



## In Children With Cerebral Palsy Early Diagnosis And Treatment Of Dental - Jaw Abnormalities

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### ABSTRACT

Providing dental care to young disabled children with cerebral palsy around the world is one of the important tasks. According to experts, the number of disabled children aged 2-14 years with diseases of the central nervous system has increased from 11974.6 to 15691.2 over the past decade, there is an increase of 16 percent in cerebral palsy. Therefore, improving the treatment of dental caries in children with cerebral palsy is one of the most important problematic issues of fundamental medicine.

A wide range of scientific studies on the use of EXO-and endogenous fluoride methods in measures aimed at assessing the state of caries resistance and preventing low resistance in children with various degrees of cerebral palsy is carried out in the world. In this regard, scientific research on the development of preventive measures in dentistry and improvement of treatment aimed at reducing the risk of dental caries in children with cerebral palsy is of particular importance in this regard.

### Keywords:

Cerebral Palsy, Dentistry, Examination, Treatment

### Relevance of the topic.

In our country, certain measures are being taken to create a healthcare system that provides a radical improvement in the quality, efficiency and popularity of medical care to the population, including the prevention of dental caries in children with cerebral palsy. In this regard, in accordance with the five priority areas of further development of the Republic of Uzbekistan in 2017-2021, improving the efficiency, quality and popularity of medical care provided to the population in our country, as well as the formation of a system of medical standardization, the introduction of high-tech methods of diagnosis and treatment, the creation of effective models of functions are determined.

Over the past 15-20 years, a wide range of research works has been carried out in the CIS

countries to assess the state of caries resistance in children with various degrees of cerebral palsy and to prevent low resistance to the use of extrasensory and endogenous fluoride methods in preventive measures {29}. The causes of the occurrence and development of cerebral palsy have been identified by many domestic and foreign authors. Despite the active work of various specialists, medical workers and parents, unfortunately, the number of sick children diagnosed with cerebral palsy continues to increase from year to year. It is necessary to approach taking into account all the that cause the disease to solve the question of achieving a positive and long-term therapeutic effectiveness of fluorides in the prevention of dental caries in children with cerebral palsy registered. According to the authors, the introduction of fluorides into the

body in order to prevent dental caries in children with cerebral palsy through an endogenous pathway, in particular, fluoridation of water, milk, salt and food, leads to a decrease in the incidence of caries by 40% or more. Of all the above endogenous methods, a conclusion was made about the calculation of the most economical and acceptable water fluoridation {30} The analysis of studies conducted in Uzbekistan showed that the prevalence and intensity of dental caries in children with cerebral palsy in different areas, the resistance of teeth to caries, the use of fluoride-containing vitamins and anti-caries drugs, the rate of saliva release in them, their properties were studied. This problem has not been fully identified among school-age children, and the authors define their leading importance differently.

A number of studies were conducted among preschool and school-age children aimed at methods and programs for the prevention of dental caries, sealing of dental cavities with sanitary and hygienic procedures, and temporary medical care.

### **The aim of the study**

Is to improve the early diagnosis and treatment of dental anomalies in children with cerebral palsy.

### **Objectives of the study:**

To assess various risk factors that can cause dental anomalies in children with cerebral palsy;  
evaluation of the diagnosis, treatment and prevention of dental anomalies in children with cerebral palsy;  
assessment of physical and chemical parameters of oral fluid in children with cerebral palsy;

Also, a system for determining the prospects for diagnosing dental anomalies has not been developed among school-age children. This means that when determining the problem of dental anomalies in preschool and school age, the need for a comprehensive accompanying analysis, determining the advantages and disadvantages of various programs based on a comparative analysis and

offering optimal solutions is one of the urgent problems that need to be solved.

With hyperkinetic, spastic diplegia and hemiparetic forms of the disease, both children aged 6 and 18 years have an increased tone of the masticatory muscles in the phase of relative physiological rest of the lower jaw, which indicates their excessive and constant tension. The preservation of increased tone in the phase of relative physiological rest of the lower jaw in children during the bite of permanent teeth indicates the absence or insufficient improvement of the function of muscle relaxation during the formation of the dental system. In the hyperkinetic form of cerebral palsy, a significant increase in the tone of the contracted muscles was also revealed to 71.6 M at 6 years and 104M at 18 years. In addition, the tone of the contracted muscles in children of this group was significantly higher than in other groups ( $p < 0.01$ ). In patients with atonic - astatic form of the disease, in contrast to the examined other groups, there was a decrease in the tone of the masticatory muscles both in the phase of relative physiological rest ( $56.9 \pm 6.1$  M at 6 years and  $41.2 \pm 2.0$  M at 18 years) and in the phase of their contraction ( $72.1 \pm 4.9$  M and  $49.7 \pm 2.6$  M).

