

MODERN SOLUTIONS FOR THE DIAGNOSIS, PREVENTION AND TREATMENT OF CEREBRAL PALSY IN CHILDREN

Musurmonqulov Asliddin Ahmadali o'g'li

Department of Neurology, Samarkand State Medical University, 1st year clinical resident

Muzaffarova Nargiza Shukhratovna

Assistant, Department of Neurology, Samarkand State Medical University

Khakimova Sokhiba Ziyadulloyevna

Scientific supervisor, Head of Department, Department of Neurology, Samarkand State Medical University

Abstract: Cerebral palsy (CP) is a complex of specific motor disorders that occur as a result of damage to the central nervous system of a child during intrauterine development, during childbirth, or in the first 1-2 years of life. The pathology is manifested by impaired motor functions of varying severity, from mild difficulties to complete immobility. As a rule, a child with cerebral palsy also has speech and / or mental disorders and various forms of mental retardation.

Treatment of pathology is carried out in specialized centers. Each patient requires an individual approach and a comprehensive solution to the problems that arise. Neurologists of the SM-Clinic for Children and Adolescents in Moscow examine children with suspected cerebral palsy. After the diagnosis is confirmed, the child is referred to a specialized hospital. In the future, with the already prescribed treatment, SM-Clinic specialists for children and adolescents can conduct dynamic monitoring of the small patient.

Key words: General information Classification of cerebral palsy, Causes of cerebral palsy, Symptoms of cerebral palsy, Complications of cerebral palsy, Diagnosis of cerebral palsy, Treatment of cerebral palsy

According to global statistics, cerebral palsy is diagnosed on average in 2-7 children out of every 1,000. Premature babies are at risk of developing this pathology 10 times more often than those born full-term. In recent decades, doctors have noted an increase in the number of cases of cerebral palsy, which may be associated with the ability to care for babies. Modern technologies allow you to save the lives of even very premature babies, who are at risk of illness. The impact of a constantly deteriorating environment cannot be denied.

Classification of cerebral palsy

There are several types of classification of cerebral palsy based on the dominant syndrome. The most common division of pathology into three groups:

Spastic forms: accompanied by muscle spasms; changes can affect only the legs (diplegia), the right or left side of the body (hemiplegia), or all limbs at once (tetraplegia);

dyskinetic (athetoid) forms: accompanied by impaired muscle control, which makes it difficult for the child to hold the body in one position and perform precise movements; painful muscle contractions also occur periodically;

Ataxic form: accompanied by a pronounced lack of coordination of movements.

There are also mixed variants of pathology.

The course of the disease is divided into three stages:

early: the main manifestations of the disease, mainly impaired reflexes, increased intracranial pressure, the development of convulsive and spastic syndrome;

initial residual: the manifestations of the disease increase, the child's physical and mental development is inhibited; contractures appear during this period (the mobility of some joints is limited);

final residue: the clinical picture of the disease finally takes shape, mental disorders and speech disorders become apparent.

Causes of cerebral palsy

The main cause of cerebral palsy is damage to the central nervous system. All pathological factors affecting the child's brain can be divided into three groups:

- a) prenatal (the effect occurs during fetal development):
- b) risk of premature birth;
- c) infections (rubella, toxoplasmosis, syphilis, CMV, herpes);
- d) chronic diseases of the mother (diabetes mellitus, thyroid diseases, heart defects);
- e) acute and chronic intoxication (smoking, alcohol consumption, taking toxic drugs);
- f) fetoplacental insufficiency;
- g) severe toxicosis;
- h) gestosis;
- i) premature birth;
- j) Rhesus conflict;
- k) intrapartum (damage occurs directly during childbirth):
- l) hypoxia during childbirth;
- m) birth trauma;
- n) uncoordinated labor;
- o) narrow pelvis and/or large fetus;
- p) natural childbirth at birth;
- q) long or rapid birth;
- r) long dry period;
- s) aspiration of amniotic fluid;
- t) traumatic manipulations (use of forceps, vacuum extraction);
- u) postnatal (occurs in the first 2 years of life):
- v) performing artificial ventilation after birth;
- w) epilepsy;
- x) neuroinfections;
- y) prolonged jaundice of newborns;
- z) Suffered a brain injury.

In many cases, it is difficult to pinpoint a specific factor in determining the etiology of cerebral palsy. As a rule, a child's brain is affected by several factors that reinforce each other's effects.

