



INFECTIOUS DISEASES OF THE CENTRAL AND PERIPHERAL NERVOUS SYSTEM

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Abstract

Infectious diseases of the nervous system - in most cases, children affected by neuroinfections such as meningitis, encephalitis, meningoencephalitis make up the majority of students sent to special schools. In other cases, children with various forms of damage to the nervous system due to previous brain diseases, blood vessels and rheumatism are observed.

The causative agents of the disease are mainly various types of microbes and viruses that damage the nervous system, which are combined in the clinic under the general term neuroinfection. In some cases, the nervous system may be exposed to secondary diseases under the influence of various general infections. The child's experience of these diseases leads to damage to neuropsychiatric functions such as vision, hearing, speech, thinking. Sometimes complications are permanent and prevent the child from studying in a public school.

The characteristics of the pathological symptoms that develop as a result of the disease are associated with a number of conditions, such as the intensity of the causative agent, the nature of the disease process, the degree of expression of the body's protective properties. The age at which the child experiences the disease is also of great importance. The earlier the child experiences the disease, the more severe complications are observed (especially underdevelopment of mental functions). The disease in the later stages of the child's life is relatively mild due to the compensatory capabilities of the brain and does not leave serious complications. Let us proceed to describe the individual forms of the indicated diseases.

Meningitis is an inflammation of the meninges. The disease is caused by various bacterial forms, most often a group of cocci (meningococci, streptococci, pneumococci).



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One of the most common forms of meningitis is cerebrospinal (brain and spinal cord) meningitis, which is caused by a separate group of meningococci. This disease often spreads as an epidemic in winter and spring.

The source of meningococcal infection is an infected person. In the outdoor environment, meningococcus quickly dies under the influence of sunlight and temperature. This pathogen can be stored for a long time in the nasal mucosa of a healthy child (carrying the bacillus). The infection occurs when nasal mucus carrying the bacillus gets on the skin and mucous membranes of children who have come into contact with it (during play, when visiting, through other objects used by the carrier of the bacillus, such as a shared towel, handkerchief).

It begins with fever, continues with vomiting, rashes on the skin, attacks of severe headache, and sometimes unconsciousness. One of the characteristic features of the disease is: as a result of pathological tension of the neck muscles (neck rigidity), the head is thrown back, the legs are bent towards the abdomen with half-bent at the knee joint (Kerning's symptom), increased skin sensitivity (hyperesthesia), and fear of light.

The duration of the acute phase (which can be divided into acute and chronic forms of the disease) is usually 1-2 weeks, after which the patient may recover or die. In the past, the mortality rate from meningitis was 25-50%, but the use of antibiotics (penicillin, etc.) and sulfonamides in modern treatment has allowed to shorten the duration of the disease, reduce the number of deaths, and alleviate the appearance of residual (residual) conditions (complications).

Meningitis is characterized by the development of various complications that can occur in the acute period of the disease. One of the most common complications is hearing loss as a result of the inflammatory process that develops in the auditory nerve. Usually, hearing impairment after meningitis manifests itself in bilateral hearing loss or deafness. Hearing loss in meningitis in early childhood can lead to speech impairment and deafness. Damage to the optic nerves is relatively rare, which can also lead to partial or complete loss of vision. Seizures are often observed as one of the symptoms of meningitis. Mental retardation after cerebrospinal meningitis has been observed less frequently in recent years and is often manifested as a complication of damage to the emotional-volitional sphere and character. As a result, children have high excitability, impulsivity (prone to



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affects), and psychopathic behavior. These behavioral features are especially pronounced in the development of one of the most severe complications of early meningitis - hydrocephalus.

Higher nervous disorders that occur after meningitis experienced at a relatively late age can also have a number of pathological features. However, in these cases, complications are not clearly manifested, but mainly consist of a characteristic asthenia.

Meningitis can also have a different etiology. For example, otogenic meningitis occurs as a result of purulent processes in the ear. Tuberculous and syphilitic meningitis also occur. In a number of cases, the inflammatory process in meningitis is not limited to the meninges, but spreads to the brain substances, damaging them (meningoencephalitis).