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## DIAGNOSIS OF MULTIPLE SCLEROSIS DISEASE

**Abstract:** Many neurologists do not pay attention to cognitive impairment in patients with multiple sclerosis, and as a result, cognitive impairment is overlooked and not recorded in the EDSS disability scale used in practice. Although focal changes are not detected in patients with impaired cognitive function, their quality of life is significantly lower. Cognitive disorders, in turn, lead to social consequences in the lives of patients, such as loss of ability to work, disability.

**Keywords:** Multiple sclerosis, etiology, pathogenesis, clinic, diagnosis, treatment.

Anotation: Many neurologists do not pay attention to cognitive disorders in patients with multiple sclerosis, and as a result, cognitive disorders are ignored and not defined in the EDSS invalidity scale that is used in practice. Khotya u patientov s narusheniyami cognitivnykh funktsiy achagovye izmeneniya ne vyyavlyayutsya, kachestvo jizni u nix znachitelno nije. Cognitive disorders, in their own way, lead to social consequences and mental patients, such as loss of work capacity, invalidity.

Key words: multiple sclerosis, etiology, pathogenesis, clinic, diagnosis, treatment.

**Multiple sclerosis (TC)** is a demyelinating disease of the central nervous system that develops as a result of an autoimmune reaction to myelin proteins. TS is considered to be one of the deep and socially significant problems of modern neurologists, which is primarily the progression of the disease, the steady growth of the disease, mainly in young people, among the working-age population, and it quickly leads to disability. Despite active research, multiple sclerosis remains a problem. Many scientists have noted impairment of cognitive activity in multiple sclerosis. But the observed level of encounter does not correspond to the situation in practice. Determining neuropsychological cognitive disorders in patients undergoing treatment in an inpatient setting is insufficiently practiced. Scientists have not sufficiently studied the risk factors affecting the worsening of cognitive impairment in multiple sclerosis. According to scientists, it is degenerative changes that form the basis of irreversible processes and lead to permanent consequences, especially neuropsychological changes are a clear example of this.

## Multiple sclerosis clinic

Clinical signs characteristic of the disease may be manifested differently depending on the onset and stages of development of the disease. Usually, clinical symptoms of the disease begin to appear between 20-40 years of age. Even if multiple sclerosis scars appear in the early stages of the disease, neurological symptoms may not appear. Because neurological functions are preserved for some time due to the activity of other healthy neurons. According to scientists, neurological symptoms begin to appear only when more than 40% of the nerve fibers responsible for a certain function are damaged. The clinical manifestations of multiple sclerosis vary depending on which branches of the brain and spinal cord are affected:

- ✤ Damage to the pyramidal tract✤ E
  - Brain damage
- ✤ Damage to the optic chiasm
- Spinal cord injury
- Damage to the large hemispheres of the brain
- ✤ Cerebrospinal damage

Common clinical conditions in multiple sclerosis:

1. Damage to the cranial nerves. Among the cranial nerves, damage to the optic nerve, oculomotor nerves, and vestibular nerve is observed in most cases. Muscle paresis and damage to the optic nerve responding to the movements of the autumn apple are transient in nature, and such clinical signs indicate the onset of the disease. One of the early signs of the disease is retrobulbar neuritis. In such cases, patients complain of reduced vision, central and peripheral scotomas, narrowing of the vision field. In the primary ophthalmologist examination, one of the first signs of the disease in the patient is the pallor of the bitemporal part of the disc. Some patients experience dizziness, nausea and nystagmus due to damage to the vestibular nerve in the early stages of the disease.

2. Changes in the sensory sphere. In many cases, it is difficult to determine the border when examining the surface sensation in patients. Some patients show pathological changes in sensation, such as dysesthesia and paresthesia.

3. Motion and reflex damage . Patients have spastic paresis when the disease is progressing. Hypotonia, hyperreflexia and pathological changes are detected.

4. Coordinating disorders occupy a special place in the clinic of multiple sclerosis. Such symptoms can include ataxia in the legs and feet: asynergia, dysmetria, intention tremor, slurred speech.

5. Disorders in the autonomic nervous system. In patients with multiple sclerosis, dysfunction of internal organs, problems with secretion of internal glands are often observed.

6. Psychological and emotional disorders. Emotional disorders in multiple sclerosis have a negative impact on patients' daily activities, quality of life, and physical rehabilitation. The state of depression is very typical for such patients and is observed in many patients in the initial period of the disease. Anxiety is less common than depression and has a negative impact on the social status of patients. Impairment of cognitive activity is manifested by severe neurological disorders of the disease. In some cases, patients do not pay attention to their shortcomings. Determining the clinical condition of the disease is carried out using a 10-point scale that evaluates damage to functional systems (Functional Systems-FS) proposed by J. Kurtzke.

**Diagnosis:** Diagnosis in the early stages of the disease poses a number of difficulties, since the initial symptoms of the disease are elusive. Currently, there are no laboratory methods for early detection of multiple sclerosis. The main

method of diagnosis of the disease is based on the clinic and anamnesis of the disease. A clear diagnosis of the disease is made only when a large number of focal changes in the brain and spinal cord are observed. One of the most effective methods for diagnosing multiple sclerosis is the examination of the brain and spinal cord with contrast in T1 and T2 modes using an MRI machine. The main focus is on degenerative-atrophic changes in the brain and spinal cord. The updated 2017 version of the MacDonald criteria has its place in the diagnosis of multiple sclerosis. Research has shown that the updated MacDonald criteria have been proven to be 25% more effective than the old 2010 criteria.

Treatment: The first group of pathogenetic drugs in multiple sclerosis is betainterferon 1a and 1b and glatiramer acetate. The second group of drugs are immunosuppressants: mitoxantrone and methotrexate. In the case of a relapsing type,  $\beta$ -interferon and glatiramer acetate prevent the exacerbation of the disease up to 30%. If there is a secondary worsening type, it is advisable to use drugs of the interferon 1b group in high doses. In multiple sclerosis, pulse therapy is carried out with the help of methylprednisolone for 4-7 days in order to prevent the disease from worsening. If the result is not as we expected, the dose of methylprednisolone is prescribed orally for one month. It is recommended to receive plasmapheresis 3-5 times during the worsening course of the disease. Determination of the effectiveness of immunomodulators is carried out at points not less than 3 months. In order to determine the effectiveness of treatment procedures, it is recommended to undergo an MRI examination once a year. In the case of using beta interferon, it is necessary to conduct a regular mine analysis (platelet, leukocyte) and liver tests (ALT, AST, bilirubin). Natalizumab from group I immunodepressants and cyclosporine, azathioprine together with mitoxantrone apply recommendation will be done.

## LITERATURE

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