Symptoms of cerebral palsy

Symptoms of cerebral palsy vary depending on the size and location of the pathological focus. In some cases, the first signs appear immediately after birth, but, as a rule, they develop in the first months of life. During this period, the baby's lag behind the norms of mental development becomes noticeable. Often, a delay in motor development is detected during the examination: the baby cannot hold his head up for a long time, does not consciously move his limbs or does not try to grab a toy. Reflexes persist for a long time, but they should disappear as he grows up. Depending on the state of muscle tone, the baby lies in a frog position or, conversely, in constant tension (arms and legs bent, fists clenched). When you try to put the baby on his feet, he leans not on his feet, but on his fingers.

As the child gets older, the symptoms become more pronounced and obvious. A delay in physical development is clearly visible, and there is a delay in the formation of speech and cognitive abilities. Many children experience hyperkinesia: involuntary movements of the limbs or head, twitching, shaking the head, tilting, etc. In the ataxic form, a lack of coordination of movements comes to the fore: the child often falls and there is a pronounced instability in the standing position. In severe cases, there is a violation of swallowing.

Muscle dysfunction is often accompanied by damage to internal organs or sensory organs. Patients may develop:

- a) strabismus;
- b) decreased visual acuity;
- c) varying degrees of hearing loss;
- d) urinary incontinence;
- e) pathologies of the digestive system;
- f) respiratory dysfunction;
- g) obesity;
- h) Decreased thyroid function.

More than half of patients with cerebral palsy also suffer from epilepsy.

Not all children develop intellectual disability and mental illness. About one-third of patients have no cognitive impairment, while another third have mild impairment.

Complications of cerebral palsy

Persistent impairment of motor function inevitably leads to the development of complications. Many children experience joint contractures (limited mobility), dislocations or subluxations of the hip joints, and spinal deformities.

If a child is bedridden, they are at increased risk of developing congestive pneumonia, urinary tract infections, and bedwetting. Good care can delay these problems.

Diagnosis of cerebral palsy

The neurologist diagnoses the disease. Analyzes the complaints of the parents and collects an anamnesis. During the interview, it is determined how the pregnancy went, how the birth took place, and the features of the baby's development in the first months of life. Particular attention is paid to premature babies, who are at a much higher risk of developing pathology.

During the examination of the child, the neurologist notes an increase or decrease in muscle tone, a slower regression of the baby's reflexes, and the presence of pathological reactions. Changes are especially noticeable in dynamics. To clarify the diagnosis, additional examinations may be prescribed:

- a) EEG;
- b) electromyography;
- c) electroneurography;
- d) transcranial magnetic stimulation;
- e) neurosonography;

MRI of the brain.

These studies allow us to distinguish cerebral palsy from other diseases with similar symptoms. Consultations with specialized specialists are also planned: ophthalmologist, otolaryngologist, orthopedist, speech therapist, psychiatrist, epileptologist, endocrinologist, etc.

By clicking the button, you consent to the processing of your personal data.

Registration via the website is preliminary. Our employee will contact you to confirm an appointment with a specialist.

We guarantee that your personal information will not be disclosed and that you will not receive advertising messages to the phone number you provided. Your information is required to provide feedback and schedule an appointment with a clinic specialist.

Cerebral palsy treatment

- a) Currently, cerebral palsy cannot be completely cured.
- b) Pathology cannot be cured, and the main task of doctors is to eliminate unpleasant symptoms as much as possible, prevent complications, and adapt the child to life in society.
- c) Rehabilitation measures are selected individually, taking into account the form of the disease, the severity of symptoms and the age of the child. These include:
- d) Symptomatic drug therapy (anticonvulsant and antispastic drugs, painkillers, nootropics, etc.);
- e) surgical treatment: used for the development of permanent contractures, limb shortening (IN SPECIALIZED CENTERS);
- f) physiotherapeutic procedures: hydrotherapy, electrical muscle stimulation, electrophoresis, etc.;
- g) animal-assisted therapy: therapy based on interaction with animals (usually dolphins and horses) (WE CAN DO IT);
- h) physical therapy and mechanotherapy to strengthen muscles and master basic skills;
- i) massage to relieve spasms and prevent contractures;
- j) work with a psychologist, defectologist, speech therapist;
- k) Psychotherapy in the presence of relevant disorders.

If necessary, highly qualified specialists are involved in working with a patient with cerebral palsy: ophthalmologists, ENT doctors, gastroenterologists, etc.

