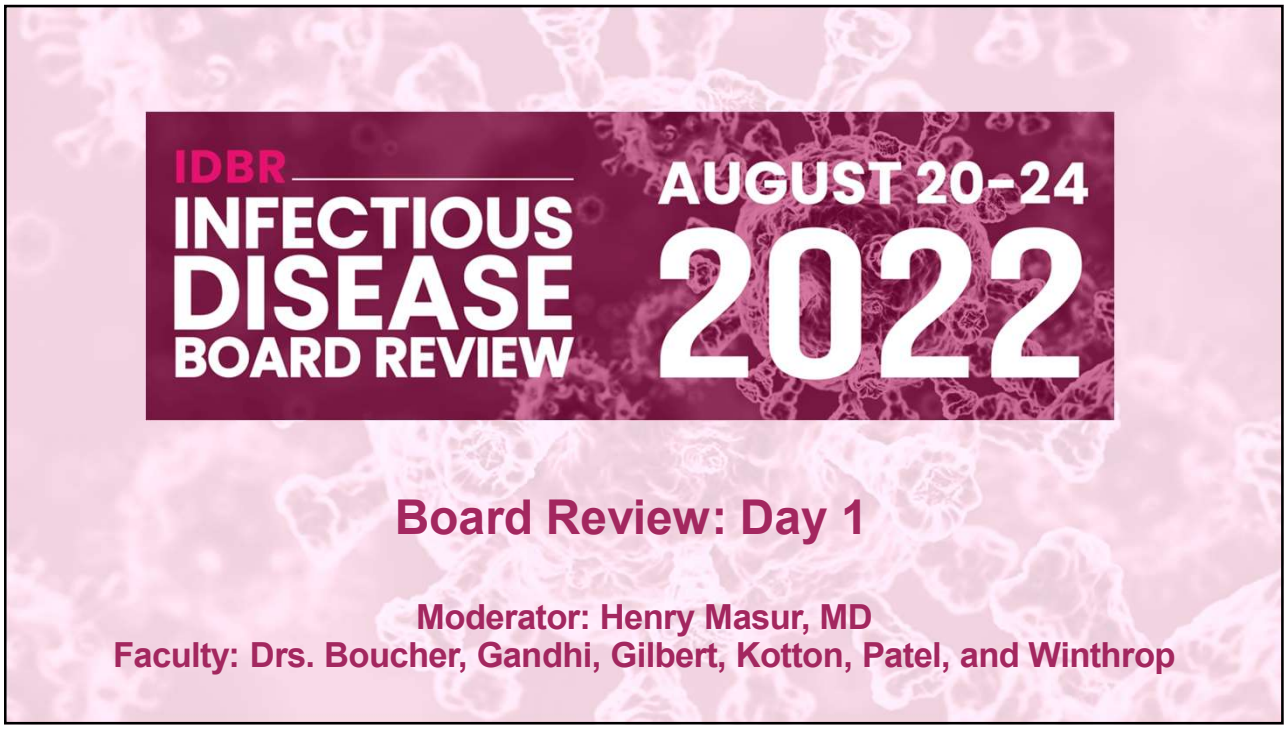
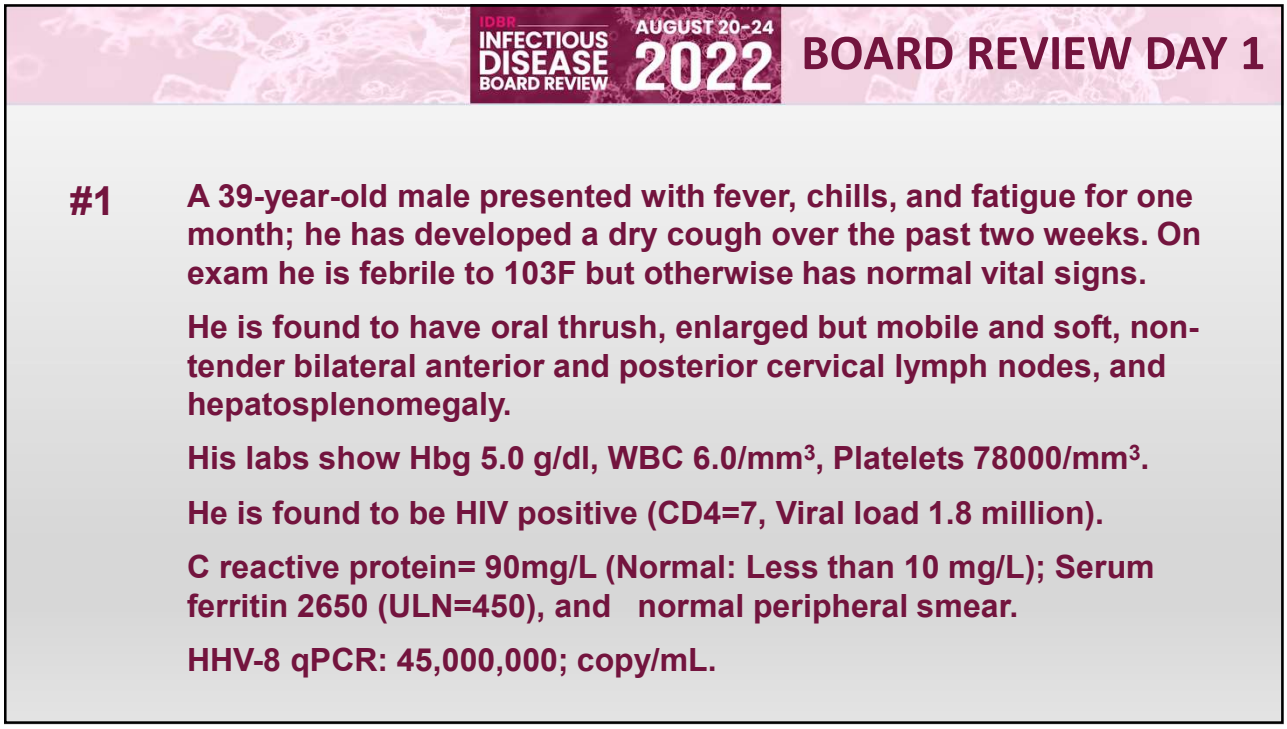
BR1 – Board Review: Day 1

