Basic Disorders Of The Central Nervous System

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ABSTRACT

This article proposes that motor function disorders are most often caused by disorders of the nervous system, that is, disorders of the peripheral nerves, spinal cord, and brainstem. The motor system is located in the frontal lobe of the cerebral cortex.

Keywords: Movement functions, movement disorders, Functional movement, limbs and spine, Locomotor system.

Disturbance of motor functions - in most cases, it occurs as a result of a disorder of the nervous system, that is, disorders in the peripheral nerves, spinal cord and brainstem. Disturbance of movement, its uncertainty, usually occurs due to organic damage to the center and nerve pathways that perform the same function. Disturbance of functional movement is also observed in epileptic paralysis. In rare cases, abnormal movement is observed as a result of congenital malformations, very weak and anatomically incorrect (anomalous) development of the bones of the limbs and spine. In some cases, weak abnormal movement is observed as a result of diseases of the muscular system (myopathy, etc.). The main link (element) in the movement system is the movement analyzers located in the frontal part of the cerebral cortex. These analyzers consist of kinesthetic cells, and the prefrontal structures of the cortex are connected to the midbrain, cerebellum and spinal cord through the pyramidal tract. This connection serves to make the necessary movements precise, smooth and rhythmic. When performing complex movements, the visual and auditory analyzers control the accuracy of movement. In general, movements are of two types: voluntary and involuntary. While voluntary movements occur in humans and animals through the movement centers of the cerebral cortex, involuntary movements are automatically formed in the brain stem and spinal cord. In most cases, movement disorders in adults or young children occur as a result of the complete loss of paralytic movement or partial loss of paretic movement. Paralysis is characterized by the absence of movement in human limbs, for example, limbs, while paresis is characterized by a slight weakening of motor functions. Causes such as infectious diseases, severe injuries, and severe metabolic disorders (sclerosis) lead to disruption of the functioning of the nerve pathways and centers, and the inability of the vascular system to perform the function of normal blood exchange in these areas. Depending on which part of the human body the paralysis occurs, it is distinguished as central or peripheral paralysis. That is, it should also be noted that

doctors and specialists make a diagnosis based on which part of the central or peripheral motor neuron is damaged. In some cases, there is also frequent, rhythmic twitching (fluttering, fluttering, jerking) of some small muscles. Such conditions are called myoclonus. In some cases, hyperkinesis, involuntary and involuntary movements similar to visual movements, can also occur in the arms and legs. Such twitching, which has a specific characteristic, is called athetosis. Involuntary and involuntary muscle vibration, similar to seizures, is called tremor. Tremor in the hands, which is common among schoolchildren, is characterized by a rhythmic, snake-like writing in their handwriting. Constantly and uniformly involuntary twitching (moving) muscles are called erect. When this condition occurs on the face, it seems as if a person is deliberately twitching his face, and when it comes to the head, it is characterized by constant movements of the head in the same rhythm. There are also cases of the temporal lobe and similar organs flying. Some types of hyperkinesis are often associated with residual damage to the subcortical structures (striated structures) due to chorea or encephalitis. Some involuntary and involuntary movements may have a functional nature and may be accompanied by neurosis.

Cerebral palsy is a group of pathological syndromes that occur as a result of brain damage in the womb, during childbirth or after birth and are manifested by impaired movement, speech, and psyche.

Cerebral palsy in children is caused by:

1) Infectious diseases of the mother during pregnancy (measles, cytomegaly, toxoplasmosis, influenza, etc.)

Disorders of the mother's cardiovascular and endocrine systems, toxicosis of pregnancy, immunological incompatibility of the fetal and maternal blood, physical and mental injuries during pregnancy, asphyxia, trauma in the womb.

2) Meningitis; encephalitis; meningoencephalitis; brain trauma.

The impact of harmful factors during pregnancy and after birth causes various changes in the cerebrospinal fluid and membranes, which disrupts their normal development in the future.

In the clinical picture of cerebral palsy, movement disorders are the leading ones, which are characterized by hyperkinesis with coordination disorders, central paralysis of certain muscle groups. Movement disorders are often accompanied by speech and mental disorders, epileptic seizures.

Movement disorder syndromes - in children's cerebral palsy, movement disorders are combined with high muscle tension, pathological reflexes (tonic labyrinthine and cervical reflexes), which prevent the full development of motor skills.

Spastic diplegia (Little syndrome) is a more common form of children's cerebral palsy, characterized by impaired movement of the arms and legs: the legs suffer more than the arms. The muscle tone in the legs is sharply increased: the child stands on legs brought to the midline in a half-bent position, and when walking, the legs are swaying. Disorders of the structure of large joints develop. The tendon reflex is high, and clonus of the legs is observed. In spastic hemiplegia, the disorders are more often on one side. The flexor tone of the muscles is increased more in the arm, and the extension tone is increased in the leg. Therefore, the arm is bent at the elbow joint, close to the body, and the fingers are clenched into a fist. The legs are bent inward. The child walks on his fingers. In the hemiparetic form of cerebral palsy, speech development may be delayed due to alalia in a child, especially when the left hemisphere is damaged, hyperkinesis is observed in 50% of older children. They appear depending on the degree of decrease in muscle tone. Mental development slows down. The degree of delay varies from mild to severe. Developmental delay is influenced by frequently recurring epileptiform seizures.

Secondary hemiplegia is characterized by impaired movement in the limbs, but usually the arms suffer more than the legs. Severe injuries to the arms and facial muscles lead to a delay in speech and mental development. Such children cannot sit, walk, or stand up. In preschool children, when motor activity is more pronounced, some children develop hyperkinesis in the distal parts of the arms and legs, as well as oral synkinesias. Many patients

have pseudobulbar syndrome. Tendon reflexes are high, but they are used with difficulty due to high tone and contractures. This form of cerebral palsy in children is often combined with the development of microcephaly and minor anomalies, which indicates brain damage in the womb. Epileptiform seizures are often observed in secondary hemiplegia. Due to severe motor disorders, contractures and dyskinesias develop early.

The atonic-astatic form is characterized by a decrease in muscle tone. Tonic neck and labyrinth reflexes are not sharply manifested, they can be observed when the child is overly excited or tries to make free movements. With this form of cerebral palsy, a 2-3-year-old child shows the following signs of cerebellar damage: intention tremor, impaired body movement, impaired motor balance. In such patients, balance functions are sharply impaired, they cannot sit, stand, walk, maintain balance, and cannot hold their heads. Mental development is clearly observed. The degree of intellectual decline depends on the area of damage to the cerebellum. More often, mental development is delayed when the frontal part of the brain is damaged. Hyperkinetic form is characterized by damage that occurred under the shell during Rhesus conflict pregnancy. Hyperkinesis appears after one year of age, and only in severe cases can it be detected up to one year of age. Hyperkinesis is most pronounced in the muscles of the face, legs, and neck. Speech disorders are often observed. Compared to other forms, this form is characterized by a slowdown in mental development, but complex motor and speech disorders complicate the child's development, learning and social adaptation.

Conclusion. It is important to identify the disease in time, diagnose and start treatment as early as possible. Early treatment is the key to successful treatment of cerebral palsy in children. It is very important to properly organize the treatment of cerebral palsy in children. It should be based on the following conditions: early initiation, gradualness, consistency and comprehensive treatment.

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