Social adaptation plays an important role. Depending on the characteristics of the disease, a child with cerebral palsy can go to regular or correctional institutions. In the absence of pronounced mental disorders in the future, such patients live almost full lives, limited only by physical problems associated with damage to the nervous system.

Doctor's expert opinion

Cerebral palsy is a major problem in modern pediatric neurology. Despite the capabilities of medicine, the number of cases is not decreasing, but rather increasing. It is very important to diagnose the pathology in a timely manner and organize assistance to the child as soon as possible. In this case, he

has a chance to live a full or almost full life, despite brain damage. Parents, doctors, teachers, educators and rehabilitation specialists must work as a team to create optimal conditions for the development of the baby. There is no single scheme for correcting problems with cerebral palsy. In each specific case, the set of procedures will be different. Regular monitoring and medical care will help to avoid complications and deterioration of health due to other diseases.

Prevention

There is no specific prevention of cerebral palsy. It is important for the expectant mother to pay maximum attention to her health during pregnancy, undergo examinations and follow all the doctor's recommendations. The correct choice of the method of delivery and proper management of the birth itself play an important role. In the first years of the child's life, it is important to protect him as much as possible from infections and injuries, as well as consult a doctor in a timely manner for examination and treatment.

Reference:

1. Petrukhin AS, Bobylova M.Yu. Child neurology. Textbook. In 2 volumes. GEOTAR-Media, 2018
2. Dobrynina Elizaveta Aleksandrovna Physical rehabilitation of children with cerebral palsy // Bulletin of Science and Education. Issue 4, 2018 (40).
3. Batysheva TT, Platonova AN, Bykova OV Epileptic syndromes in cerebral palsy // Epilepsy and paroxysmal states. 2011. No. 2.
4. Guzenko SA, Gutsul IV, Chernoiivanov OM Medical rehabilitation of children with cerebral palsy // ZR. 2011. No. 2.
5. Kamilova Tatyana Askarovna, Golota Alexander Sergeevich, Vologyanin Dmitry Alexandrovich, Schneider Olga Vadimovna, Shcherbak Sergey Grigorievich Biomarkers of cerebral palsy // Physical and rehabilitation medicine, medical rehabilitation. 2021. Issue 3.
6. Andryev S. et al. Experience with the use of memantine in the treatment of cognitive disorders //Science and innovation. – 2023. – T. 2. – №. D11. – C. 282-288.
7. Antsiborov S. et al. Association of dopaminergic receptors of peripheral blood lymphocytes with a risk of developing antipsychotic extrapyramidal diseases //Science and innovation. – 2023. – T. 2. – №. D11. – C. 29-35.
8. Asanova R. et al. Features of the treatment of patients with mental disorders and cardiovascular pathology //Science and innovation. – 2023. – T. 2. – №. D12. – C. 545-550.
9. Begbudiyev M. et al. Integration of psychiatric care into primary care //Science and innovation. – 2023. – T. 2. – №. D12. – C. 551-557.
10. Bo'Riyev B. et al. Features of clinical and psychopathological examination of young children //Science and innovation. – 2023. – T. 2. – №. D12. – C. 558-563.
11. Borisova Y. et al. Concomitant mental disorders and social functioning of adults with high-functioning autism/asperger syndrome //Science and innovation. – 2023. – T. 2. – №. D11. – C. 36-41.
12. Ivanovich U. A. et al. Efficacy and tolerance of pharmacotherapy with antidepressants in non-psychotic depressions in combination with chronic brain ischemia //Science and Innovation. – 2023. – T. 2. – №. 12. – C. 409-414.
13. Nikolaevich R. A. et al. Comparative effectiveness of treatment of somatoform diseases in psychotherapeutic practice //Science and Innovation. – 2023. – T. 2. – №. 12. – C. 898-903.
14. Novikov A. et al. Alcohol dependence and manifestation of autoaggressive behavior in patients of different types //Science and innovation. – 2023. – T. 2. – №. D11. – C. 413-419.