Moderator: Henry Masur, MD





BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

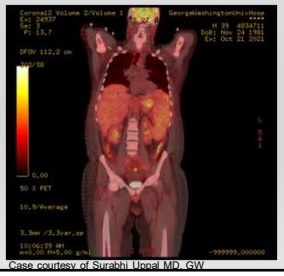
#1 **Chest CT shows mediastinal, axillary and cervical adenopathy.**

Abdominal CT shows hepatosplenomegaly and diffuse adenopathy.

His bone marrow biopsy shows a hypercellular marrow with interstitial HHV8-positive cells and polyclonal plasma cells.

An extensive workup for other bacterial, fungal and viral pathogens is not contributory

PET Scan



Case courtesy of Surabhi Uppal MD, GW

- Bilateral scalene lymphadenopathy
- Hepatosplenomegaly
- Diffuse hypermetabolic activity of the axial and appendicular skeletal system

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BOARD REVIEW DAY 1

#1 **The therapy most likely to be effective for this complication of HIV, in addition to starting antiretroviral therapy, would be:**

A) Ganciclovir

B) Ribavirin

C) Dexamethasone

D) Alemtuzumab (Campath)

E) Rituximab (Rituxan)

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

#2 **An 18-year-old woman in Portland, Oregon presented to an acute care office because of a 4-day history of redness and pain in her upper ear beginning two days after an ear piercing at a shopping mall.**

She had seen her pediatrician two days prior because of pain in the insertion site and was given cephalexin to take four times daily.

She took the medication as prescribed but the pain had become increasingly severe over the next two days and today, a Sunday, she had not been able to be seen again by her pediatrician.

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#2 She was otherwise healthy and has no history of boils or other notable skin infections.

On examination she was afebrile and had marked erythema, tenderness and swelling on the upper margin of her left ear around a small gold stud. No pus was seen or could be expressed by gentle pressure on the wound site.

There was no local adenopathy.