In addition, the tone of relaxed and contracted muscles was lower in 18-year-old children compared to the data obtained in 6-year-old children of this group, which is explained by a violation of blood supply and the development of muscle atrophy in this form of the disease. All the subjects were characterized by a significant decrease in the difference in the tone indicators of contracted and relaxed muscles and, accordingly, the coefficient of contraction, which indicates a reduced ability of the neuromuscular apparatus to excitability and conduction and is a consequence of damage to the motor cortex zones in cerebral palsy. The indicators of the difference in contractile and plastic muscle tone in 6-year-olds were greater than in 18-year-olds, which indicates a decrease in the contractile ability of the masticatory muscles with age. During our survey, it was found that only 8% of children during the bite of baby teeth, 3% - during the change of teeth and 6% -

during the bite of permanent teeth have ever visited an orthodontist. At the same time, even children with pronounced dental anomalies did not receive orthodontic treatment, due to the fact that most orthodontists do not know the specifics of providing orthodontic care to patients with cerebral palsy. The dental anomalies detected in this contingent of patients in the form of delayed eruption of milk and permanent teeth, narrowing and lengthening of the dentition, a combination of vertical and sagittal incisor dysocclusion, distal occlusion and violations of all functions of the dental system can be considered characteristic pathognomonic manifestations of cerebral palsy in the maxillofacial region. Prevention and correction of the listed dental anomalies should be part of the medical and social rehabilitation of patients with cerebral palsy. When making a diagnosis of cerebral palsy, the child should be examined by an orthodontist of a specialized regional medical or rehabilitation center and put on dispensary registration as in a Children's dental polyclinic at the place of residence, the location of the child's home or boarding institution.

### **The results obtained and their analysis.**

When examining such children, the orthodontist conducts a conversation with parents and educators about the causes of dental anomalies characteristic of this contingent of patients and measures to prevent and eliminate them. All children who have bad habits in the form of sucking fingers, lips, cheeks, objects, and tongue should be referred to a neuropsychiatrist. A specialized orthodontist should coordinate the activities of orthodontists of children's dental clinics. Taking into account the change in the tone of the muscles of the maxillofacial region and violations of the functions of the dentition system, characteristic of all forms of cerebral palsy, the orthodontist, together with a speech therapist and a physical therapy therapist, develops a course of special therapeutic gymnastics for each patient, depending on the nature of the violations. To choose a method of treatment in patients with cerebral palsy, it is necessary to conduct a thorough study of the

condition of the muscles of the maxillofacial region, for which the departments of functional diagnostics of specialized ones should be equipped with appropriate equipment (electromyograph, myotonometer), or adapt the existing one. In order to conduct an appropriate study, it is necessary to specialize doctors of functional diagnostics departments at the departments of orthodontics. All children suffering from cerebral palsy, including those who do not have dental anomalies, should be registered at the orthodontist's dispensary until the second stage of the formation of a permanent bite. In patients with a combination of vertical and sagittal incisor dysocclusion, it is proposed to perform a simultaneous measurement, both in the mouth and on models, of the vertical and sagittal slit using a special ruler with a division price of 1 mm, located in two mutually perpendicular directions.

In spastic diplegia, the size of the sagittal gap in incisor dysocclusion is the largest among the groups of subjects with different periods of formation of the dentofacial system. During the period of bite of baby teeth, the size of the sagittal gap is  $3.7 \pm 0.6$  mm, which is significantly less than during the period of tooth change ( $6.2 \pm 0.7$  mm) and the period of bite of permanent teeth ( $4.6 \pm 0.7$  mm) ( $p < 0.05$ ). At the same time, in these patients, there is a significant decrease in the value of the vertical tcel in incisor dysocclusion during the period of tooth change ( $2.3 \pm 0.3$  mm) compared with the period ( $3.4 \pm 0.4$  mm,  $p < 0.05$ ). During the bite of permanent teeth, the size of the vertical gap in incisor dysocclusion increases slightly in this group and is  $2.8 \pm 1.3$  mm.

