

Poster presentation

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The viral aetiology of acute encephalitis in children in Vietnam

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Background

Acute encephalitis is an important and severe disease in children in South-Vietnam, but relatively little is known about the etiology. Knowledge about the etiology of encephalitis would benefit future studies aiming at prevention and treatment of the disease. To identify specific viral etiologies of encephalitis, we conducted a descriptive study between Jan 2004 and Jan 2005 at a referral children hospital, the Pediatric Hospital Number One located at centre of Ho Chi Minh City.

Methods

Children less than 16 years of age presenting with acute encephalitis of presumed viral etiology were enrolled. Diagnostic efforts included viral culture on a broad range of cell lines, serology for dengue and JEV, and real time (RT) PCRs targeted at several different viruses. A confirmed etiology of encephalitis required the detection of virus and/or viral nucleic acids (NA) and/or virus specific IgM in cerebrospinal fluid. A probable diagnosis of enteroviral encephalitis required the detection of viral NA in both throat and rectal swab. A diagnosis of possible dengue required detection of dengue virus RNA and/or specific IgM in plasma, a possible enterovirus and influenza A virus infection was established if viral RNA was detected in either throat (for influenza A) or rectal swabs. For final

data analysis, a universally accepted case definition of acute viral encephalitis was applied retrospectively. The analysis was separately performed on both the total enrolled patients and those meeting the case definition.

Results

Within one year, 194 patients were enrolled, with a mean age of 4.5 years (range, 0 to 15). The viral etiologies were established in 56% of the whole group, and in 63% of 135 patients fulfilling the case definition of viral encephalitis. In the latter group, the most common cause was JE (31%), followed by enterovirus (total 26.5%: definite 1.5%, probable 8.8% and possible 16.2%), influenza A (5.2% possible), dengue (total 8.1%: definite 3.7% and possible 4.4%), and herpes simplex virus (0.7%). Twenty-nine percent of patients died and 26% had neurological sequelae at discharge. Similar outcome patterns were obtained when all enrolled patients were taken into account.

Conclusion

Acute encephalitis in Vietnam is associated with high morbidity and mortality. JE is the most common cause followed by enteroviruses. Like in other parts of the world, many cases remain undiagnosed. Efforts to identify previously unrecognized viruses are ongoing.