



Role of IL-6 and neopterin in the pathogenesis of herpetic encephalitis

Monika Bociąga-Jasik, Andrzej Cieśla, Anna Kalinowska-Nowak,
Paweł Skwara, Aleksander Garlicki, Tomasz Mach

Chair of Gastroenterology, Hepatology and Infectious Diseases, Department of Infectious Diseases,
Collegium Medicum of the Jagiellonian University, Śniadeckich 5, PL 31-531 Kraków, Poland

Correspondence: Monika Bociąga-Jasik: e-mail: monika.bociagajasik@gmail.com

Abstract:

Herpetic encephalitis (HSE) is one of the most severe infection of the central nervous system (CNS), connected with high mortality rate, even when appropriate therapy has been introduced. Better understanding of pathomechanisms responsible for neuronal injury during the course of the disease can be useful in the assessment of the risk of the occurrence of severe complications, as well as in potential introduction of additional therapeutic methods. The purpose of this study is to assess the correlation between concentration of neopterin and IL-6 in the CSF and serum, and the course of HSE. In this study, 36 patients with HSE were investigated, and the control group consisted of 32 patients in whom the infection of the CNS was excluded. We observed significantly higher concentration of neopterin and IL-6 in the CSF of patients with HSV as compared with the control group. Neopterin and IL-6 levels in the CSF correlated with the course of HSE. Higher values were connected with the risk of respiratory failure, development of permanent neurologic complications and patient death. Negative correlations between concentration of IL-6 and neopterin and patient condition assessed by Glasgow Coma Scale (GCS) were observed. Neopterin with high sensitivity and specificity allowed to predict the risk of death or severe neurological complications. Increased concentration of neopterin and IL-6 in the CSF and serum revealed reciprocal positive correlation. Assessment of the concentration of IL-6 and neopterin in the serum was not useful to predict the course of HSE.

Key words:

herpetic encephalitis, neopterin, IL-6, pathogenesis, prognosis, complications
