

# Week 7

## Clinical Decision-Making Discussion

**How does the empiric pharmacological therapy differ in a patient with healthcare-associated meningitis (such as a neurosurgical patient with an external ventricular drain) as compared to a healthy adult with community-acquired bacterial meningitis? Explain your rationale.**

Healthcare-associated meningitis and community-acquired bacterial meningitis are two life-threatening conditions requiring immediate treatment. Labs such as blood cultures and a lumbar puncture should be obtained prior to initiation of empiric therapy to identify the causative organism. Once obtained, empiric antibiotic therapy should be started as soon as possible. A delay in antibiotic administration of just 3 to 6 hours is associated with increased mortality (Runde et al., 2022).

Healthcare-associated meningitis is most commonly seen in patients who have undergone neurosurgery, experienced head trauma, and/or have had an external ventricular drain, intrathecal pump or spinal stimulator placed. Based on information from clinical practice guidelines put forth by Infectious Diseases Society of America, the recommended empiric treatment of healthcare-associated meningitis should include IV Vancomycin plus an anti-pseudomonal beta-lactam antibiotic such as IV Cefepime (Tunkel et al., 2017). If the patient is noted to have an anaphylactic allergy to beta-lactam agents and those in which meropenem is contraindicated, ciprofloxacin or aztreonam would be an appropriate alternative (Tunkel et al., 2017). Typical treatment should last 10-14 days depending on the type of organism identified. Any hardware (drains or stimulators) should be removed and cultured as well.

Empiric treatment of community-acquired bacterial meningitis is similar to that of healthcare-associated meningitis and includes IV antibiotic therapy. Selection of empiric antibiotic treatment is dependent on the most likely causative pathogen based on the patient's age and immune status. Blood cultures, lumbar puncture and other diagnostic testing should be obtained prior to treatment to identify the causative pathogen. Vancomycin and Ceftriaxone or Cefotaxime are the recommended empiric antibiotics for community-acquired bacterial meningitis in a healthy adult. Ampicillin should also be administered to patients at risk for infection from *Listeria monocytogenes* such as those age 50 or greater, those with suspected alcohol abuse, pregnant, or those with compromised immune systems