Circulating cytokines in patients and convalescents with West Nile virus infection

A.A. Zankovich, V.A. Antonov, S.I. Zhukova, O.V. Zinchenko, V.P. Smelyansky, E.V. Putintseva

Volgograd Scientific-Research Institute for Plague Control

Concentrations of IFNγ and IL-10 were investigated in patients with West Nile virus fever (WNF) at different time points from the onset and the concentration of IFNγ, IL-10 and TNFα in convalescents recovered from WNF a year ago. In patients infected with WNF in summer 2011, there has been a progressive increase in IFNγ and IL-10 levels, with maximum values by 30th day from the onset of clinical manifestations of infection. Th1/Th2 index (IFNγ/IL-10 ratio) was the highest on day 2–5 of the disease (7.18), and decreased to 1.59 on 6–10th day, and to 1.71 on 11–30th day, reflecting the prevalence of cellular immune responses. In convalescents who suffered WNF in summer 2010, a year after infection concentrations of IFNγ, IL-10 and TNFα were 4–6 times higher than those of healthy donors. These findings point to the possibility of the persistence of WNF virus during the late convalescence. (Cytokines and Inflammation. 2013. Vol. 12. № 1–2. P. 120–124.)

Key words: West Nile fever, cytokines, persistence of West Nile virus.