

Clin Infect Dis. 2008 Sep 15;47(6):783-9.

Clinical Features of Viral Meningitis in Adults: Significant Differences in Cerebrospinal Fluid Findings Among Herpes Simplex Virus, Varicella Zoster Virus, and Enterovirus Infections.

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BACKGROUND: In this retrospective study, our objective was to review the epidemiology of viral meningitis and to compare clinical features associated with enterovirus, herpes simplex virus (HSV), and varicella zoster virus (VZV) infections in immunocompetent adults.

METHODS: Data on cerebrospinal fluid (CSF) samples submitted to the Trust Virology Laboratory (Sheffield, UK) from April 2004 through April 2007 were reviewed. Notes on immunocompetent adults who were polymerase chain reaction (PCR) positive for enterovirus, HSV type 2, or VZV and who had presented to local clinical departments were scrutinized (4 patients were positive for HSV type 1 and did not meet the inclusion criteria).

RESULTS: A total of 2045 samples were analyzed for viral pathogens during the 3-year period. Of the 109 PCR-positive samples, 38 (35%) were from immunocompetent adults, of whom 22 were infected with enterovirus, 8 were infected with HSV type 2, and 8 were infected with VZV. The median ages were 32 years (range, 16-39 years), 39 years (range, 22-53 years), and 47.5 years (range, 26-80 years), respectively. Rash occurred after the meningitis symptoms in 5 patients infected with VZV (median time from meningitis symptoms to rash, 6 days). Protein levels were significantly higher in CSF samples from patients infected with HSV type 2 (median, 1205 mg/L) and in samples from those infected with VZV (median, 974 mg/L) than in samples from those infected with enterovirus (median, 640 mg/L; $P = .001$ and $P = .01$, respectively). White blood cell counts were significantly higher in CSF samples from patients infected with HSV type 2 (median, 240×10^6 cells/L) than in samples from those infected with enterovirus (median, 51×10^6 cells/L; $P = .01$).

CONCLUSIONS: Enterovirus infection was the most common cause of viral meningitis in immunocompetent adults in this study. White blood cell counts and protein levels were significantly higher in CSF samples from patients infected with HSV type 2 than in samples from patients with enterovirus infection. Zoster rash often occurs after meningitis. PCR testing provides a rapid and specific etiological diagnosis.

PMID: 18680414 [PubMed - in process]