

Neuroinflammatory markers in dementia with Lewy bodies and dementia in Parkinson's disease

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Background Investigation of inflammation reactions in dementias of neurodegenerative genesis and detection of their biological markers are considered to be urgent. According to the current conceptions, Parkinson's disease with dementia (PDD) is a part of DLB spectrum. The aim of the study was to determine the values of peripheral markers of neuroinflammation in blood plasma of DLB and PDD patients compared to healthy controls. Material and Methods Blood samples of 7 DLB patients (74,4±8,8 years) and 10 PDD patients (73,6±7,6 years). The patients were diagnosed according to DLB and PDD diagnostic criteria [Miller B.L., Boeve B.F. 2017; Budson A.E., Solomon P.R.B 2016]. 42 healthy subjects of the same age were included in the control group. Enzymatic activity of leukocyte elastase (LE) and functional activity of α 1-proteinase inhibitor (α 1-PI) were determined by spectrophotometric method. Concentration of IL-6 and the level of AAB to neurospecific myelin basic protein (MBP) were measured by using immune-enzyme method. Results Significant increase in activity of α 1-PI and IL-6 level in DLB and PDD compared to control (p0.0001, p0.05 resp.) was revealed, while LE activity and the level of AAB to MBP reduced (p0.01, p0.01 resp.). Conclusion The increase in the level of anti-inflammatory cytokines of the acute phase of inflammation in DLB and PDD confirms involvement of neuroinflammation in the pathogenesis. Reduction of LE activity may be due to decrease in degranulation activity of neutrophils. Identification of inflammatory markers will make it possible to improve reliability of diagnostics and laboratory monitoring of the disease progression.