JOINT EVENT

11th International Conference on **Vascular Dementia**

&

27th Euro-Global Neurologists Meeting

July 23-25, 2018 | Moscow, Russia

Prediction of neurotrophic therapy effectiveness in patients with amnestic type mild cognitive impairment

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Aim: The aim of the study was to identify biomarkers for monitoring the effectiveness of Cerebrolysin treatment and to study the long-term prognosis of the therapy in patients with amnestic type mild cognitive impairment (aMCI).

Materials & Methods: 19 patients (15 women and 4 men) aging from 56 to 85 years (mean age 72 years), with a diagnosis of amnestic type MCI were included in the study. All patients had a course 20 daily intravenous infusions of Cerebrolysin therapy (the dose was 30 ml in 100 ml of physiological solution once a day with a gradual increase the dose during four days). The effectiveness of therapy was measured at 0, 4, 10, 26 week of the study on the following scales: CGI, MMSE, MoCA-test, MDRS, FAB, CDT, BNT, test of 10 words Recall, Test of the naming of digits in direct order. Evaluation parameters were measured at the beginning of the study and after 4 and 12 weeks. A fragment 173-193 of the acetylcholine receptor and a fragment of the receptor 155-164 neurotrophins P75 have been used to study the level of autoantibodies in serums. The autoantibodies to neuronal acetylcholine receptor α7-type and neurotrophins receptor P75 in blood serum of all patients were tested by method of solid-phase enzyme immunoassay at 0, 10 and 26 weeks.

Results: The autoantibodies only to a fragment of 155-164 receptors of neurotrophins P75 (median 0.369) were found in the serum. The level of autoantibodies to fragment 173-193 of acetylcholine receptor in all samples was low or no changes. Statistically significant improvement of cognitive functioning on all scales was revealed immediately after the end of therapy (four weeks). In 10 weeks, the study revealed the preservation of the achieved therapeutic effect on most of the tests. By the end of the study (26 weeks) the therapeutic effect was maintained for four out of nine tests and a slight decrease in estimates for the remaining cognitive tests, but the estimate for seven out of nine cognitive tests remained significantly higher than before treatment. The long-term therapeutic effect predicting of cerebrolysin treatment was found in the study: the age of patients older than 70 years, a higher initial evaluation for the MoCA test, the best initial indicators for the test memory of the scale of Matisse dementia, a high baseline level of autoantibodies to the neurotrophin receptor P75.

Biography

Elena Ponomareva is currently working at Mental Health Research Center of Russian Academy of Medical Sciences, Russia.

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Notes:

Journal of Neurological Disorders
ISSN: 2329-6895

Vascular Dementia 2018
&
Neurologists Congress 2018
July 23-25, 2018

Volume 6

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