In patients with atonic-astatic form of the disease, the size of the sagittal gap with incisive dysocclusion during the bite of the baby teeth is  $2.9 \pm 0.4$  mm. During the period of change and during the bite of permanent teeth, the value of this dysocclusion is significantly greater than during the bite of milk teeth and is  $3.1 \pm 0.4$  mm and  $4.5 \pm 0.6$  mm, respectively. In this group, the size of the vertical gap in incisor dysocclusion was the largest in all periods of the formation of the maxillary system when compared with other groups of subjects. In the

period of the bite of baby teeth, the vertical gap is equal to  $3.5+0.4$  mm, increased during the change of teeth to  $4.1+0.4$  mm and decreased during the bite of permanent teeth to  $3.2\pm 0.3$  mm. In the hemiplegic form of the disease, the sagittal gap with incisor dysocclusion increases slightly during the period of tooth change ( $4.0+0.7$  mm) compared to the previous one ( $3.5+0.5$  mm) and decreases in the subsequent period ( $2.6\pm 0.4$  mm). The size of the vertical gap in incisor dysocclusion in this group of patients during the bite of the baby teeth and during the change of teeth is  $2.1+0.3$  mm, and during the permanent period it decreases to  $1.4+0.2$  mm.

Thus, for all the group of subjects with various forms of cerebral palsy, an increase in the size of the sagittal gap with incisive dysocclusion during the change of teeth was characteristic compared with the period of the bite of the baby teeth. And a larger, compared with the period of bite of milk teeth, the size of this double occlusion during the period of bite of permanent teeth, with the exception of the group of patients with hemiplegic cerebral palsy. In groups of children with spastic diplegia and atonic-astatic form of the disease, an increase in the size of the sagittal gap during the bite of permanent teeth was also revealed compared to the period of change, i.e., these subjects had an increase in the size of the sagittal gap with incisive dysocclusion with age. In children with hyperkinetic and hemiplegic forms of cerebral palsy, the size of the sagittal gap decreased during the bite of permanent teeth compared to the period of tooth change. Among the groups of subjects, the largest was the size of the sagittal gap in incisor dysocclusion in children with spastic diplegia, and in all age periods.

### Conclusion.

The size of the vertical gap in incisor dysocclusion increased during the period of tooth change compared to the previous period in children with hyperkinetic and atonic-astatic forms of the disease. It should be noted that in all groups there was a decrease in the magnitude of this dysocclusion during the bite of permanent teeth compared to the period of

the bite of milk teeth. Among the groups of examined children with atonic-astatic cerebral palsy, the size of the vertical gap in incisor dysocclusion was the largest in all age periods. Consequently, in various forms of cerebral palsy, there is an increase in the sagittal gap with incisive dysocclusion with age, which is associated with the presence, even in the subjects during the bite of permanent teeth of the infantile type of swallowing, mainly oral breathing, altered muscle tone of the maxillofacial region. This can also include the absence or decrease of self-regulation mechanisms in this contingent of patients.

### List of literature.

1. Eigardi S. Diseases of the nervous system in children / / Panfilov Publishing House, 2013. - Vol. 1. - 568 p.
2. Alekseeva G. No-this is not so. Assessment of risk factors involved in the development of disabled children / / Saratov journal of medical scientific. - 2011. - V. 7, no. 2. - 446-450.
3. Aliyev, A. A. Evaluation of quality of life in disabled children with cerebral palsy in the Republic of Dagestan / A. A. Aliyev, H. M. Aliev, T. A. Makhmudov [etc.] / / Medical and social expertise and rehabilitation. - 2012. № 4. - 54-56.
4. Averyanov S. V., Akatyeva G. G., Pupikina E. V., Romeyko I. V. Student youth of the city in the prevalence and intensity of periodontal diseases. UFI / / Pediatric dentistry and prevention. - 2015. - №3. - 51-54.
5. Avetisyan L. A., Martynova N. A., Mikhailova L. S., Bakieva K. M. Prevalence of major dental diseases in children with combined obtesomatic pathology / / Bulletin of the medical Internet conference. - 2014. - Full 4. - No. 12. - 1363-1364.
6. Avdeeva E. A. Evtukhov V. L. Diseases of teething: classification, clinic, diagnosis, treatment / / Educational and methodological guide. - Minsk, BSMU.- 2013. - Twenty-two.
7. Avraamova O. G., Zaborskaya A. R., Skripkina G. I., Jorova T. N. The effect of