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#2 The most useful therapeutic maneuver, in addition to extracting the stud, would be to modify the cephalexin regimen with which of the following:

A) Add ciprofloxacin
B) Add metronidazole
C) Add valacyclovir
D) Change cephalexin to amoxicillin-clavulanate
E) Add a single IV dose of ceftriaxone

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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#3 A 62-year-old male computer engineer from Seattle is 90 days post allo-HSCT for myelodysplastic syndrome and has been receiving valacyclovir prophylaxis.

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

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

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Moderator: Henry Masur, MD

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#3 **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 after a week of ganciclovir.

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#3 **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

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Moderator: Henry Masur, MD

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#4 **A 24-year-old female had completed her fifth course of cytotoxic chemotherapy for squamous cell carcinoma of the oropharynx.**

She had an absolute neutrophil count of 5/cu mm and platelet count of 7,000/cu mm when she developed the sudden onset of fever to 40°C but was otherwise stable.

Two blood cultures were drawn through the tunneled subclavian catheter, and one culture was drawn peripherally.

The tunneled subclavian catheter exit site and tunneled area were non-tender and look unremarkable on physical examination. There is no exit site inflammation or exudate.

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BOARD REVIEW DAY 1

#4 Two blood cultures drawn through the line and the peripheral blood culture are positive for E. coli which is sensitive to fluoroquinolones, cephalosporins, and aminoglycosides.

There is no indication of a source of the bacteremia other than the line.

CT of the abdomen with contrast is unrevealing as is a urinalysis. The referring team encourages you to try to salvage the line.

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BOARD REVIEW DAY 1

#4 What management would you recommend?

A) Remove the catheter and treat with ceftriaxone

B) Remove the catheter and treat with ceftriaxone plus 3 days of gentamicin

C) Retain the catheter and treat with ceftriaxone

D) Retain the catheter and treat with ceftriaxone and 3 days of gentamicin

E) Retain the catheter and treat with ciprofloxacin and 3 days of gentamicin

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#5 **Multiplex PCR platforms are now available in most diagnostic laboratories to determine cause of diarrhea.**

Which of the following indications is an appropriate indication for ordering a diarrhea stool study for a broad range of pathogens by one of these platforms?

A) Acute diarrhea of 7 days

B) Persistent diarrhea of 16 days

C) Gastroenteritis with vomiting

D) Patient with ulcerative colitis with flare

E) Patient suspected to have C. difficile diarrhea

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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#6 **Three United States Special Forces officers reported to sick call with a similar complaint of moderately severe, diffuse muscle pain, low-grade fever and malaise.**

Physical examination was normal except for diffuse muscle tenderness and some puffiness around the eyes.

Routine laboratory work was normal except for total eosinophil counts of 700-1000/cu mm and a CPK twice the upper limit of normal.

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Moderator: Henry Masur, MD

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#6 All three patients had been on a joint training mission in Brazil, during which they had spent nights in the jungle, waded in streams and had numerous insect bites.

At the end of the mission they had eaten at a barbecue of roast pig with other local foods.

Mefloquine was used for malaria prophylaxis. Symptoms began approximately two weeks after their return to the United States.

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BOARD REVIEW DAY 1

#6 The most likely cause of their illness would be which of the following?

A) Trypanosoma cruzi

B) Trichinella spiralis

C) Leishmania brasiliensis

D) Wuchereria bancrofti

E) Leptospira interrogans

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#7 **Which one of the following is the most likely mechanism of the resistance to the polymyxins, polymyxin B and colistin (polymyxin E)?**

A) Enzymatic modification of the polymyxin

B) Change in the drug site of action

C) Shedding of capsular polysaccharides

D) Presence of a plasmid-mediated efflux pump

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#8 **A 26-year-old woman has been receiving acupuncture for depression.**

