QP2 – Daily Question Preview: Day 2
Moderator: John Bennett, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

Daily Question Preview: Day 2

Moderator: Jack Bennett, MD

8/22/2022

IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

2.1 Low Dose Pathogens Commonly Cause Diarrhea Outbreaks in Day Care Center: Which of the following doesn't fit?

A) *Shigella*

B) *Cryptosporidium*

C) *Giardia*

D) *Campylobacter jejuni*

E) Norovirus

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IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

2.2 **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.**

Colonoscopy Shows "Ischemic Colitis"

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PREVIEW QUESTION

2.2

- **Stool culture on Sorbitol MacConkey Agar grows only sorbitol-fermenting *E. coli* and stool sample is positive for Shiga toxin 2 by EIA**
- **He is treated with hemodialysis**

Peripheral Smear Shows Red Cell Fragments

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PREVIEW QUESTION

2.2

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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IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

2.3 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

2.4 44 yr old previously healthy male accountant in Washington DC presented with the acute onset of confusion that was preceded by three months of headache.

Cranial MRI was normal.

Lumbar CSF had an opening pressure of 350mm CSF, WBC 250/cu mm, glucose 22 mg /dl, protein 125 mg/dl and cryptococcal antigen titer 1:512.

Liposomal amphotericin B was begun at 5.0 mg/kg IV daily.

On the third day of treatment he complained that the room was too dark and was found to have visual acuity of hand motion only in both eyes.

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PREVIEW QUESTION

2.4 The most important next step in this patient is which of the following:

A) Start flucytosine

B) Start fluconazole

C) Start acetazolamide (Diamox)

D) Begin daily lumbar punctures

E) Start dexamethasone

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PREVIEW QUESTION

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PREVIEW QUESTION

2.5 35 yr old male 68 days post allogeneic bone marrow transplantation for myelodysplastic syndrome, receiving methylprednisolone 500 mg for Grade III GVHD of the gastrointestinal tract developed fever, several painful, red skin nodules and a blood culture growing a mold.

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PREVIEW QUESTION

2.5 The most likely fungus is which of the following:

A) Scedosporium apiospermum (Pseudallescheria boydii)

B) Lomentospora (Scedosporium) prolificans

C) Apophysomyces elegans

D) Fusarium multiforme

E) Alternaria alternata

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PREVIEW QUESTION

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PREVIEW QUESTION

2.6 54 year old man with 4 weeks of cough, low grade fevers, & left-sided chest pain.

Received a liver transplant 11 months ago, complicated by rejection, requiring high dose steroids 4 months ago. He receives TMP/SMX three times a week.

On exam, he is stable, chronically-ill appearing, febrile (101.1˚F), has clear lungs and benign abdomen.

Labs reveal a normal white blood cell count, slight anemia, & normal creatinine.

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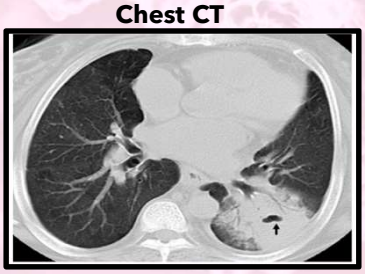
PREVIEW QUESTION

2.6 Chest radiograph reveals hazy opacity in left lower lung zone. Chest CT reveals nodular air-space consolidation in the left lower lobe with central cavitation (image).

Gram strain of bronchoalveolar lavage fluid reveals beaded gram positive filamentous organisms (image).

Chest CT



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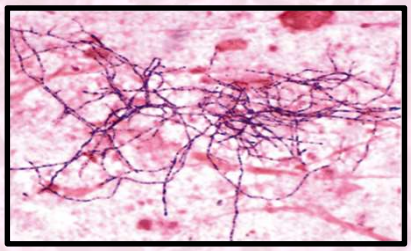

CT Image from J. Bargehr, *et al. Clinical Radiology*, 2013-05-01, Volume 68, Issue 5, Pages e266-e271.
Gram stain image from Murray, *et al.* Medical Microbiology, 7E. 2013 Saunders, Elsevier.

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PREVIEW QUESTION

2.6 What is the most likely cause of this patient's pneumonia?

A) Cryptococcus neoformans

B) Histoplasma capsulatum

C) Actinomyces israellii

D) Nocardia farcinica

E) Aspergillus fumigatus

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PREVIEW QUESTION

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PREVIEW QUESTION

2.7 **A 63 y/o man with no significant past medical history presents with a week of fever, rigors, and progressive dyspnea on exertion.**

Exam : BP 160/40 P110, 39.5

- **Rales ½ way up bilaterally**
- **Loud diastolic decrescendo murmur, lower left sternal border**

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PREVIEW QUESTION

2.7 Labs and studies

- WBC 23,000 90% PMNS, HCT 30. Platelets 110.
- Creatinine 1.6 mg/dl
- TTE 1.5 cm oscillating mass, on bicuspid AV with severe aortic regurgitation

3/3 blood cultures: Gram positive cocci in clusters.

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PREVIEW QUESTION

2.7 What antibiotic regimen would you recommend pending further information about Gram-positive cocci?

A) Nafcillin

B) Vancomycin

C) Vancomycin + nafcillin

D) Vancomycin + gentamicin

E) Vancomycin + gentamicin + rifampin

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PREVIEW QUESTION

2.8 A 63 y/o woman with a history of mitral valve prolapse presents with 3 weeks of low-grade fever, fatigue, generalized weakness, weight loss, arthralgias.

She is first chair violinist for the local orchestra.

