

Post-Traumatic Bacterial Meningitis in Head Injury Patients and Detection of Antibiotic Resistance Patterns

Hanan Raheem Hassooni* Wissam F. Hassan** Enas Ammar Mohammed** Adil Hassan Alhusseiny**

ABSTRACT

Post-traumatic meningitis classified as one of the serious complications that requires urgent treatment. However, emergence of antibiotic resistance and the difficulty of choosing the appropriate treatment directly and seriously affected the lives of infected patients. This study aimed to identify the bacterial species associated with post-traumatic meningitis among traumatic head injury patients and detect their antibiotics resistance. Clinical samples of cerebral spinal fluid collected from patients suffering of head accidents. These specimens were cultured on MacConkey agar and blood agar. Bacteria diagnosed according to traditional methods and biochemical tests to examine cerebral spinal fluid samples. In addition, the VITECK-2 system used to confirm the diagnosis and susceptibility test. Results showed that 71 patients (57.7%) diagnosed with post-traumatic meningitis out of 123 patients. Most cases of meningitis were emergence within 1-2 days after trauma. Gram-positive bacteria are more common than gram-negative ones. The results of the study showed the presence of multidrug resistant bacterial strains. Staphylococcus aureus was the most common cause of post-traumatic meningitis. Vancomycin and levofloxacin gave excellent results in eliminating gram-positive bacteria, Meropenem and levofloxacin are appropriate to kill gram-negative.

Keywords: Bacterial meningitis, Post-traumatic meningitis, Cerebrospinal fluid inflammation, Multidrug resistant bacterial.

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* Department of Internal Medicine, College of Medicine,
University of Diyala, Diyala, Iraq.
E-mail: hanan.hassouni@uodiyala.edu.iq.

** Department of Internal Medicine, College of Medicine