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Discovering the pathogens of central nervous system infection in Nepal

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Abstract

Background and Aim:

Central nervous system (CNS) infection is one of the common causes of hospital admission in Nepal. Due to the absence of specific tests to diagnose the definitive cause of meningitis, the treatment is often empirical. The condition is more challenging when there is prior use of antibiotics. Such-conditions alter the possible outcomes, which ultimately affects treatment and management. Therefore, the aim of this study is to find the possible etiological agents responsible for meningitis in adults in Nepal.

Methods:

We conducted a prospective hospital based study to identify the possible pathogens of CNS infections in adults admitted in Patan Hospital from February 2009-April 2011. The pathogens of CNS infections were confirmed in cerebrospinal fluid (CSF) using molecular diagnostics, culture (bacteria) and serology.

Results:

87 patients were recruited for the study and the etiological diagnosis was established in 38% (n=33). The bacterial pathogens identified were Neisseria meningitidis (n=6); Streptococcus pneumoniae (n=5) and Staphylococcus aureus (n=2) in 13/87(14%). Enteroviruses were found in 12/87 (13%); Herpes Simplex virus (HSV) in 2/87(2%). IgM against Japanese encephalitis virus (JEV) was detected in CSF of 11/73 (15%) tested samples.

Conclusion:

Our study is the first (RT) PCR and serology based CSF analysis from Kathmandu, Nepal that attempts to indentify the causative organisms of infectious syndromes of the central nervous system in adults. JEV and enteroviruses were the most commonly detected pathogens.

Keywords:

Meningitis in Nepal, Adult meningitis, Enteroviral meningitis, and Japanese encephalitis in Nepal

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