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Paper Poster Session

Epidemiology of brain infections

EBV encephalitis: retrospective study of 16 patients

Claire Da Silva¹, Pierre Tattevin², Xavier Pouget-Abadie³, Alexandra Mailles⁴, Sylvie Rogez¹, Eric Denes*¹, Jean-Paul Stahl⁵

¹*Chu Dupuytren, Limoges, France*

²*Pontchaillou Univ. Hosp., Rennes, France*

³*Chu Poitiers, Poitiers, France*

⁴*Institut de Veille Sanitaire, Saint-Maurice, France*

⁵*Chu Grenoble, Grenoble, France*

Background: The main causes of infectious encephalitis are viruses, among which Herpes Simplex (HSV) is the most prevalent while others are less common such as Epstein Barr Virus (EBV). The literature reveals a poorly understood disease, mostly described in children. We performed a multicentric retrospective study to analyse the characteristics of both pediatric and adult patients with EBV encephalitis.

Material/methods: Data were collected from records of 6 University Hospital Centers. Inclusion criteria were a clinical presentation of encephalitis (according to the international encephalitis consortium's definition) and a positive EBV PCR cerebro-spinal fluid (CSF) or blood.

Results: Sixteen patients were included; 10 (62.5%) were male and 3 were children under 18. Median age was 43 years (7 – 78). The infection was primary EBV infection for 7 patients (43.75%) and reactivation for the others. Immunosuppression was present in 7 cases, due to anti-rejection drugs, chronic lymphocytic leukemia, alcoholism, or NK cell deficiency. Eleven patients (68.75%) presented fever >38°C (mean: 38.6 °C). Eight patients (50%) had altered mental status, 6 (37.5%) focal neurological symptoms, 5 (31.25%) impaired level of consciousness, 2 (12.5%) seizures, 2 hallucinations and 2 cerebellar symptoms. Blood tests found moderate C-reactive protein increase in 6 patients (mean: 23 mg/l). An elevated white blood cell count was found in 4 patients (mean: 14,500/mm³ cells). One patient showed severe lymphopenia, and 3 (18.8%) mononucleosis syndrome. Hepatic cytolysis was found in 7 patients (43.75%). CSF tests showed increased leukocytes > 10/mm³ in 13 patients (mean: 149/mm³ cells), and a majority of lymphocytes in 11 (68.75%). Moderate hyperproteinorachia (mean: 1.39 mg/l) was observed in 10 patients. EBV molecular detection was positive in CSF for 15 patients (93.75%) and in blood for 1 patient. Eleven patients (68.75%) presented abnormal brain MRI scan, showing various disorders. 14 patients (87.5%) received antiviral drugs: aciclovir for 8 patients (50%), foscarnet for 5 (31.25%), ganciclovir for 3 (18.75%), and cidofovir for 1 (6.25%). Others received different treatments. None of the patients died from EBV encephalitis, but sequelae such as sensory disorders, frontal dementia, altered level of consciousness, or psychomotor slowdown were noted in 4 of them (25%).

Conclusions: Our study describes the main characteristics of EBV encephalitis. Both adults and children, whether immunosuppressed or not seem to be affected. The disease can be due to primo-infection or viral reactivation. The clinical presentation and MRI aspects are polymorphic, but the condition seems to be less inflammatory than HSV encephalitis, and to have a better prognosis.

During encephalitis whose cause is likely viral, once HSV has been ruled out, EBV infection must be considered in the absence of an accurate diagnosis. The most appropriate treatment remains to be determined.