Viral infections of the central nervous system in Qatar: Epidemiology, pathogenesis and clinical outcome

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BACKGROUND

- Central nervous system viral infections are a major cause of morbidity and mortality. There are no previous epidemiologic studies about viral CNS infections done in Qatar or in the Gulf region.

OBJECTIVES

- Determine the etiology, clinical and epidemiological characteristics, and outcome of viral CNS infection in patients across a larger national healthcare system.

METHODS

- We retrospectively evaluated all cerebrospinal fluid findings from January 2011 – March 2015 at any of the 7 hospitals in the Hamad Medical Corporation healthcare system. Those with abnormal CSF finding were included in our study. We excluded those with missing medical records, no clinical evidence of CNS infection or proven bacterial CNS infection. CNS clinical findings were classified as meningitis, meningoencephalitis, encephalitis or myelitis based on clinical features and CSF biochemical and microbiologic examination results.

RESULTS

Etiology of CNS viral infections

- Viral etiology is not uncommon among those evaluated for CNS infection in Qatar, and is most commonly seen in Southeast Asian immigrants.

- Clinical outcomes are generally excellent in this group of patients.

- Antibiotics and acyclovir are overly used even when a viral etiology is confirmed.

- There is a need for clinician education regarding etiology/treatment of CNS infections.

Outcome of persons with CNS viral infections

- Cured: 537 (97.6%)
- Died: 20 (3.3%)
- Recurrence: 0 (0%)
- Admission in ward: 539 (98%)
- Admission in ICU: 220 (40%)

Seasonal distribution of CNS enterovirus viral infections

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