a needlestick from an HIV-positive patient who has not taken ART for 2 years.

Which of these post-exposure (PEP) regimens do you recommend?

- A) tenofovir (TDF)/emtricitabine
- B) tenofovir (TDF)/emtricitabine + integrase inhibitor
- C) tenofovir (TAF)/emtricitabine + integrase inhibitor
- D) tenofovir (TDF)/emtricitabine + protease inhibitor

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1.13

A hospitalized patient with nosocomial Influenza A was treated promptly with oseltamivir.

She should be placed on:

- A) Standard Precautions in any room
- B) Standard Precautions in a private room
- C) Contact Precautions
- D) Droplet Precautions
- E) Airborne Precautions

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1.14

A 47-year-old male with acute myeloid leukemia and a neutrophil count below 100/mcl for the past three weeks has been febrile for 10 days, first treated with piperacillin-tazobactam

Had been on prophylactic micafungin but a blood culture is growing a yeast on Gram stain.

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1.14

The most likely echinocandin-resistant yeast is which of the following:

- A) Candida parapsilosis
- B) Candida glabrata
- C) Candida auris
- D) Trichosporon asahii
- E) Candida krusei

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1.15

45 year-old male 6 weeks post stem cell transplant for myelodysplasia, with a history of chronic hepatitis C was discharged home to Florida on cyclosporine, mycophenylate, prednisone, Bactrim (tmp/smz), citalopram and voriconazole.

Diffuse nonpruritic erythema developed over his sun exposed skin.

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1.15

The most probable cause was:

- A) Porphyria cutanea tarda
- B) Graft versus host disease
- C) Drug interaction
- D) Voriconazole
- E) Bactrim allergy

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1.16

A 55-year-old man presents with R hip pain

H/o COPD requiring steroids frequently
HIV diagnosed 17 years ago

On TDF / FTC / EFV for 10 years; originally on IND / AZT / 3TC
Initial HIV RNA 340,000; CD4 43 cells/ul
Now HIV RNA < 50 c/ml; CD4 385 cells/ul

Electrolytes NL; Creat 1.3; Phos 3.5 Ca 8.5
Mg 2.1, alk phos 130; U/A neg
R Hip film unremarkable

INFECTIONSDISEASEBOARD REVIEW PREVIEW QUESTION

1.16

Which if the following is the most likely underlying cause of his hip pain?

- A) Osteonecrosis of Femoral Head
- B) Fanconi's syndrome
- C) Vitamin D deficiency
- D) Tenofovir bone disease
- E) Hypogonadism

INFECTIONSDISEASEBOARD REVIEW PREVIEW QUESTION

1.17

A 55-year-old man presents with complaints of crushing chest pain

HIV diagnosed 10 years ago
Initial HIV RNA 340,000; CD4 43 cells/ul
Now HIV RNA < 50 c/ml; CD4 385 cells/ul

Initially Rx with ZDV/3TC / EFV;
Now on ABC/3TC/ EFV

On no other medications / smoker
ECG shows acute myocardial infarction

INFECTIONSDISEASEBOARD REVIEW PREVIEW QUESTION

1.17

Which of the following is the highest relative risk for his Acute MI?

- A) Cigarette smoking
- B) Lipid levels (LDL level of 180 / HDL 30)
- C) Abacavir use
- D) Lack of use of aspirin
- E) HIV infection

INFECTIONSDISEASEBOARD REVIEW PREVIEW QUESTION

1.18

A 25-year-old black woman presents with fatigue

History of IV Heroin use; intermittently takes TDF/FTC PreP
Exam no edema
Work up in ER shows creatinine 8.4
BUN 79; mild anemia; mild acidemia

In ER 10 weeks earlier; normal renal function
U/A high grade proteinuria
US of kidneys: Normal to increase size; no obstruction
Rapid HIV test positive

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1.18

Which of the following is the most likely cause of her renal failure?

- A) Volume depletion / ATN
- B) Heroin Associated Nephropathy
- C) HIVAN
- D) Membranous glomerulonephritis
- E) Tenofovir Toxicity (PrEP)

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1.19

35 year-old woman with a history of seizure disorder who was admitted to the ICU with a fever to 40° C, hypotension, and a maculopapular rash.

She is being empirically treated with vancomycin and piperacillin-tazobactam. Blood, urine, and sputum cultures (taken prior to antibiotic initiation) are negative.

Exam: Tachycardia with otherwise normal vital signs. Diffuse maculopapular rash with facial edema and sparing of the mucosal surfaces

Labs are notable for elevated AST/ALT and peripheral eosinophilia

Only home medication is lamotrigine, which she has taken for years. She recently increased the dose two weeks ago

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1.19

Her clinical syndrome is most consistent with:

- A) Sepsis
- B) Stevens–Johnson syndrome (SJS)/toxic epidermal necrolysis (TEN)
- C) DRESS (drug-induced hypersensitivity syndrome)
- D) Erythema Multiforme
- E) Neuroleptic Malignant Syndrome (NMS)