

EFFECTIVENESS OF REHABILITATION OF CHILDREN WITH CONGENITAL UNILATERAL COMPLETE CLEFT LIP AND PALATE DEPENDING ON THE METHOD OF PALATE DEFECT PLASTY

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Abstract: The presence of a congenital cleft lip and palate in a child causes a number of serious aesthetic and functional disorders. In most cases, congenital pathology of the maxillofacial region leads to disability in children, which emphasizes the urgency of solving the medical and social problem of treating children at an early age. The effectiveness of rehabilitation of children with congenital cleft lip and palate is assessed based on the results of complex surgical, orthodontic and speech therapy treatment.

Keywords: Congenital defects, surgical intervention, pediatric surgery, congenital anomalies, medical advances.

One of the important components of complex treatment of patients is the early restoration of the correct relationship of the muscles of the soft palate and timely closure of the defect within the hard palate. However, to date there is no unified approach to choosing the age and method of cleft palate repair. For the first time, the severity of occlusal disorders in patients with congenital cleft lip and palate during the period of occlusion of permanent teeth after one- and two-stage cleft palate repair was studied. Based on electromyography data, a comparative analysis of the degree of muscle dysfunction in children with congenital complete cleft lip and palate after cleft palate repair was carried out for the first time. For the first time, the features of speech formation in children with congenital unilateral cleft lip and palate were studied, depending on the method of palatal defect repair. For the first time, changes in the psychological status of children and their parents were analyzed depending on the inclusion of the stage of veloplasty during surgical repair of a cleft palate.

The results of the study showed that in all groups the transverse and longitudinal dimensions of the upper dentition were reduced compared to the control group. The degree of narrowing is more pronounced in the canine area. A slight narrowing was detected at the level of the second temporary molars or the first permanent molars. To the maximum extent, narrowing of the upper jaw in the canine area was observed in patients of the first group, in whom surgical intervention was performed using a one-stage technique, and to a lesser extent in individuals from the group where the closure of the palate defect was carried out in two stages. Shortening of the upper dentition was more pronounced in patients from the first group compared to the second. The participation of an orthodontist in the rehabilitation of patients with unilateral cleft lip and palate is important from the first days of a child's life until the end of comprehensive rehabilitation. Orthodontic treatment is carried out at the stages of preparation for surgical treatment and in the postoperative period. The orthodontist faces the following tasks:

normalization of the position of the fragments of the alveolar process of the upper jaw, normalization of the position of the teeth in the dental arches, normalization of occlusal relationships. After uranoplasty, removable plate devices are used to eliminate deformation of the upper jaw. However, regardless of the timing of treatment, patients with congenital unilateral cleft lip and palate are characterized by a retroposition of the upper jaw, which is normalized using extraoral additional traction. The long process of orthodontic treatment begins with the use of removable orthodontic appliances and ends with the use of fixed orthodontic appliances. The effectiveness of complex rehabilitation is determined by the results of surgical, orthodontic and speech therapy treatment, as well as based on the assessments of specialists who participated in the treatment process (otolaryngologist, neurologist, psychologist, etc.). The organization of a specialized rehabilitation center for children with congenital cleft lip and palate ensures the implementation of qualified surgical intervention, supervision of an orthodontist, speech therapist, pediatrician, otolaryngologist, psychiatrist, neurologist, which will allow obtaining good aesthetic results, restoring functional disorders, and preventing the development of secondary changes of a general and local nature. , to form a full-fledged personality. Providing systematic step-by-step treatment for children with congenital facial pathology and determining the effectiveness of rehabilitation is the main task of a specialized center.

