ANALYSIS OF THE RESULTS OF TREATMENT OF PATIENTS WITH BILATERAL CLEFT LIP AND PALATE

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Annotation: It has been proven that after combined treatment, the incidence of relapses is high, which is up to 50% of cases [2,4,5,6]. Determining the tactics of treating patients with bilateral cleft lip and palate in different age periods needs in-depth study, taking into account the latest advances in science and practice. According to the authors, the reasons for the occurrence of recurrences are an incomplete analysis of the existing deformity of the facial skull, poor fixation of osteotomized bone fragments, slowing down of their consolidation, impaired contact between antagonist teeth in the postoperative period, as well as a change in the degree of tension of the soft tissues and the characteristics of adaptation of the muscles of the maxillofacial region during jaw movement.

The most frequent complications are recurrence of reverse sagittal displacement of the jaws in 18% of those operated on, as well as complications in the form of death of the premaxillary bone [2,3]. Thus, the reasons for relapses are the lack of information for doctors in working with these pathologies, the lack of diagnostic tools, as well as the complexity of the deformity, which is difficult to correct by traditional methods. A large number of corrective operations is due to the lack of a single algorithm in the approach to the treatment of patients with facial defects.

Thus, for effective treatment of patients, further study of the development of deformities and their systematization into groups is required, taking into account the growth of the cranial and facial skeleton, which made it possible to formulate the purpose and objectives of the study.

Key words: surgical treatment, congenital cleft, cheiloplasty, pathology of the upper lip and palate

Purpose of the study: To improve the effectiveness of treatment of patients with bilateral cleft lip and palate using information and diagnostic software resources for analyzing the growth and development of the cranial and facial skeleton.

Materials and research methods. 47 patients aged 3 to 28 years were examined and treated, including 27 boys and 20 girls (Table 1). All patients were divided into three age groups. One patient in the III age group (12-18 years old) had a comorbidity - craniofrontonasal dysplasia. Patients are represented by two groups - main and control. As the main group, we will take the group in which the operation was performed at 2-6 months

Table 1 - Distribution of patients by age and gender.

Gender	Year			Total	
	3-6 y.o.	7-11 y.o.	12-18 y.o.	abc	in %
Male	5	7	15	27	57.45
Female	1	9	10	20	42.55
Total	6	16	25	47	100%

Patients with bilateral cleft lip and palate were examined.

All patients were admitted for treatment in a planned manner, after a preliminary examination on an outpatient basis. The following diagnostic methods were used: clinical examination of patients, analysis of anamnesis and local status, photographic research method (aesthetic assessment of the face), biometric study of diagnostic models of the jaws, X-ray examination, statistical data processing.

For the aesthetic evaluation of the lip, the generally accepted method for evaluating the result of cheiloplasty by the quality of the restored tissues forming the upper lip was used. A good outcome of cheiloplasty was determined in the case when there was no secondary deformation of the lip. The first degree of deformity was characterized by a cosmetic defect in the red border of the upper lip, a violation of the

symmetry and shape of the Cupid's bow; the second degree was characterized by cosmetic and functional disorders, cicatricial deformity of the filtrum, vermilion border and vestibule arch, there was a limited supply of lip tissues with a defect in the skin of the central or lateral sections, with a relatively satisfactory restoration of the continuity of the orbicular muscle of the mouth. Deformity of the third degree is characterized by a pronounced violation of the shape of the upper lip, a violation of the function of the circular muscle of the mouth. When examining the oral cavity, the condition of soft tissues, dental formula, anomaly in the position of the teeth (dentia, retention, dystopia, tortoanomaly), the shape of the dentition, occlusion (the degree of vertical and sagittal disocclusion of the dentition) were assessed. The condition of the tissues of the palate was assessed: the condition of the scars, the length and mobility of the soft palate, the presence of residual defects, the condition of the alveolar process, the frenulum of the tongue, the depth of the upper and lower vestibule of the oral cavity. The state and position of the tongue in the oral cavity, with the mouth open, at the time of swallowing and at rest were visually assessed. The somatic status of the examined (the presence of concomitant, chronic diseases) was necessarily assessed.

Results and its discussion

It was established that all patients were after cheiloplasty, the task of our study was also to assess the aesthetics of the upper lip. At the same time, some patients used orthodontic (orthopedic) constructions to bring fragments of the upper jaw closer to the premaxillary bone, some did not, and some patients did not remember the preoperative correction or poor-quality use.

