JOINT EVENT

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Serum TNF alpha as a biomarker of Temporal Mesial Epilepsy associated with HHV6/HHV7 neuroinfections in humans

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According to results another researches in this study mesial temporal lobe epilepsy (MTLE) is shown to be associated with human herpes virus 6 and 7 types (HHV6/HHV7) neuroinfections. We also demonstrate that the epileptic process is associated with an systemic inflammatory reaction, and that the proinflammatory cytokine, the tumor necrosis factor-alpha (TNF-α), is able to potentiate the reproduction of the herpes viruses. The study group (SG) included 43 patients between 16 and 60 years with MTLE and HHV neuroinfections, diagnosed according to the PCR of the cerebrospinal fluid (CSF), serum or abnormal serum/CSF IgG ratio. The control group (CG) included 30 patients of similar age with MTLE, but without the HHV neuroinfections. The concentration of TNF-α in the serum was determined by enzyme-linked immunosorbent assay ("VektorBEST" RF; N=0-50 pg/ml). Patients of the SG had high concentrations of TNF-α in serum (288±44.7 pg/ml), that were significantly higher than in the CG (p<0.05; Z<Z0.05). Serum concentrations of TNF-α greater than 100 pg/ml were associated with the severe general condition of the patients, more severe epileptic syndrome, a long history of illness, deep organic brain damage, low sensitivity to anticonvulsant drugs, overall with a poor prognosis. In patients with MTLE and HHV6/HHV7 neuroinfections marked systemic inflammatory response syndrome was noted, which affected the severity of the symptoms in the patient. TNF-α, therefore, can be used as a biomarker for an objective assessment of the severity and prognosis of the disease in patients with MTLE induced by HHV6/HHV7.

Notes:

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