It is not always possible to obtain continuity of the upper dentition by orthodontic means . This is due to primary edentulism of the lateral incisors, death of tooth germs during surgical interventions, early loss of teeth due to failure of hard tissues or caries, and traumatic lesions. In such cases, orthopedic treatment methods were previously used - the production of removable plate prostheses or bridges, which is not always optimal. The criterion for assessing the quality of medical and social care includes not only full anatomical and functional restoration of congenital cleft lip and palate, but also the presence of “good” speech, satisfaction of parents and the patient himself with the socio-psychological parameters of the complex care provided to him . Evaluation of the effectiveness of the final result of multi-stage treatment is carried out during the period of occlusion of permanent teeth and after completion of growth of the facial skeleton. The material for the study was the data of a clinical examination of 87 children with congenital unilateral complete cleft lip and palate aged 14-17 years, who were registered at the Volgograd Regional Center for Clinical Examination of Children with Congenital Facial Pathology. Children were stratified, depending on the use of one- or two-stage uranoplasty. Then, among the strata, two observation groups were formed using simple randomization.

Patients of the first (main) group (33 people) had the palate defect closed in two stages: veloplasty was performed at the age of 9-12 months, uranoplasty - at the age of 2-3 years. The second group (comparison) included patients (32 people) who underwent one-stage cleft palate repair at the age of 2-3 years. When analyzing data from a morphometric study of the faces of children of the first and second groups, we did not find any significant differences between the indicators of the facial diagonal, as well as the distance from the pupillary line to the lip line on the healthy side and on the side of the cleft. During the examination of children with congenital unilateral complete cleft of the upper lip and palate, the pronunciation side of speech was studied: sound pronunciation and speech breathing. When studying the state of sound pronunciation, the pronunciation of vowels and consonants was assessed. The pronunciation of vowels and consonants was assessed in isolation, in words, in phrases, in text. When studying speech breathing, we determined the volume

of speech exhalation and its duration. Based on the data obtained, the severity of rhinolalia was assessed in patients of both groups. To assess the psychological status of children with congenital unilateral complete cleft lip and palate and their parents, a set of questionnaires was developed and used, taking into account the requirements accepted for questioning in the sociology of medicine. The questionnaire for adolescents who underwent plastic surgery of a palate defect included 13 questions. With its help, 65 adolescents aged 14-17 years who had previously received this intervention were interviewed. To assess the psychological status of children with congenital unilateral complete cleft lip and palate and their parents, a set of questionnaires was developed and used, taking into account the requirements accepted for questioning in the sociology of medicine. The questionnaire for adolescents who underwent plastic surgery of a palate defect included 13 questions. With its help, 65 adolescents aged 14-17 years who had previously received this intervention were interviewed.

Thus, we came to the conclusion that the method of plastic surgery of the palate defect (one or two stages) in children with congenital unilateral complete cleft lip and palate does not affect the morphometric parameters of the face. When determining the relationships of the dentition, optimal functional occlusion was observed in 69.7% of children in the first group and in 46.8% of patients in the second group ($p \geq 0.05$). Distal occlusion was present in 15.1% of children in the first group and 25% in the second group ($p \geq 0.05$). Cross occlusion occurred in 9.1% of children in the first group and 18.7% in the second group ($p \geq 0.05$). Mesial occlusion was observed in 6.06% of children in the first group and in 9.4% of the second group ($p \geq 0.05$). The results obtained showed that on the healthy side there were no significant differences between the parameters of the first and second groups. Also, non-significant differences were found on the side of the cleft from the second molar to the midline ($p \geq 0.05$). On the cleft side, there is a decrease in the frontal-distal diagonal drawn to the canines ($p \leq 0.005$), the frontal-distal diagonal drawn to the second molars ($p \leq 0.05$), and the distance from the vestibular surface of the canine to the midline ($p \leq 0.05$). In general, the positions of adolescents and their parents were close, with the only exception being the assessment of the frequency of general somatic diseases (55.4% of parents and 15.4% of children, respectively). The study showed that parents whose children were operated on with the two-stage uranoplasty method positively assessed the effectiveness of the first stage. At the same time, violations of somatic and psychological health were more pronounced in the case of a one-stage method. Thus, the results of complex treatment of children of the first group showed a higher efficiency of the two-stage method of palatal defect plastic surgery in children with congenital unilateral complete cleft of the upper lip and palate.

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