

Infectious Diseases

1. A 45 year-old male, who is HIV positive, comes in for periodic follow-up. He complains of a history of white patches in the mouth that can be wiped off but may result in slight bleeding. He also endorses a loss of taste. Bloodwork showed a CD count of 134 cells/mm³. What prophylactic management, if any, should be started at this point?
 - a) INH + pyridoxine
 - b) Azithromycin
 - c) TMP-SMX 1 SS
 - d) None
2. A 67 year-old female, who had a recent hip replacement surgery, presents to the ER with 3 days of fever with Tmax of 38, HR 115, BP 98/60. She endorsed pain around the surgical site. On inspection, the skin appears dusky blue. She refused the remainder of the examination due to a significant amount of pain. What is the next best step?
 - a) Culture and sensitivity, then treat accordingly
 - b) Empiric IV piperacillin/tazobactam + clindamycin IV
 - c) Emergency surgical debridement
 - d) IV fluids
3. A 35 year-old male presents to the ER with a one day history of acute onset of pain, swelling and decreased range of motion in the right knee. He is afebrile. On history, he reveals to be sexually active with both men and women in the past 12 months. Joint aspiration confirmed your suspicion. What is the medical treatment?
 - a) Vancomycin + ceftriaxone
 - b) Cefazolin
 - c) Ceftriaxone + azithromycin
 - d) Cloxacillin
4. A 3 week-old female born to a G1P1 mother, who is a refugee, presents with increased irritability, fever, and poor feeding. The mother did not have prenatal care. The baby was born full term via spontaneous vaginal birth. What is the most likely organism responsible for this presentation?
 - a) H. Influenzae
 - b) S. pneumoniae
 - c) L. monocytogenes
 - d) GBS
5. A 31 year-old man with HIV was started on antiretroviral medication. His CD4 count is 22. The patient begins to develop blurred vision and poor visual acuity 1 month later. While afebrile, fundoscopic examination shows mixed hemorrhages and yellow granular exudates centered on vessels. Which diagnosis is the most likely?
 - a) Bacterial conjunctivitis
 - b) Neurosyphilis
 - c) Diabetic retinopathy
 - d) Immune reconstitution syndrome due to prior cytomegalovirus (CMV) infection
6. The various species of Campylobacter can cause diseases ranging from acute enteritis to bacteremia. Which of the following modes of transmission does NOT apply to Campylobacter?
 - a) Contact with infected animals
 - b) Contaminated food and water
 - c) Improperly cooked poultry
 - d) Aerolized droplets
 - e) Person to person spread via fecal-oral route

7. Which of the following is NOT a common infectious cause of acute diarrhea?
- E. coli
 - Shigella
 - Norwalk virus
 - V. cholerae
 - H. pylori
8. A virus that is not inactivated by mild detergents that solubilize phospholipid membranes is:
- Poliovirus
 - Variola virus
 - Cowpox virus
 - Vaccinia virus
9. All the following are true statements about viruses EXCEPT:
- They are obligate intracellular parasites
 - They are filterable agents
 - They are simply organized
 - They are devoid of enzymes
 - They may contain double stranded DNA
10. A viral genome that does not replicate in the cytoplasm of the infected cell is:
- Poliovirus
 - Rabies virus
 - Cytomegalovirus
 - Rubella virus
 - Mumps virus
11. Entamoeba histolytica is transmitted to humans by:
- Ingestion of infective eggs
 - Ingestion of cysts
 - Ingestion of animal tissue that contains the larva
 - Penetration of the skin by infective larva
 - Ingestion of adult form
12. Strongyloides spp. is transmitted to humans by:
- Ingestion of infective eggs
 - Ingestion of cysts
 - Ingestion of animal tissue that contains the larva
 - Penetration of the skin by infective larva
 - Ingestion of adult form
13. The biosynthesis of fungal ergosterol is inhibited by:
- Amphotericin B
 - Griseofulvin
 - Flucytosine
 - Nystatin
 - Ketoconazole
14. At what CD4 count are HIV patients at increased risk of developing PCP?
- CD4 count $>500 \times 10^6$
 - CD4 count $200-499 \times 10^6$
 - CD4 count $<200 \times 10^6$
 - CD4 count $< 500 \times 10^6$
 - None of the above
15. Which of the following is not a complication of meningitis?
- Hyponatremia
 - Seizure
 - Deafness
 - Hydrocephalus
 - None of the above
16. Which of the following does not cover pseudomonas?
- Imipenem
 - Tobramycin
 - Pip-tazo
 - Ceftazidime
 - Ceftriaxone
17. Which of the following ways is TB least likely to present?
- Hepatitis
 - Meningitis
 - Osteomyelitis
 - Septic arthritis
 - Peritonitis

ANSWERS

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