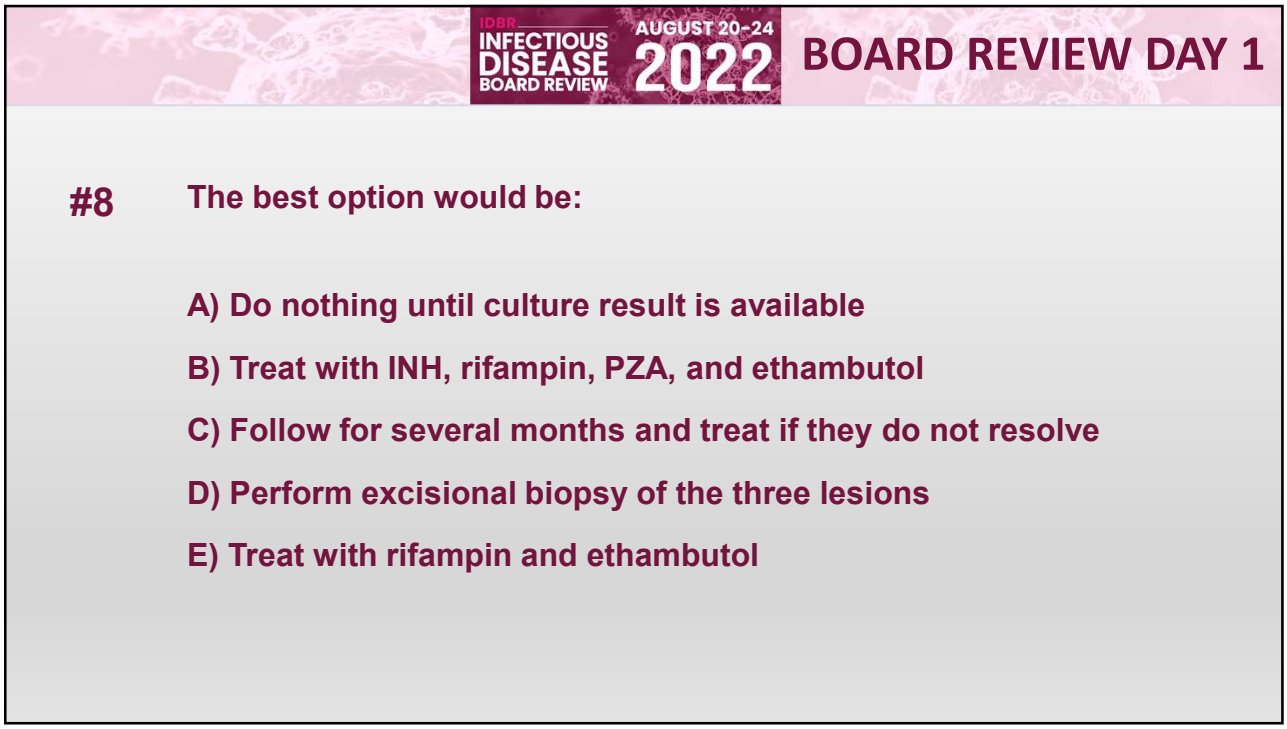
Four months after beginning acupuncture, she developed three tender 1-3 cm lesions at acupuncture sites on her neck.

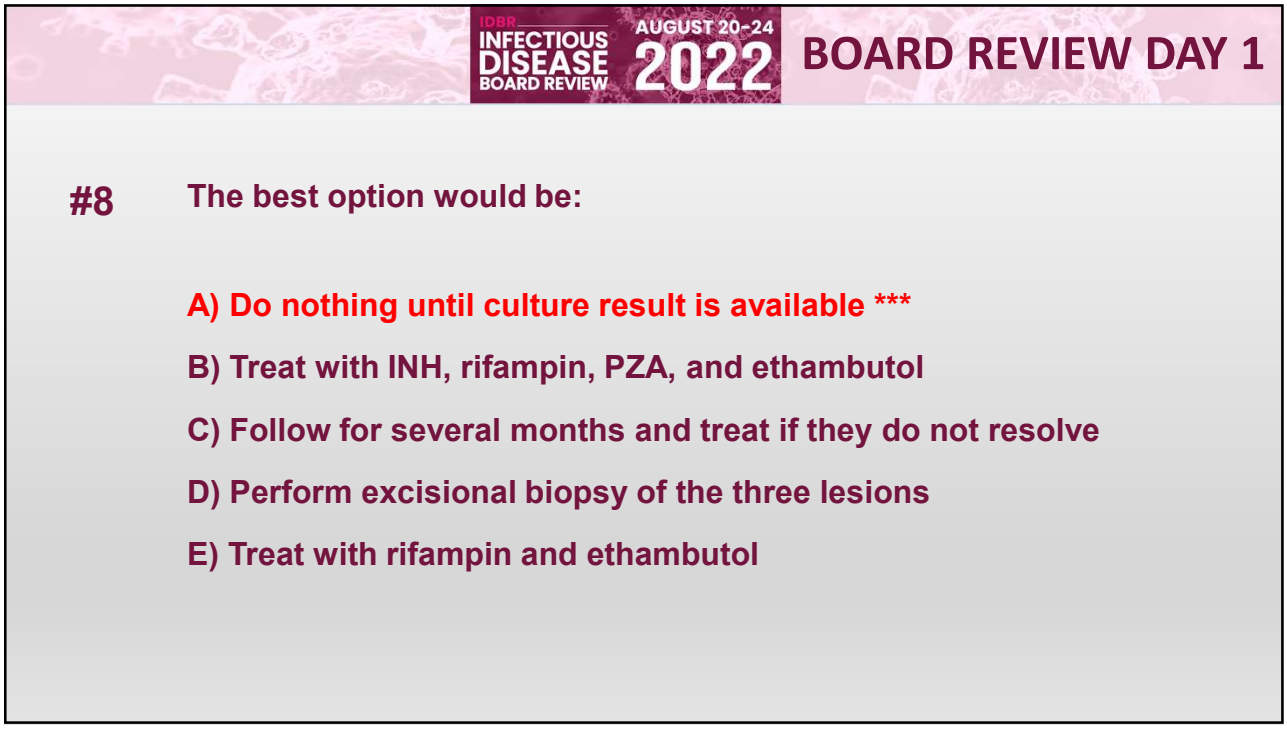
She is otherwise healthy and has a normal lab profile.