Exam: BP 135/90 P100 , 38.2˚C

- 3/6 holosystolic murmur, radiating the axilla
- Lungs are clear, no peripheral stigmata of endocarditis

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PREVIEW QUESTION

2.8

- Serum creatinine 1.2 mg/dl
- TTE: mitral valve prolapse with 0.5 cm vegetation on anterior leaflet, moderate regurgitation
- 3/3 blood cultures from admission positive for Streptococcus mitis, penicillin MIC = 0.25 μg/ml, ceftriaxone MIC = 0.25 μg/ml.

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PREVIEW QUESTION

2.8 What antibiotic regimen would you recommend for definitive therapy of this patient's infection?

A) Penicillin for 6 weeks

B) Penicillin + gentamicin for 4 weeks

C) Ceftriaxone for 4 weeks

D) Penicillin + gentamicin for 2 weeks then penicillin for 2 weeks

E) Ceftriaxone + gentamicin for 2 weeks then ceftriaxone for 2 weeks

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PREVIEW QUESTION

2.9 A 72 y/o man type 2 diabetes mellitus, stage II chronic kidney disease (CKD), and a history of mild aortic stenosis is admitted to the hospital with fever, dysuria, and urinary frequency.

Exam: T38.9˚C, Pulse 110 , BP 145/95 mm Hg.

- Lungs are clear
- 3/6 systolic ejection murmur at the right upper sternal boarder.

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PREVIEW QUESTION

2.9 **Lab results**

- Serum glucose 340 mg/dl
- Serum creatinine 1.7 mg/dl, BMP otherwise normal
- UA: 3+ protein, 20-50 WBCs/high power field, 4+ glucose.
- Two blood cultures and a urine culture are positive for ampicillin-susceptible *Enterococcus faecalis*.

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PREVIEW QUESTION

2.9 **What antibiotic regimen would you recommend for definitive therapy of this patient's infection?**

A) Ampicillin for 2 weeks

B) Penicillin + gentamicin for 4 weeks

C) Ampicillin + gentamicin for 4 weeks

D) Ampicillin + ceftriaxone for 6 weeks

E) Daptomycin for 8 weeks

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PREVIEW QUESTION

2.10 45 year old man, one week of back pain.

He is afebrile and vital signs are normal; normal exam except for tenderness to palpation of the lower back.

MRI shows L3-L4 discitis, hyperemic marrow; 1 of 3 blood cultures is positive for coagulase-negative staphylococci.

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PREVIEW QUESTION

2.10 Which one of the following would you recommend?

A) Bone biopsy with culture as the blood isolate is likely a contaminant

B) Request speciation of the blood isolate

C) PET-CT to look for another focus of infection for biopsy

D) Fungal serologies, PPD

IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

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PREVIEW QUESTION

2.11 On day 9 of nafcillin therapy for complicated methicillin-sensitive *S. aureus* bacteremia the patient has developed new neutropenia (1,000 neutrophils).

MICs (µg/ml) of the blood isolate are penicillin 0.12 (S), cefazolin 0.5 (S), vancomycin 1 (S), daptomycin 0.5 (S), ceftaroline 0.5 (S).

PREVIEW QUESTION

2.11 Which one of the alternative agents would you recommend?

A) Penicillin

B) Cefazolin

C) Vancomycin

D) Daptomycin

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PREVIEW QUESTION

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A) Penicillin

B) Cefazolin ***

C) Vancomycin

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PREVIEW QUESTION

2.12 **A patient with complicated MRSA bacteremia on day 9 of therapy with daptomycin q48h develops myalgias with a creatinine kinase of 1250 u/L (upper limit of normal 200).**

The last positive blood culture was on day 3 of therapy. MICs (µg/ml) of the isolate are as follows: vancomycin 2 (S), daptomycin 0.5 (S), dalbavancin 0.25 (S), telavancin 0.5 (S), ceftaroline 1 (S).

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PREVIEW QUESTION

2.12 Which one of the following would you recommend?

A) Ceftaroline

B) Dalbavancin

C) Telavancin

D) Vancomycin

E) Linezolid

IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

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B) Dalbavancin

C) Telavancin

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PREVIEW QUESTION

2.13 A 25-year-old woman complains of 6 weeks of symptoms consistent with dyspepsia unrelieved by current use of antacids & an OTC PPI.

The best approach to the diagnosis of H. pylori infection in this patient is:

A) Immediate Hp serology

B) Immediate Hp stool antigen EIA

C) Endoscopy with rapid urease test (RUT)

D) Immediate 13C Urea Breath Test

E) D/C PPI for 2 weeks then Hp stool antigen EIA

IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

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PREVIEW QUESTION

2.14 Which of the following is the most appropriate next step for evaluating a 29-year-old previously healthy but overweight male patient with typical retrosternal heartburn symptoms?

A) Stool antigen test for *H. pylori*

B) Urea breath test for *H. pylori*

C) No testing for *H. Pylori*

D) Serological testing for *H. pylori*

E) Empiric therapy for *H. pylori* regardless of testing

IDBR INFECTIOUS DISEASE BOARD REVIEW

PREVIEW QUESTION

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PREVIEW QUESTION

2.15 **The MICU attending calls you because she's noticed 4 patients with new *Burkholderia cepacia* complex infections in her unit over the last 6 months.**

The patients were hospitalized during different periods and all were first detected >7 days after admission.

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PREVIEW QUESTION

2.15 **What potential sources will you investigate?**

A) Are providers consistently washing their hands between patients?

B) Are providers wiping down stethoscopes & phones between patients?

C) Did all the patients receive care from a common healthcare worker?

D) Were there any common devices amongst patients (e.g., ventilators, ECMO, bronchoscopes, ultrasound probes, etc.)?

E) Did all the patients visit the same operating room?

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PREVIEW QUESTION

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