
Exam : ABMM

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Version : DEMO

1. A patient with a history of travel to Southeast Asia presents with fever, severe headache, and altered mental status. CSF analysis reveals lymphocytic pleocytosis and elevated protein, but routine bacterial and viral cultures are negative. Serological testing of CSF is positive for IgM antibodies against Japanese encephalitis virus.

The MOST likely mode of transmission for this infection is:

- A. Ingestion of contaminated food or water.
- B. Respiratory droplets from an infected individual.
- C. Bite of an infected mosquito.
- D. Direct contact with infected animals.

Answer: C

2. The primary mechanism of action of aminoglycoside antibiotics, such as gentamicin, involves:

- A. Inhibition of bacterial cell wall synthesis by binding to penicillin-binding proteins
- B. Inhibition of bacterial protein synthesis by binding to the 30S ribosomal subunit
- C. Inhibition of bacterial DNA gyrase and topoisomerase IV
- D. Disruption of bacterial cell membrane integrity

Answer: B

3. A patient with severe combined immunodeficiency (SCID) develops a progressive respiratory illness. Bronchoalveolar lavage fluid is examined using direct fluorescent antibody (DFA) staining, which reveals numerous cysts of *Pneumocystis jirovecii*.

The cysts appear:

- A. Small and round with a thick wall, containing sporozoites.
- B. Large and multinucleated with prominent endospores.
- C. Oval-shaped with a thin wall and internal nuclei.
- D. Cup-shaped or helmet-shaped with internal structures.

Answer: D

4. A patient with a history of recurrent sinusitis and bronchitis is diagnosed with cystic fibrosis. Sputum cultures repeatedly grow a Gram-negative rod that is oxidase-positive and produces a blue-green pigment.

This organism's chronic colonization of the respiratory tract in cystic fibrosis patients is primarily due to its ability to:

- A. Produce potent exotoxins that damage the ciliated epithelium.
- B. Form a biofilm that protects it from host defenses and antibiotics.
- C. Exhibit rapid intracellular replication within respiratory epithelial cells.
- D. Evade phagocytosis by alveolar macrophages through capsule production.

Answer: B

5. A clinical microbiology laboratory is monitoring the emergence of antimicrobial resistance.

The detection of a bacterial isolate with reduced susceptibility to multiple classes of antibiotics, often due to horizontal gene transfer of resistance determinants, is characteristic of:

- A. An intrinsically resistant organism.
- B. A pan-susceptible organism.

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- C. A multidrug-resistant (MDR) organism.
 - D. A naturally competent organism.

Answer: C