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Infection Control: Clinical epidemiology of nosocomial infections

Evaluation of post-neurosurgical meningitis in a tertiary care hospital: 5-year experience

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**Objectives:** Post-neurosurgical meningitis (PNM) is one of the most common causes of morbidity and mortality in neurosurgical patients. In this study, we aimed to investigate epidemiologic, microbiologic properties of post-neurosurgical meningitis and its effects on 30-day mortality.

**Methods:** This study was conducted in a neurosurgery intensive care unit between January 2009 and August 2013. A computerized system for hospital infection surveyans was reviewed retrospectively and all patients >18 year old and who diagnosed as PNM were included to the study. Data were analyzed by SPSS.

**Results:** During the study period 39 meningitis attacks was detected in 33 patients. 18 (53%) of them was male. Mean age was 54±18 years and range was 18 and 88 years. The most common reasons for PNM were; intracranial malignancy, intracranial hemorrhage and trauma. Mean time between operation and infection was 12 days. Most isolated bacteria were *A. baumannii* (33%), *enterococcus* spp. (18%) and *P. aeruginosa* (13%). Antimicrobial therapy was started empirically in 17 cases (44%) and culture result based in 20 patients (51%). Two patients had died before treatment. Meropenem combined with an anti-staphylococcal antibiotic was the most selected antibiotic for empirical treatment. Mean treatment duration was 18 days and after diagnosis of meningitis duration of hospitalization was 44 days. 30 day mortality was 21%. Patients infected with *A. baumannii* strain died statistically significant ( $p=0,039$ ) when considering mortality rates compared to other strains.

**Conclusion:** Meningitis remains one of the most important complications of neurosurgical procedures and *A. baumannii* are the most common and deadly causative pathogens of post-neurosurgical meningitis.