Biopsy shows granulomas with acid-fast organisms. Culture is pending.

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD





BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

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BOARD REVIEW DAY 1

#9 A 45-year-old male from Colorado whom you are following for long-term treatment of chronic osteomyelitis returns to your office complaining of decreasing vision of two weeks' duration.

After an initial course of vancomycin, long term suppression with linezolid 600 mg po bid was begun three months ago.

Four weeks ago numbness and tingling of his fingertips led to a diagnosis of peripheral neuropathy and pregabalin (Lyrica) was started.

Two weeks prior, he noted blurring of vision in his left eye. He consulted an ophthalmologist who reported vision of 20/400 in both eyes.

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BOARD REVIEW DAY 1

#9 The anterior chamber, vitreous and retinas were normal except for some blurring of the disc margins bilaterally and a pale sector in the right disc. Intraocular pressure was normal bilaterally.

He diagnosed optic neuritis and prescribed prednisone 40 mg daily. After two weeks, there was no improvement.

The patient drinks 4 to 6 beers a day, and was treated for syphilis two decades previously. A VDRL was negative and the FTA was positive.

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

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BOARD REVIEW DAY 1

#9 His medications are linezolid and pregabalin.

The patient admits to a sexual encounter with a prostitute while on a business trip 6 weeks ago.

He likes to go camping and is aware of numerous mosquito bites but not ticks.

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BOARD REVIEW DAY 1

#9 Which one of the following is the most likely diagnosis?

A) Pregabalin toxicity

B) CNS syphilis

C) Lyme

D) Thiamine deficiency

E) Linezolid toxicity

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

#10 **A 45-year-old woman undergoes a third kidney transplant.**

She is highly sensitized (has HLA antibodies that put her at higher risk of rejection) and is thus maintained on high doses of immunosuppression.

Her regimen includes belatacept, mycophenolate mofetil, and prednisone.

Her donor was CMV IgG positive, she was CMV IgG negative (D+R-) and she was maintained on valganciclovir prophylaxis.

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Moderator: Henry Masur, MD

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#10 She now has a rising CMV viral load (44,000 IU/ml on plasma) on treatment dose valganciclovir (900 mg twice a day). She feels a bit fatigued and has some diarrhea, with no visual changes or other symptoms.

Her transplant doctors are reluctant to reduce immunosuppression further.

Genotyping of CMV in her peripheral blood showed a A594V mutation in the UL97 gene, which has been associated with high-level resistance to ganciclovir.

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BOARD REVIEW DAY 1

#10 What would you recommend to treat her CMV disease?