- low-density teeth on the state of hard dental tissues in children / / Pediatric dentistry and prevention. - 2014. - Vol. XIII. - №2(49). - 53-58.
8. Avraamova O. G., S. V. Zapadaeva, S. S. Shevchenko / / Materials of the XX All-Russian scientific and practical conference "Dentistry of the XXI century". - M., 2014. - 245-247.
  9. Abrosimova A.V. Sutsenko, E. V. Vusataya / / Bulletin of New Medical Technologies. - 2014-Vol. 21, - No. 3-pp. 152-156.
  10. Avraamova O. G. Arena for the most vigorous rags of caries / A. G. Avraamova / / Dentistry today. - 2014. - № 8. - 68-69.
  11. Afanasyeva L. R. The state of hard dental tissues in children with impaired intellectual development and assessment of the level of dental care/ / Modern dentistry. - 2000. - No. 2. - p. 22-24.
  12. Afanasyeva L. R. Periodontal diseases with a bistroprogressive process: clinic, diagnosis: a lecture on periodontology. - 2014. - U.: <http://www.studfiles.ru/preview/1469946>
  13. Butaeva S. A. Assessment of the dental status in patients with schizophrenia / / Volgograd Scientific and Medical Journal.-2012. - №4.- 38-41.
  14. Batysheva T. T. Infantile cerebral palsy - Modern ideas about the problem (literature review) / / Russian Medical Journal. - 2012. - Vol. 20, - No. 8. - 401-405.
  15. Vichalkovskaya N. A. The effect of complex treatment on the state of nonspecific resistance of the oral cavities in children with generalized chronic catarrhal gingivitis against the background of cerebral palsy in sanatorium-resort conditions / / Modern dentistry. - 2011. - № 2 (56). - 44-45.
  16. Veчерkovskaya M. F. Modern ideas about the microbiota of the oral cavity of children's health / / Pediatric dentistry and prevention. - 2016. - №2(57). - 16-22.
  17. Viktorova L. V. Improving navigation by receiving disabled children / / Correctional pedagogy. - 2013. - №3(49). - 54-58.
  18. Galeeva R. R. Clinical results of dental examination of children with cerebral palsy / R. R. Galeeva, S. V. Chuikin / / Ural Medical Journal. - 2014. - № 3 (117). - 36-38.
  19. Galeeva R. R. Dental morbidity and biochemical parameters of oral fluid in children suffering from cerebral palsy / R. R. Galeeva, S. V. Chuikin / / Modern problems of science and education. - 2012. - № 4. - 35.
  20. Galimova A. Z. The use of medicinal phytosubstrate in the prevention and treatment of dental diseases in children with chronic renal failure who need hemodialization / A. Z. Galimova, S. V. Chuikin, N. V. Kudashkina / / Modern problems of science and education. - 2012. - № 3. - 71.
  21. Galimova A. Z. Some biochemical parameters of oral fluid in children with chronic renal failure and after hemodialysis / A. Z. Galimova, S. V. Chuikin, F. H. Kamilov / / Practical medicine. - 2012. - № 3 (58). - 104-105.
  22. Gershanovich N. A. The use of pictograms in the formation of navigation for self-service of children with intellectual disabilities / / Materials of the IV International scientific and practical conference "Actual problems of teaching and upbringing of children with disabilities". - 2014. - 84-86.
  23. Grudyanov A. I. Results of a comparative study of the composition of microbial flora in patients with chronic generalized periodontitis using various microbiological techniques (preliminary study) / / Stomatology. - 2014. - №5. - 28-31.
  24. Gulenko O. V. Structural and functional analysis of the dental status of children with mental retardation / / Kuban

- Scientific Medical Bulletin -2013.-№6 (141).- 81-85.
25. Gulenko O. V. Clinical and biochemical assessment of "oxidative stress" in dental caries in children with neuropsychiatric disorders // Pediatric dentistry and prevention. - 2015. - №1 (47). - 3-6.
  26. Gaisina L. Z. Clinical, immunological and cytogenetic aspects of the pathogenesis of the spastic form of cerebral palsy // Medical immunology. -2012. - Vol. 14, No. 6. - 507-512.
  27. Dmitrova A. G. Prevalence and intensity of dental caries in young children in institutions for orphans // Pediatric dentistry and prevention. - 2011. - №2. - 69-72.
  28. Daminova Sh. B., Mirsalikhova F. L. Treatment of caries in children by micropreparation // - 2017. - №3. -64
  29. Semenova A. A. and co-founder. Fluoride methods in preventive measures // - 2016.
  30. Davydov B. N. and co-founder. Endogenous methods // - 2012.