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CLINICAL CHARACTERISTICS OF MAXILLARY ALVEOLAR DEFECT IN CHILDREN WITH CONGENITAL CLEFT LIP AND PALATE

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Abstract
Congenital cleft lip and palate is a cleft soft tissue in the middle part of the lip (cleft lip) and/or cleft palate (cleft mouth). This severe malformation of the maxillofacial region is accompanied by severe functional abnormalities. In addition, a feature of this pathology is a pronounced deformity of the nose in the form of shortening of the nasal septum, flattening of the tip and wings of the nose. Pathologically attached muscles of the upper lip and nasal area further aggravate these deformities

Keywords: Congenital cleft lip and palate, maxillary alveolar defects, malformations of the maxillofacial region

Introduction

Congenital cleft lip and palate (CHL), being one of the most frequent malformations of the maxillofacial region, is accompanied from birth not only by a cosmetic defect, but also by severe functional disorders. Depending on the severity of the deformity,

the child may have abnormal functioning of such vital body systems as breathing, feeding (including sucking) and swallowing. With age, the hearing organ becomes impaired. In addition, the presence of cleft lip and palate causes a number of somatic disorders, leading to impaired growth and development of the child's body.

Despite the long history of the problem of treatment of children with cleft palate, there is still no consensus on the timing and methods of surgical treatment that would achieve optimal anatomical, cosmetic and functional results. Elimination of maxillary cleft is one of the problems that is at the top of the agenda for comprehensive rehabilitation of children with TMJD.

Purpose of the Study:

Clinical characterization of maxillary alveolar defect in children with congenital cleft lip and palate

Materials and Methods:

We examined and treated 24 patients with congenital cleft lip and palate aged 18 to 20 years. Of these, 9 were male and 15 were female. The patients were examined and operated in the children's maxillofacial surgery department of TSSI clinic in Tashkent. All the patients had clinical examination before the operation including general clinical blood and urine tests, biochemical - blood tests for total protein, protein fractions, enzymes, residual nitrogen, urea, bilirubin, electrolytes, chest X-ray and ECG if necessary. In addition, children were examined by a number of specialists: a pediatrician, anesthesiologist, orthodontist, and, if necessary, an ENT doctor and a neurologist.

Results of the Study:

Restoration of the maxillary alveolar process continuity in cases of TMJD has several positive effects simultaneously. First, the growth and development of the maxilla is normalized. Secondly, the reconstructed alveolar process serves as a framework for the operated lip as well as the nose, and in addition, it affects the development of the upper jaw. For a successful operation, the surgeon should not only be familiar with the size of the alveolar process defect, but also assess the relationship between the upper and lower jaw for the subsequent steps of surgery.

All examined patients were initially diagnosed with unilateral (91.67%) or bilateral (8.33%) congenital cleft lip and palate, so they had scar deformities of the upper lip and nose after cheilo and upper jaw deformities after uranoplasty. In the previous stages of treatment, all patients underwent the following surgeries: cheiloplasty for

complete congenital cleft lip, and in the case of through cleft lip and palate, veloplasty and uranoplasty. Thus, all patients had in common an alveolar defect and the presence of cicatricial changes of the lip and nose and the presence of oronasal ostium 0.5 to 2.5 cm wide. Deformities of the upper lip and nose differed in variety, which can be explained by different methods of cheiloplasty used during surgical intervention. We did not set out to trace this dependence in detail, so we will briefly review the changes on the side of the upper lip and nose. All patients had scarring on the upper lip that differed in shape, size, and type of scarring. In most cases the length of the lip was sufficient, although in a number of cases there was a shortening of the lip, a particular decrease in length was observed in the case of bilateral cleft. The Cupid's bow in some patients was symmetrical, in others its asymmetry was noted (pulled upwards on the side of the cleft). In all cases, mobility of the lip was limited due to attachment of the upper lip tissues to the alveolar process, and curvature of the cartilaginous part of the nasal septum and cecum was observed to a greater or lesser extent. The tip and wing of the nose were flattened, and the nasal foramen was asymmetrical. The base of the nasal wing on the cleft side is shifted downward compared to the healthy side. A sagging ridge-like fold is detected on the wing.

In the area of the transitional fold on the side of the cleft, a scarred, altered mucosa was noted, indicating a previous surgery using tissues from this area. Coarse dense mucosal scarring extending from the red fringe to the oro-nasal junction in the form of stretched tensions caused deformation of the oral anteroom and limited mobility of the upper lip In the oral cavity in the projection of the second incisor and canine, the alveolar process defect was sometimes determined in the form of a trapezium, the size of which in the area of the pear-shaped opening was up to 10-12 mm, and towards the alveolar ridge it gradually reduced and was 3-8 mm at its apex. The oral cavity communicates with the nasal cavity due to the presence of the oro-nasal junction bordering the RAO. The gingival mucosa around the oro-nasal anus and RAO is light pink and differs little from the surrounding tissues. In most cases, the oro-nasal ostium is slit-shaped or oval, its size varies from 1 to 5 mm. The edges of the mucous membrane are as if screwed into the ostium and are fused with the bony base of the alveolar process. The edges of the cleft alveolar process are covered by mucosal cicatricial tufts. Sometimes there were abnormally shaped deciduous and permanent teeth in the gap of alveolar process. The height of the alveolar process was reduced at the edges of the defect.

