BRAIN-SPECIFIC FATTY ACID-BINDING PROTEIN IS ELEVATED IN SERUM OF PATIENTS WITH DEMENTIA-RELATED DISEASES

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Background: There is a need for biomarkers in accessible matrices, such as blood, for diagnosis of neurodegenerative diseases. The aim of the present study was to measure the serum levels of brain-type fatty acid binding protein (FABP) and heart-type FABP in patients with dementia-involving diseases.

Methods: Brain- and heart-type FABP were measured in serum samples from patients with either Alzheimer's disease (AD) (n=31), Parkinson's disease (PD, n=43), or other cognitive disorders (OCD, n=42), and in 52 healthy controls. The localization of brain- and heart-type FABP was determined in brain sections by immunohistochemistry.

Results: Brain-type FABP levels were elevated in serum of 29%, 35%, and 24% of the patients with AD, PD and OCD, respectively, and in 2% of the healthy donors. Heart-type FABP serum levels were not different among the patient groups. Brain-type and heart-type FABP expression was observed in reactive astrocytes in brain sections of AD patients.

Conclusions: In contrast to heart-type FABP, serum levels of brain-type FABP are elevated in a significant proportion of patients with various neurodegenerative diseases and can therefore have importance for defining subgroups of these patients.