Treatment is known as pre-surgical or early orthopedic or orthodontic treatment, early maxillary orthopedics, or more recently, nasoalveolar molding. The method was quickly adopted by many centers around the world, although at that time no evidence-based observations of possible benefits had been studied [1;3,5]. The convergence of the fragments was carried out due to the creation of better conditions for the operation of cheiloplasty to obtain more significant aesthetic results. The timing of the cheiloplasty operation in the examined group of patients also varied,

which led to the need to conduct a comparative characteristic of the aesthetic result of cheiloplasty depending on the duration of the operation.

For a subjective-objective assessment, the generally accepted method for assessing the result of cheiloplasty in terms of the quality of the restored tissues forming the upper lip using expert assessments was used. For the aesthetic evaluation of the lip, the generally accepted method for evaluating the result of cheiloplasty by the quality of the restored tissues forming the upper lip was used. A good outcome of cheiloplasty was determined in the case when there was no secondary deformation of the lip. The first degree of deformity was characterized by a cosmetic defect in the red border of the upper lip, a violation of the symmetry and shape of the Cupid's bow; the second degree was characterized by cosmetic and functional disorders, cicatricial deformity of the filtrum, vermilion border and vestibule arch, there was a limited supply of lip tissues with a defect in the skin of the central or lateral sections, with a relatively satisfactory restoration of the continuity of the orbicular muscle of the mouth. Deformity of the third degree is characterized by a pronounced violation of the shape of the upper lip, a violation of the function of the circular muscle of the mouth. Students, residents, graduate students of the Department of Pediatric Dentistry and Orthodontics and practicing dentists were involved as experts.

In accordance with modern recommendations, [8] when describing subjective clinical characteristics, as methods that allow a quantitative description of the aesthetic result, methods of fuzzy set theory should be used.

The control group consists of patients in the amount of 18 people who underwent surgery at 6-12 months.

Table 2 - Statistics of patients with early (up to 6 months) cheiloplasty.

№ interval	1	2	3	4	5	6
Interval range	0.4-0.5	0.5-0.6	0.6-0.7	0.7-0.8	0.8-0.9	0.9-1.0
Number of values	2	2	4	5	10	6

Table 3 - Statistics of patients with late (after 6 months) cheiloplasty.

№ interval	1	2	3	4	5
Interval range	0.20-0.36	0.36-0.52	0.52-0.68	0.68-0.84	0.84-1.00
Number of values	2	5	6	4	1

To describe normally distributed quantitative traits in the main and control groups, the calculated mean (M), standard deviation (σ) or standard error (m) (Table 3).

Table 3 - Statistical characteristics of the studied groups.

Показатели	Основная	Контрольная
Объем выборки, n	29	18
Среднее значение,	0,697	0,612
Стандартное отклонение,	0,13	0,14

Indicators	Main	Control
Sample size, n	29	18
Mean	0.697	0.612
Standart deviation	0.13	0.14

To assess the statistical significance of the differences in the indicators of the two groups, taking into account the proven normal distribution of quantitative characteristics and the non-connectedness of the groups, we use Student's t-test.

The critical value of t at the 5% significance level is 2.015, which is greater than the value obtained.

Thus, no statistically significant differences were found in the samples. This suggests that the aesthetic result does not depend on the duration of the cheiloplasty operation.

Thus, on the way to increase the effectiveness of treatment and improve the aesthetic results, we have proposed an algorithm for planning the treatment of children with DRPH.

Figure 1. Figure A shows a 4-year-old patient with retrusion of the premaxilla, Figure B shows a 3-year-old patient with a protrusion of the premaxilla.

Thus, it was found that the operation of cheiloplasty allows creating a muscular-functional ring that is able to physiologically remove the premaxillary bone from the protrusion position, and that scars after uranoplasty do not have a direct effect on the position of the premaxillary bone (Figure 2).

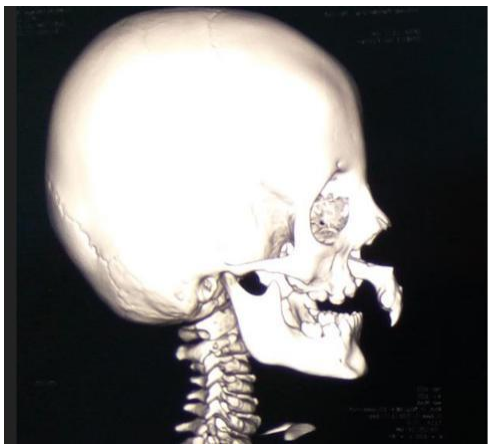

Figure 2 - Variants of the position of the premaxillary bone after the operation of cheiloplasty.