All patients received orthodontic treatment for a long period, and the displacement of the split upper jaw fragments was minimal. The most unfavorable situation was

observed in bilateral GERD, when the intermaxillary bone protrusion remained to a lesser extent, but still remained.

We performed CT scans in all patients in the preoperative period. The computed tomogram of the patients in this group showed a number of characteristic features: trapezoidal or truncated cone-shaped defect of the alveolar process, communication of the cleft with the nasal cavity, curvature and deformity of the nasal septum. The floor of the nasal cavity and the sternal foramen on the side of the cleft is always wider and lower compared to the healthy side. In addition, the rudiments of deciduous and permanent teeth of abnormal shape and position are detected in the edges of the alveolar process facing the cleft side, and sometimes overcomplete teeth are observed.

Conclusions:

Compliance with the basic principles of rehabilitation of children with congenital cleft lip and palate not only significantly improves the aesthetic and functional results of treatment, but also minimizes the number of repeated corrective operations. The final rehabilitation stage includes measures for sound production and speech formation. One of the main indicators of the effectiveness of surgical treatment of children with congenital cleft lip and palate is the quality of speech development in the postoperative period. Children with congenital cleft palate begin studies with a speech therapist in the hospital from the first days after uranoplasty. In addition, during this period, the orthodontist actively monitors the bite. All possible deviations in the development of the upper jaw, the position of the intermandibular bone in bilateral cleft lip, anomalies in the position and eruption of teeth are identified. The choice of apparatus and tasks of orthodontic treatment are determined by the specific manifestations of the anomaly and the age of the patient. In the period of temporary bite removable unicameral and bicameral apparatuses are used.

List of References

1. Amanullaev RA, Kurbanhodjaev SN, Shuyusupova MT, Akbarov AA The effect of congenital cleft lip and palate on the overall development of the child. // Bulletin of the Tashkent Medical Academy. - 2013.- № 4.- C. 46-48.
2. Andreeva O. V. Phased rehabilitation of children with congenital cleft upper lip and palate // Bulletin of Chuvash University. - 2012.- № 3.- C. 269-275.
3. Dyakova S.V. Dentistry of children. Surgery. Moscow: Medicine, -2009 -379 p.
4. Inoyatov A.Sh., Mukimov I.I., Gafarova S.U. Clinical characteristics of children with congenital malformations of the maxillofacial region // Bulletin of the

Council of Young Scientists and Specialists of Chelyabinsk region. - 2016. - T. 1. - №. 2 (13). - C. 11-14.
5. Shokirov S.T., Mukimov I.I. Improvement of traditional alveoloplasty in patients with congenital cleft lip and palate // Eurasian Journal of Medical Research. - 2021. - VOL. 2, PP. 1-4.
6. Shokirov Sh. T. Secondary upper jaw deformation in patients with congenital cleft lip and palate after cheiloplasty and uranoplasty // Stomatologiya. - Tashkent, 2010. - №1-2. - C. 155-158
7. Shulzhenko V. I., Verapatvelyan A. F., Gushchina S. S., Protocol for the rehabilitation of disabled children with transverse lip and palate non-union of the Krasnodar Regional Dispensary. Proc. III All-Russian scientific conference - Moscow: Moscow State Medical University, 2009. - C. 345-352.
8. Buchanan EP, Monson LA, Lee DY, et al. Secondary deformities of the cleft lip, palate, and nose. In: Neligan PC, ed. PlasticSurgery. Vol. 3. 4th ed. Philadelphia: Elsevier; 2017:637–659.
9. Fernandes VM, Jorge PK, Carrara CF, Gomide MR, MachadoMA, Oliveira TM. Three-dimensional digital evaluation ofdental arches in infants with cleft lip and/or palate.Braz DentJ. 2015; 26:297–302.
10. Greives MR, Camison L, Losee JE. Evidence-based medicine: Unilateral cleft lip and nose repair. PlastReconstr Surg.2014; 134:1372–1380.
11. Harila V, Ylikontiola LP, Palola R, Sándor GK. Maxillary archdimensions in cleft infants in Northern Finland. ActaOdontolScand. 2013; 71:930–936.
12. Henry C, Samson T, Mackay D. Evidence-based medicine: The cleft lip nasal deformity. PlastReconstr Surg.2014; 133:1276–1288.
13. Salyer KE, Xu H, Genecov ER. Unilateral cleft lip and noserepair; closed approach Dallas protocol completed patients. J Craniofac Surg. 2009
14. Tse RW, Mercan E, Fisher DM, Hopper RA, Birgfeld CB, Gruss JS. Unilateral cleft lip nasal deformity: Foundation-based approach to primary rhinoplasty. PlastReconstr Surg.2019; 144:1138-1149.
15. Weinberg SM, Raffensperger ZD, Kesterke MJ, et al. The 3D facial norms database: Part 1. A Web-based craniofacial anthropometric and image repository for theclinical and research community. Cleft Palate Craniofac J.2016;53: e185–e197.