

Chapter 81, Self-Assessment Questions

Case pertaining to questions 1–6: An 82-year-old woman with no known allergies was admitted to the hospital to receive surgical and medical management for suspected osteomyelitis of the tibia. During surgical debridement, a bone biopsy was obtained for culture and histopathology. The microbiology laboratory reported *Staphylococcus aureus*, susceptible to vancomycin, linezolid, daptomycin, trimethoprim-sulfamethoxazole but resistant to penicillin, oxacillin, ciprofloxacin, erythromycin, and clindamycin.

1. Select an appropriate intravenous antimicrobial regimen for this patient.
 - A. Linezolid
 - B. Levofloxacin
 - C. Nafcillin
 - D. Trimethoprim-sulfamethoxazole
 - E. Vancomycin

2. Which laboratory parameter(s) should be monitored weekly in this patient receiving intravenous antibiotic therapy?
 - A. Liver function tests
 - B. BUN/SCr
 - C. Vancomycin trough
 - D. A and B
 - E. B and C

3. Response to therapy can be evaluated by the following laboratory test(s):
 - A. CPK

- B. CRP
 - C. ESR
 - D. A and B
 - E. B and C
4. Following 3 weeks of intravenous therapy with clinical improvement, the clinician would now like to switch to oral therapy. What do you recommend?
- A. Daptomycin
 - B. Linezolid
 - C. Levofloxacin
 - D. Trimethoprim-sulfamethoxazole
 - E. Vancomycin
5. Which laboratory parameter should be monitored weekly with this oral regimen?
- A. Amylase/lipase
 - B. BUN/SCr
 - C. CBC
 - D. CPK
 - E. LFT
6. What is the minimum duration of therapy for this patient according to Infectious Diseases Society of America (IDSA) guidelines?
- A. 4 weeks
 - B. 6 weeks
 - C. 8 weeks
 - D. 3 months

E. 6 months

Case pertaining to questions 7–10: An 8-year-old boy with a sulfa allergy presents to the emergency department with worsening signs and symptoms of cellulitis. He is on day 5 of cephalexin therapy. The medical team has ordered laboratory tests and imaging studies for suspected osteomyelitis.

7. Which imaging study(s) would be appropriate for diagnosis in this patient?
 - A. X-ray
 - B. MRI
 - C. CT scan
 - D. A and B
 - E. All of the above

8. Osteomyelitis can be definitely diagnosed by:
 - A. Isolation of organism(s) from bone biopsy
 - B. Isolation of organism(s) from sinus tract
 - C. Positive imaging test and elevated ESR
 - D. A and B
 - E. B and C

9. The route of infection in this patient is most likely.
 - A. Acute
 - B. Chronic
 - C. Contiguous with vascular insufficiency
 - D. Contiguous without vascular insufficiency
 - E. Hematogenous

10. Blood cultures (two sets) obtained in the emergency department were positive for *S. aureus*. Sensitivity data were as followings: susceptible to clindamycin, levofloxacin, linezolid, trimethoprim-sulfamethoxazole and vancomycin, but resistant to penicillin, oxacillin, and erythromycin. Disk diffusion test (D-test) was reported as negative. The patient was admitted for intravenous therapy and is now being discharged on oral therapy.

Which oral regimen would you recommend for this patient?

- A. Clindamycin
- B. Doxycycline
- C. Levofloxacin
- D. Rifampin
- E. Trimethoprim-sulfamethoxazole and rifampin

Case pertaining to questions 11–15: A 57-year-old man (Ht 183 cm [6']; Wt 103 kg [227 lb]) with noninsulin-dependent diabetes and a nonhealing foot ulcer presents to the clinic with pain, redness, and swelling around the ulcer. An x-ray of the foot shows bone destruction consistent with osteomyelitis. Pertinent laboratory values: BUN 19 mg/dL (6.8 mmol/L); SCr 1.2 mg/dL (106 μ mol/L). He has no known allergies.

11. What organism(s) should be empirically covered for this patient?

- A. Gram-positives
- B. Gram-negatives
- C. Gram-positives and anaerobes
- D. Gram-negative and anaerobes
- E. Gram-positives, gram-negatives, and anaerobes

12. Select an appropriate empiric antimicrobial regimen for this patient.
- A. Aztreonam and vancomycin
 - B. Ceftazidime and vancomycin
 - C. Ciprofloxacin and vancomycin
 - D. Metronidazole and vancomycin
 - E. Piperacillin/tazobactam and vancomycin
13. If the patient begins vancomycin therapy, what dosage regimen would you recommend?
- A. 1000-mg IV infusion every 8 hours
 - B. 1000-mg IV infusion every 12 hours
 - C. 1000-mg IV infusion every 24 hours
 - D. 1500-mg IV infusion every 12 hours
 - E. 1500-mg IV infusion every 24 hours
14. If you want to ensure therapeutic vancomycin concentration(s), what monitoring parameter(s) should be performed?
- A. Obtain trough after first dose
 - B. Obtain trough at steady-state
 - C. Obtain peak after first dose
 - D. Obtain peak at steady-state
 - E. Obtain both peak and trough at steady-state

15. The clinician discharged the patient on daptomycin to be administered once daily in the infusion clinic. Which laboratory parameter should be monitored weekly?

- A. Amylase/lipase
- B. BUN/SCr
- C. CBC
- D. CPK
- E. LFT

Answers

1. E
2. E
3. E
4. B
5. C
6. C
7. D
8. A
9. D
10. A
11. E
12. E
13. D
14. B
15. D