The patient in Figure 2 has an unfavorable growth of the premaxillary bone after cheiloplasty.

Thus, based on the data obtained, the following stages of treatment of children with bilateral cleft lip and palate are recommended:

Up to 1 year - operation of cheiloplasty, uranoplasty.

1) From 3 to 6 years old - orthodontic correction aimed at normalizing the position of the occlusal plane and achieving the optimal width of the dental arches.

2) 7-11 years old - upon reaching a sufficient width of the dental arches, upon obtaining indicators within the normal range during the developed biometric and cephalometric analysis, it is recommended to perform plasty of the alveolar process for optimal eruption of permanent canines into the cleft zone. Continued orthodontic correction is necessary throughout the growth period. With a favorable orthodontic status, it is possible to use soft silicone trainers in order to maintain the position of the fragments of the upper jaw and ensure a harmonious muscular balance of the maxillofacial region.

3) After 11 years, it is necessary to continue orthodontic treatment, taking into account the prognosis of the growth of the facial skeleton. In the retrusion position of the upper jaw, it is necessary to use devices that protract the upper jaw. With significant protrusion of the intermaxillary bone, treatment is possible both with osteotomy of the intermaxillary bone and with the use of mini-implants. The tactics of treatment at a given age depend on the prognosis of the growth of facial

bones. The predominance of growth in the vertical direction indicates the impossibility of performing osteotomy of the intermaxillary bone, since the lower jaw tends to grow in the third class with clockwise rotation, and the osteotomized premaxillary bone will stop the growth of the middle zone of the face. Hence, an obvious complication as a result of this type of treatment is III skeletal class with vertical incisal disocclusion. Therefore, with a vertical type of growth, the main method of treatment remains orthodontic with the use of mini-implants as an anchor if necessary. In some cases, with a neutral type of growth, it is possible to use an osteotomy of the premaxillary bone, thereby freeing the lower jaw from the negative pressure of the premaxillary bone, obtaining a stable occlusion according to skeletal class I and improving the aesthetic parameters of the face.

Conclusion: Thus, the use of information and diagnostic resources is necessary at all stages of treatment of this group of patients. The key to the success of any treatment is the correct diagnosis, vision of the pathology and determination of the extent of the problem. Digital technologies make it possible to determine anatomical and functional disorders with high accuracy, predict the growth and development of the patient's skeleton, determine the direction of growth and, at the same time, clearly plan a treatment algorithm.

Bibliography:

1. Zelensky V.A. Comprehensive rehabilitation of patients with congenital facial pathology in specialized centers: / Zelensky V.A. //Materials of the II All-Russian scientific and practical conference "Congenital and hereditary pathology of the head, face and neck in children: topical issues of complex treatment." - M., 2006. - S. 91-93.

2. Ivanov A.L., Roginsky V.V., etc. Modern possibilities of rehabilitation of children with congenital clefts: / Ivanov A.L. // Proceedings of the scientific-practical conference of dentists and maxillofacial surgeons of the Central Federal District of the Russian Federation with international participation "Technologies of the XXI century in dentistry and maxillofacial surgery". - Tver, 2008. - S. 203-204.

3. Kobrinsky B.A. Fuzziness in medicine and the need for its reflection in expert systems, 2016, No. 5, RAS.

4.Mamedov Ad.A. Algorithm for the rehabilitation of children with congenital cleft lip and palate. / Mammadov Ad.A. // Congenital and hereditary pathology of the head, face and neck in children: topical issues of complex treatment. - M.: MGMSU, 2012. - S. 151-155.

5.Mamedov Ad. A., Zangieva O.T. Preoperative orthodontic preparation of patients with bilateral cleft lip and palate using Dolphin Imaging Software,

Russian Dentistry, 2018.

6. Med.Internet - [Electronic resource] - Access mode https://www.opentechnologies.it/ru

7. Honey. Internet [Electronic resource] - Access mode: https://www.dolphinimaging.com/

8. Ryaguzova E.N. The morphological state of the dentition in children aged 12-15 years with congenital unilateral and bilateral cleft lip, alveolar process and palate (complex treatment of the surgeon and orthodontist) Ph.D. honey. Sciences: 14.00.21 / Ryaguzova E.N. - M., 2006. - 147 p.