15. Pachulia Y. et al. Assessment of the effect of psychopathic disorders on the dynamics of withdrawal syndrome in synthetic cannabinoid addiction //Science and innovation. – 2023. – T. 2. – №. D12. – C. 240-244.
16. Pachulia Y. et al. Neurobiological indicators of clinical status and prognosis of therapeutic response in patients with paroxysmal schizophrenia //Science and innovation. – 2023. – T. 2. – №. D12. – C. 385-391.
17. Pogosov A. et al. Multidisciplinary approach to the rehabilitation of patients with somatized personality development //Science and innovation. – 2023. – T. 2. – №. D12. – C. 245-251.
18. Pogosov A. et al. Rational choice of pharmacotherapy for senile dementia //Science and innovation. – 2023. – T. 2. – №. D12. – C. 230-235.
19. Pogosov S. et al. Gnostic disorders and their compensation in neuropsychological syndrome of vascular cognitive disorders in old age //Science and innovation. – 2023. – T. 2. – №. D12. – C. 258-264.
20. Pogosov S. et al. Prevention of adolescent drug abuse and prevention of yatrogenia during prophylaxis //Science and innovation. – 2023. – T. 2. – №. D12. – C. 392-397.
21. Pogosov S. et al. Psychogenetic properties of drug patients as risk factors for the formation of addiction //Science and innovation. – 2023. – T. 2. – №. D12. – C. 186-191.
22. Prostyakova N. et al. Changes in the postpsychotic period after acute polymorphic disorder //Science and innovation. – 2023. – T. 2. – №. D12. – C. 356-360.
23. Prostyakova N. et al. Issues of professional ethics in the treatment and management of patients with late dementia //Science and innovation. – 2023. – T. 2. – №. D12. – C. 158-165.
24. Prostyakova N. et al. Sadness and loss reactions as a risk of forming a relationship together //Science and innovation. – 2023. – T. 2. – №. D12. – C. 252-257.
25. Prostyakova N. et al. Strategy for early diagnosis with cardiovascular diseaseisomatized mental disorders //Science and innovation. – 2023. – T. 2. – №. D12. – C. 166-172.
26. Rotanov A. et al. Comparative effectiveness of treatment of somatoform diseases in psychotherapeutic practice //Science and innovation. – 2023. – T. 2. – №. D12. – C. 267-272.
27. Rotanov A. et al. Diagnosis of depressive and suicidal spectrum disorders in students of a secondary special education institution //Science and innovation. – 2023. – T. 2. – №. D11. – C. 309-315.
28. Rotanov A. et al. Elderly epilepsy: neurophysiological aspects of non-psychotic mental disorders //Science and innovation. – 2023. – T. 2. – №. D12. – C. 192-197.
29. Rotanov A. et al. Social, socio-cultural and behavioral risk factors for the spread of hiv infection //Science and innovation. – 2023. – T. 2. – №. D11. – C. 49-55.
30. Rotanov A. et al. Suicide and epidemiology and risk factors in oncological diseases //Science and innovation. – 2023. – T. 2. – №. D12. – C. 398-403.
31. Sedenkov V. et al. Clinical and socio-demographic characteristics of elderly patients with suicide attempts //Science and innovation. – 2023. – T. 2. – №. D12. – C. 273-277.
32. Sedenkov V. et al. Modern methods of diagnosing depressive disorders in neurotic and affective disorders //Science and innovation. – 2023. – T. 2. – №. D12. – C. 361-366.
33. Sedenkova M. et al. Basic principles of organizing gerontopsychiatric assistance and their advantages //Science and innovation. – 2023. – T. 2. – №. D11. – C. 63-69.
34. Sedenkova M. et al. Features of primary and secondary cognitive functions characteristic of dementia with delirium //Science and innovation. – 2023. – T. 2. – №. D11. – C. 56-62.

35. Sedenkova M. et al. The possibility of predicting the time of formation and development of alcohol dependence: the role of genetic risk, family weight and its level //Science and innovation. – 2023. – T. 2. – №. D12. – C. 173-178.
36. Shamilov V. et al. Disorders of decision-making in the case of depression: clinical evaluation and correlation with eeg indicators //Science and innovation. – 2023. – T. 2. – №. D12. – C. 198-204.
37. Solovyova Y. et al. Protective-adaptive complexes with codependency //Science and innovation. – 2023. – T. 2. – №. D11. – C. 70-75.
38. Solovyova Y. et al. Suicide prevention in adolescents with mental disorders //Science and innovation. – 2023. – T. 2. – №. D11. – C. 303-308.
39. Solovyova Y. et al. The relevance of psychotic disorders in the acute period of a stroke //Science and innovation. – 2023. – T. 2. – №. D12. – C. 212-217.
40. Spirkina M. et al. Integrated approach to correcting neurocognitive defects in schizophrenia //Science and innovation. – 2023. – T. 2. – №. D11. – C. 76-81.