A) High dose valacyclovir 8 grams/day

B) CMV immunoglobulin

C) High dose intravenous ganciclovir

D) Maribavir

E) Letermovir

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#11 **A *Staphylococcus aureus* isolate is highly resistant to vancomycin (VRSA).**

Vancomycin resistance in this isolate is likely mediated by which of the following gene clusters?

A) *mecA*

B) *vanA*

C) *vanB*

D) *vanC*

E) *ileS-2*

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#12 **A 37-year-old male construction worker from Mexico was referred because of new skin lesions, arhthralgias and fever.**

The patient had been diagnosed with lepromatous leprosy 4 months earlier and started on dapsone, rifampin, and clofazimine.

He was found to be HIV positive, with a CD4+ count of 350/cu mm and a viral load of 50,000 copies/ml. Antiretrovirals were not begun.

A few days prior to consultation, the patient had the onset of fever, arthralgias and new skin lesions.

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Moderator: Henry Masur, MD

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#12 On examination his temperature was 39.5°C.

In addition to his prior skin nodules and plaques, he had several new, tender, red, nodular lesions on his face and anterior aspect of his lower extremities.

Routine CBC and chemistries were unremarkable. A CRP was 45.

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#12 The most likely course of action to benefit this patient is which of the following:

A) Hold dapsone and rifampin

B) Start thalidomide

C) Start ethambutol

D) Stop clofazimine

E) Biopsy a skin lesion for culture

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

#13 **A 27-year-old man is brought by ambulance to the emergency room. His mother came home at the end of her workday and found him delirious on the living room couch. When she touched him, he was "burning up," and she called for emergency service.**

In the emergency room his temperature is 103.4°F, his heart rate is 132, and his blood pressure is 88/56mmHg. He is not responsive to commands and mumbles incoherently.

He has an abdominal scar that his mother reports is due to a splenectomy, the result of trauma from a motorcycle accident when he was 19 years old.

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BOARD REVIEW DAY 1

#13 There is a deep abrasion on his right lateral calf that was erythematous, but not purulent. His mother reports that he scraped his leg 5 days ago when he slipped and fell off a stone wall while helping her plant spring flowers. He also had an encounter with a stray dog that bit him when he tried to move the dog out of his yard.

The patient is up to date on his vaccinations.

His white blood cell count is 24,700 with 19% band forms.

The lab calls to say that they think they see small rod-shaped bacteria on the Wright-stained blood smear.

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BOARD REVIEW DAY 1

#13 His illness is most likely due to which one of the following?

A) Streptobacillus moniliformis

B) Haemophilus influenzae

C) Vibrio vulnificus

D) Capnocytophaga canimorsus

E) Pasteurella canis

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

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IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

#14 **A 25-year-old female with acute myelogenous leukemia is currently in complete remission and is being scheduled for an allogeneic stem cell transplantation in the near future.**

The patient's CMV IgG is positive, and her identified donor's CMV IgG is negative.

BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

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#14 **Which of the following would you recommend regarding prevention of CMV infection post-transplantation?**

A) Letermovir

B) Brincidofovir

C) Acyclovir

D) Monthly IVIG

E) Valganciclovir

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022 BOARD REVIEW DAY 1

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BR1 – Board Review: Day 1

Moderator: Henry Masur, MD

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#15 A 50-year-old 5'10", 278 lb (BMI 40) male is admitted for treatment of weeping bilateral lower leg "cellulitis not responding to outpatient therapy with oral amoxicillin/clavulanate."

Leg swelling is of several months' duration but the fluid oozing is of recently origin and worse after standing all day at his job. He recently quit work for that reason.

On exam, temp 37.2C with otherwise normal vital signs.

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#15 Both lower legs and feet are red, edematous, pit slowly to pressure, and minimally tender. The skin has some loose blebs that are oozing sticky fluid. There is an underlying brownish hue to the skin.

Pulses are detectable with Doppler.

There is evidence of both tinea pedis and onychomycosis.

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Moderator: Henry Masur, MD

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BOARD REVIEW DAY 1

#15 **Which one of the following is the most likely diagnosis:**

A) Erysipelas

B) Stasis dermatitis

C) Erythrasma

D) Staphylococcal scalded skin syndrome

IDBR INFECTIOUS DISEASE BOARD REVIEW AUGUST 20-24 2022

BOARD REVIEW DAY 1

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