The Role of Inflammatory Responses in the Development of Viliuisk Encephalomyelitis Degenerative Processes

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ABSTRACT

The authors made a comparative analysis of the clinical characteristics of the two groups of Vilyuisk encephalomyelitis (VE) patients to assess the role of inflammatory responses in the development of neurodegenerative processes in this disease. In our paper we show that at inflammatory onset of the disease younger age debut of disease and more expressed clinical symptoms are observed.

Inflammatory reactions make complications and exacerbate the severity of the clinical course of the disease, accelerating neurodegeneration in patients with primary encephalopathy (a special form of encephalopathy, which leads to the VE development).

Keywords: Vilyuisk encephalomyelitis, inflammation, encephalopathy.

INTRODUCTION

Viliuisk encephalomyelitis is a special form of neurodegenerative disease historically first revealed on the territory Mastakh Vilyui District of Yakutia .

Feature of the disease is manifested with chronic clinics, which by nature of the course can be divided into two large groups. The first group includes chronic patients with experienced inflammatory VE start, the second - patients who have not registered or inflammatory beginning manifested with less severe form [1]. In this paper, we first used intrathecal IgG synthesis test for separation into two groups of VE patients and neurological comparative analysis was done. A positive test indicates a pronounced inflammatory response of the brain of the patient, which is associated with the manifestation of onset and presumed infectious etiology. However, despite the differences in the clinical course, the two groups form the original contingent of patients with chronic neurodegenerative process, the nature of which is still undisclosed. The **purpose** of this paper is to analyze the role of inflammatory responses in the development of degenerative processes of the disease.

MATERIALS METHODS

In the work we used VE patients' registers of the clinical department of the Health .Institute. The analysis was performed on the material of patients history, the diagnosis of the disease was carried out on the basis of clinical criteria developed by domestic neurologists.

Laboratory criteria for separating teams served as a test for intrathecal synthesis of IgG [2] . Comparative analysis of the clinical characteristics of these two groups of patients to assess the CEs role in the development of inflammatory reactions of neurodegenerative processes conducted on 149 patients , including 61 with a positive test (oligoclonal synthesis IgG), 88 with a negative test.

10 VE patients with intrathecal synthesis of IgG (+) and 10 patients without synthesis oligoclonal IgG (-) on the detailed difference of clinical indicators were separately analyzed.

RESULTS OF THE STUDY

Gender ratio in the analyzed groups of patients were as follows: in the group with a positive test 60% of men by 40 % of women, respectively, with a negative test 46% men 54% women. The disease occurs more often in women without marked inflammatory reactions than men.

Comparative analysis of age at onset (the debut of the disease) in both groups of patients is shown in Figure 1. Patients did not experience chronic VE expressed inflammatory reactions

during the clinical course, the disease begins to develop later than the patients experienced an acute inflammatory beginning.

The age of onset of the disease process with a positive oligoband VE (+) covers the period from 24y.o. to 69 years, the average is 34 years.. When oligoband negative (-) covers the period from 17 years to 50 years, mean disease onset is 42 years. Patients predisposed to acute inflammatory VE top sick earlier than patients whose clinic takes place without marked inflammatory reactions.

Analysis of quantitative evaluation of symptoms conducted on patients with positive oligoband 10 people, including 5 males and 5 females, and negative oligoband 10, including 4 men and 6 women.

The analysis results can be summarized as follows:

1. Dementia, dysarthria, pyramidal syndrome and tone are expressed in patients with a positive result, is less pronounced in patients with a negative result.
2. In patients with positive oligoband Babinski symptom is less pronounced in contrast to patients with negative oligoband.
3. Brain atrophy on MRI results was more pronounced in patients with a positive oligoband and is 2.3 points for patient with (+) and 1.01 points for the patient with VE (-).

CONCLUSIONS

At acute inflammatory VE debut of disease happens at the earlier age and exhibits more pronounced clinical signs of disease nosology. Aggravating factors in the development of acute inflammatory reactions in these patients may be hypothermia, stress, childbirth and infection. Patients with negative oligoband are less susceptible to these factors. Inflammatory reactions complicated clinical course of the disease and accelerated neurodegeneration in patients with primary encephalopathy (a special form of encephalopathy, which leads to the development of Vilyuisk encephalomyelitis).

REFERENCES

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