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INFANTILE CEREBRAL PALSY: THE STATE OF RESEARCH OF THE PROBLEM

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ABOUT ARTICLE

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Abstract: Characterization of epileptiform activity in children with cerebral palsy without seizures will help to determine the risk of epilepsy development, identify criteria and frequency of idiopathic forms of epilepsy. Such research methods included the use of the GMFCS motor function assessment; the presence of epileptiform activity is comorbid with the severity of motor status, but its onset does not affect the severity of cognitive epilepsy. Epilepsy has a benign course.

INTRODUCTION

The study's relevance lies in the prevalence of cerebral palsy (CP) as the leading cause of neurological disability in children [2, 2, 5].

Studies report a frequency of 1 to 9 cases of CP per 1,000 children. Additionally, epilepsy is a common comorbidity in CP cases. The presence of epileptic seizures is a negative prognostic factor in cerebral palsy, as it worsens existing neuropsychiatric disorders (9, 13).

When seizures occur, the focus shifts to selecting appropriate antiepileptic drugs (AEDs), and necessary habilitation activities may be suspended. It is difficult to perform activities that enhance motor and mental functions, such as electroprocedures and the use of nootropic drugs [10, 12]. Additionally, children with cerebral palsy are often overdiagnosed with epilepsy due to high vigilance, leading to unjustified prescription of antiepileptic treatment and cessation of rehabilitation measures [2, 3, 4]. In this context, prognostic factors for the development of epilepsy and methods for differential diagnosis of paroxysmal conditions, including electroencephalography (EEG), are of special significance. The

combination of cerebral palsy and epilepsy can result in severe neurological consequences, and a high percentage of children in this group experience persistent disability and mental retardation.

In more than 80% of cases of cerebral palsy, the leading clinical symptom is spasticity, which is a movement disorder characterized by increased muscle tone and tendon reflexes. Therefore, it is necessary to...

The clinical presentation of cerebral palsy is dependent on the size and location of brain damage, as well as the intensity and duration of previous therapeutic and rehabilitative interventions.

Early manifestations of cerebral palsy include delayed motor and psycho-verbal development, absence or delayed reduction of innate reflexes, delayed or absent development of setting reflexes, muscle tone disorders, and increased tendon reflexes.

- Pathological synkinesias occur when arbitrary movement of some muscles causes simultaneous involuntary contraction of other muscles.

- Pathologic attitudes, such as the flexor-pronator attitude of the hands or hip drive attitude, can also form.

The most prevalent form of cerebral palsy is spastic diplegia, also known as Little's disease. It typically occurs in premature infants and is characterized by bilateral lesions in the legs, more so than in the arms, as well as early formation of deformities and contractures.

- The text is already well-written and adheres to the desired characteristics. No changes are necessary.

- Infantile cerebral palsy (ICP) is a group of stable syndromes with different clinical manifestations arising as a result of brain dysontogenesis or brain damage in the early postnatal period of ontogenesis. The clinical picture of the disease is characterized by impaired motor function associated with abnormal development of statokinetic reflexes, abnormal tonus, and paresis. In addition, secondary changes in nerve and muscle fibers, joints, ligaments, and cartilage occur throughout life. Various neurological and psychiatric disorders are also frequently observed [1620].

The range of mental disorders can vary from mild emotional deviations to severe intellectual impairment. In cases of cerebral palsy, motor disorders may be accompanied by mental retardation, epileptic seizures, perception and learning difficulties. Additionally, there may be pathological changes in vision, hearing, sensitivity, and various pathologies of internal organs, which can worsen the degree

of psychomotor developmental delay [21, 22]. The term 'cerebral palsy' is commonly used in the literature to describe the range of neurological disorders associated with this condition, despite its limited accuracy [2326].

- Infantile cerebral palsy is characterized by a non-progressive course. However, as the child grows and develops, the clinical picture may change and give the impression that the process is progressive. This is due to increasing decompensation caused by a growing mismatch between the capabilities of the nervous system and the demands of the environment on the developing organism. All this leads to limitations in

- Life activity: difficulties in self-care, movement, psychological and communication problems among peers and with others, difficulties in realization of educational process and future work activity. As a result of all this, there is inevitably a significant decrease in the quality of life of children with cerebral palsy and their immediate environment [27-31].

Cerebral palsy is classified into several types according to the International Classification (ICD 10), including spastic cerebral palsy (G80.0), spastic diplegia (G80.1), infantile hemiplegia (G80.2), dyskinetic cerebral palsy (G80.3), ataxic cerebral palsy (G80.4), and other types of infantile cerebral palsy (G80.8).

Various clinical and functional classifications of cerebral palsy have also been developed by different authors. In Russia, the most commonly used classifications of cerebral palsy are those developed by K.A. Semenova (1972) and L.O. Badalyan et al. (1988) [32, 33]. K.A. Semenova's clinical classification distinguishes between the following forms of cerebral palsy: double hemiplegia, hyperkinetic form, atonic-astatic form, and hemiplegic form. Cerebral palsy development is classified into three categories: early stage (up to 45 months), initial residual stage (6 months to 3 years), and late residual stage (older than 3 years). The classification of L.O. Badalyan et al. distributes cerebral palsy forms by age groups. The second age group is not specified.

The early age group includes spastic forms such as hemiplegia, diplegia, and bilateral hemiplegia, as well as dystonic, hypotonic, and hypotonic-dystonic forms. Older individuals may experience various forms of cerebral palsy, including spastic forms such as hemiplegia, diplegia, and bilateral hemiplegia, as well as hyperkinetic, ataxic, atonic-astatic, and mixed forms such as spastic-ataxic, spastic-hyperkinetic, atactic-hyperkinetic, and atactic-hyperkinetic. It is important to note that these forms may present differently in each individual and should be evaluated on a case-by-case basis.

Older individuals may experience various forms of cerebral palsy, including spastic forms such as hemiplegia, diplegia, and bilateral hemiplegia, as well as hyperkinetic, ataxic, atonic-astatic, and mixed forms such as spastic-ataxic, spastic-hyperkinetic, atactic-hyperkinetic, and atactic-hyperkinetic.

- The functional classification of cerebral palsy, known as the Gross Motor Function Classification System (GMFCS), was proposed by R. Palisano et al. in 1997. It takes into account the degree of motor development and limitation of movements in everyday life for five age groups of patients with cerebral palsy: up to 2 years, from 2 to 4 years, from 4 to 6 years, from 6 to 12 years, and from 12 to 18 years [34].

Purpose of study. was to conduct an analytical review of modern sources of scientific literature on the issues of risk factors associated with the development of infantile cerebral palsy, modern approaches to the classification and diagnosis of this pathology.

MATERIALS AND METHODS

We analyzed 34 domestic and 12 foreign literature sources on this topic.

RESULT

Based on the analysis of scientific data, this review updates the prevalence of infantile cerebral palsy in Russia and abroad. It describes the risk factors associated with the development of this pathology, the main approaches to the classification of cerebral palsy, characteristic clinical picture, diagnosis, and treatment. Despite numerous studies on the topic, there is currently no consensus on the etiology of this problem, and issues related to early diagnosis remain unresolved.

CONCLUSION

Infantile cerebral palsy is still an urgent problem of modern society. Our analysis shows that this pathology is a multifactorial disease, and to date there is no consensus on the predominant influence of certain factors on the development of cerebral palsy. There is also a problem of early diagnosis and initiation of treatment, which in turn largely determines the course of the disease. All this points to the need for further research into this problem.

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