

Aseptic Meningitis in Children—The Singapore Experience

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Abstract

Objective: To study the incidence, aetiology, clinical characteristics and management of paediatric aseptic meningitis in a paediatric hospital in Singapore. **Materials and Methods:** Patients with cerebrospinal fluid (CSF) pleocytosis, a negative Gram stain and bacterial culture were reviewed retrospectively from 1 January to 31 December 2000. Eighty-seven patients who fulfilled the criteria for aseptic meningitis and without neurological deficits were studied. In addition, reverse transcriptase polymerase chain reaction (RT-PCR) using pan enterovirus primers was subsequently performed on 73 of these CSF specimens which were available for storage. **Results:** The incidence of aseptic meningitis was approximately 37 cases per 10,000 admissions. Non-polio enteroviruses were isolated from 29 of 64 (45.3%) CSF and 38 of 52 (73.1%) stool samples. RT-PCR was positive in 43 (58.9%) of the archived CSF specimens. The aetiologies of the remaining cases were mostly unidentified. Their ages ranged from 5 days to 12 years (median, 2 months). All patients except 1 had fever. Vomiting or poor feeding occurred in 44.7%, cough or running nose in 35.3%, irritability was observed in 35.3%, seizures in 7.1%, a rash in 10.6% and diarrhoea in 5.9%. All patients recovered without sequelae. The median CSF white cell count was 212 cells/mm³ (range, 7 to 12000). The median glucose concentration was 2.7 mmol/L (range, 1.6 to 4.4). The median CSF/blood glucose ratio was 0.52 (range, 0.23 to 0.73). Median length of stay was 7 days (range, 4 to 17). Eighty-four patients (96.6%) received antibiotics for a median of 5.5 days (range, 2 to 14). **Conclusion:** Enteroviruses were the most common aetiological agent identified. A method of early diagnosis using RT-PCR for enteroviruses is necessary to reduce the current duration of antibiotic usage and to decrease the length of hospital stay.

Ann Acad Med Singapore 2002; 31:756-60

Key words: Enteroviruses, Infants, RT-PCR, Viral culture

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