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# MODERN VIEWS ON CEREBRASTHENIC SYNDROME IN CHILDREN

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**Abstract:** Cerebrasthenic syndrome in children is a nonspecific neurological symptom complex caused by immaturity, delayed development of central mechanisms of nervous regulation. It is manifested by asthenia: increased fatigue, exhaustion of mental and physical activity, drowsiness, decreased concentration, irritability, headache. Diagnosis is based on clinical and neurological examination, supplemented by instrumental studies of the brain, psychological testing, laboratory analysis. Treatment is complex, including medication, physiotherapy and psychocorrection.
**Keywords:** Cerebrasthenic syndrome, children, complex treatment.

**Introduction.** The word “cerebrastenic” literally means “weakness, impotence of the brain”. Synonymous names of the syndrome are cerebrasthenia, asthenia, asthenic syndrome, asthenic state. The prevalence in children is 3%. Since the main characteristic of cerebrasthenia is a violation of adaptation and adaptive mechanisms, the syndrome is more often diagnosed during stressful periods of a child's life - when entering kindergarten and school. Epidemiologic peaks are determined at the age of 3-4 and 6-7 years. Symptomatology is more pronounced in the off-season - spring, fall. Gender and geographical factors do not affect the prevalence of pathology.

*Causes*

Cerebrasthenia develops with an organic lesion of the brain. The causes of the syndrome can become:

- Complications of pregnancy. A negative effect on the CNS of the fetus has a severe toxicosis, hypoxia, Rh conflict, intoxications, intrauterine infections. There is a high risk of cerebrasthenia when exposed to harmful factors in late gestation.
- Complicated labor. Damage occurs with asphyxia, blood loss, trauma of the natal period. Manifested by ischemic, hypoxic disorders, vertebral-basilar insufficiency.

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- Neuroinfections. Central nervous system damage is observed in meningitis, encephalitis, poliomyelitis, myelitis. Asthenia develops as a symptom, persists for a long time after recovery.
- Craniocerebral injuries. Asthenic disorders are determined in 88% of children in the remote period of traumatic brain injury. The severity depends on the severity and duration of trauma.
- Somatic diseases. Symptoms are noted with cerebral circulatory insufficiency. The cause is pathologies of the cardiovascular system, hypovolemia (decrease in blood volume), hypoxemia (decrease in oxygen in the blood) against the background of kidney disease, shock and other severe conditions.
- Stress factors. Unexpected intense stress on the body can become a trigger mechanism of cerebrasthenic syndrome. Symptoms occur after prolonged emotional stress or shock, during the age physiological crisis, with a violation of the daily regime, frequent change of time zones.

*Pathogenesis*

Cerebrasthenic syndrome develops against the background of hypoxic, ischemic, infectious, traumatic lesions of the brain. The main manifestations - weakness, rapid fatigability, irritability, headaches - arise due to insufficient oxygen supply to tissues, a decrease in the rate of nerve transmission, the appearance of pathological foci. Neurological diffuse microsymptomatology is explained by increased intracranial pressure, mild disorders of liquor dynamics, changes in the electrical activity of the brain on the residual-organic type. Cerebrastenia is characterized by a regenerative course, reduction of clinical manifestations. Possible periods of decompensation provoked by somatic diseases, stressful situations, age crises.

*Symptoms*

Cerebrastenia is manifested by physical weakness, rapid fatigability, drowsiness, autonomic dysfunction. Infants are restless, often cry, sleep a lot during the day, awake at night. Appetite is reduced, weight gain is slow, a general lag in development is determined. Young children have a reduced interest in toys. They do not like mobile games, poorly adapted to unfamiliar surroundings. With the stuffiness, heat, cold, sharp sounds, well-being deteriorates, the child asks for hands, capricious. Does not like traveling, riding on rides, swings.

Preschool children are anxious, have fears (of the dark, monsters, heights). Frequent symptoms are nocturnal enuresis, weather dependence, increased sweating or chilliness. Emotions are labile, unstable - patients are easily upset, crying, angry, quickly calm down. Rarely take part in games, not inquisitive enough. Stressful situations lead to functional physiological disorders - vomiting, diarrhea, palpitations, dizziness.

Schoolchildren retain symptoms of physical malaise, more distinct signs of cognitive deficit. There is inattention, reduced stability of attention, inability to memorize educational material. In writing lessons, the child misses letters, changes their places, does not have time to write under dictation, interrogates. When giving oral answers, the child has difficulty building a monologue, takes a long time to choose the right words, recalls information. The daily dynamics of work capacity is noticeable: lessons in the morning are given much easier, by the evening comes exhaustion.

*Complications*

Cerebrasthenic syndrome in children leads to lag in physical and mental development. Infants, children 1-3 years later master motor and everyday skills, speech. Preschoolers, schoolchildren are more difficult to give the curriculum, often develop school failure. Complications of the emotional sphere - increased anxiety, depression, fears, phobias. In severe cases, it is necessary to study at home or in special educational institutions for somatically

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weakened children. In adolescents on the basis of asthenic syndrome forms an organic personality disorder.

*Diagnosis*

Diagnosis of cerebrasthenic syndrome includes clinical, physical, instrumental and laboratory methods. The need for a broad examination is explained by the nonspecificity of symptoms - immunologic, infectious, hematologic and other diseases should be excluded. The following methods are used:

- Clinical. A detailed interview, collection of anamnesis, catamnesis is conducted by a therapist, neurologist, psychiatrist. Each specialist builds a conversation in accordance with the presumed diagnoses, prescribes additional objective examinations.
- Physical. The therapist performs a general examination, with complaints about the work of internal organs, assesses the work of the lungs, heart, gastrointestinal tract. Neurologist checks the formation, symmetry, adequacy of reflexes, reactions to light and sound, identifies lags in development.
- Psychodiagnostic. The psychologist uses methods of research of cognitive functions - attention, memory, thinking. Cerebrastenia is characterized by a decrease in attentive-mental processes, rapid exhaustion, manifested by the deterioration of indicators from the beginning to the end of the examination.
- Instrumental. EEG, REG, MRI of the brain, USDG of the head and neck are performed. With asthenic syndrome, vascular inferiority is determined, deviation of the values of the bioelectrical potential, imbalance of nerve impulses.
- Laboratory. A general and biochemical blood test is prescribed. According to the results, infections, anemia, diabetes mellitus and other diseases that can cause weakness, fatigue, dizziness are excluded.

**Conclusions:** With proper medical and psychological-pedagogical assistance, the prognosis of cerebrastenic syndrome in children is favorable. Clinical manifestations become less pronounced and disappear by adolescence. To prevent the development of the syndrome and its exacerbations, it is necessary to carefully monitor the well-being of the child: at an early stage to identify increased fatigue, determine the cause of daytime sleepiness, headaches, school failure.

It is important to create a favorable, calm environment in the family, avoid conflicts, quarrels. It is worth adhering to a proper daily regimen: provide the child with a full night's sleep (at least 8 hours), until the age of 6-8 years - daytime sleep, alternate periods of mental and physical labor, daily walk in the fresh air..

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