Staphylococcus Aureus Case Series

2016

A study was conducted at the Department of Neurosurgery, G.B. Pant Hospital, New Delhi, India, to find out the occurrence of septicemia in NNICU patients in this tertiary center, along with the microbiological profile and risk factors associated with it.

One hundred patients admitted in the neurology neurosurgery intensive care unit (NNICU) of a tertiary care hospital for more than 24 h were included in the study. After detailed history, blood samples were collected from catheter hub and peripheral vein of all patients for culture, followed by identification and antibiotic sensitivity testing of the isolates.

Out of 100 patients, laboratory-confirmed bloodstream infection (LCBI) was detected in 16 patients. Five patients had secondary BSI, while 11 had central venous catheter (CVC)-related primary BSI. Gram positive organisms constituted 64% of the isolates, especially coagulase-negative Staphylococcus and Staphylococcus aureus. Increased duration of CVC was a significant risk factor for catheter-related BSI (CR-BSI).

Septicemia pose a significant burden for neurosurgery intensive care unit patients, and increased duration of central venous catheter insertion is a significant risk factor ¹⁾.

Eighty five patients with spondylodiscitis were surgically treated. The authors analysed clinical data and image studies for each patient.

They treated 51 male and 34 female patients with an average age of 48 years old (min: 6 - max: 80). The lumbar spine was more often affected and Mycobacterium tuberculosis the most frequent pathogen. The number of cases through the years has been grossly stable, with a slight increase of dyscitis due to Staphylococcus aureus and decrease of the dyscitis without pathogen identification. Paravertebral abscess was identified in 39 patients and 17 had also neurological impairment, mostly located in the thoracic spine and with tuberculous aetheology. Immunosuppression was documented in 10 patients.

In this epidemiologic study they found a tuberculous infection, male gender and young age predominance. Despite a relative constant number of patients operated over the years, pyogenic infections due to Staphylococcus aureus seems to be uprising. Paravertebral abscess and neurological impairment are important dyscitis complications, especially in tuberculous cases.

Spinal infections requiring surgical treatment are still an important clinical condition. Mycobacterium tuberculosis and Staphylococcus aureus represent the main pathogens with a growing incidence for the latest 2 . ===

2012

A retrospective cohort analysis of 333 consecutive ventriculoperitoneal shunt series was performed at Seoul National University Children's Hospital in Korea between January 2005 and February 2011.

Overall, 35 shunts (10.5%) were infected, which represented an infection rate of 0.075 infection cases per shunt per year. VP shunt infection occurred at a median of 1 month (range, 6 days to 8 months) after insertion. An independent risk factor for shunt infection was undergoing an operation before the first year of life (relative risk 2.31; 95% confidence interval, 1.19-4.48). The most common causative microorganism was coagulase negative staphylococci in 16 (45.7%) followed by Staphylococcus aureus in 8 (22.9%). Methicillin resistance rate was 83.3% among coagulase-negative staphylococci and S. aureus. In this study, cerebrospinal fluid shunt infection rate was 10.5%. Infection was frequently caused by methicillin-resistant coagulase-negative staphylococci and S. aureus within two months after shunt surgery. Vancomycin may be considered as the preoperative prophylaxis for shunt surgery in a situation where methicillin resistance rate is very high ³⁾.

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