Valeology: International Journal of Medical Anthropology and Bioethics
(ISSN 2995-4924) VOLUME 01 ISSUE 02, 2023

THE CONSEQUENCES OF OPERATING FRAUD ON THE MORPHOMETRIC GROWTH OF THE MAXILLOFACIAL REGION IN CHILDREN WITH PALATE SPLITS AND CONGENITAL LIP DURING THE FIRST AND SECOND CHILDHOOD PERIODS

Kambarova Shakhnoza Alixuseynovna
Bukhara state medical institute

Abstract:

Congenital abnormalities of the teeth, jaws, and face are common and frequently serious conditions that pose a challenge to surgical dentistry and maxillofacial surgery. Globally, there has been a noticeable rise in the number of children born with congenital defects of the face and jaw. Specifically, congenital cracks of the palate and upper lip make up roughly 13% of all congenital abnormalities in humans.

Keywords: *Mandible, maxillae, nasolabial angle, cleft, cephalometric analysis, morphometry, lip and palate defect.*

Introduction

Relevance: One of the most prevalent abnormalities of the maxillofacial region is congenital cleft of the lip and palate (CCLP). The World Health Organization (WHO) estimates that 1 in 600 babies worldwide are born with cleft lip and palate. [1]

Evaluation of the child population's physical development is a crucial component of the medical examination and is relevant to pediatricians, general practitioners, and educators, in that order. Physical development indicators have been trending downward in the last few decades, particularly in industrial and agricultural areas that are not as well-off environmentally. [2]

Without data from anthropometric indicators across age groups, it is impossible to evaluate the state of physical development. In large regions of Uzbekistan, the birth rate of children with congenital

crevices of the upper lip and palate is, on average, 1 case per 745 live births, according to research results by R. Amanullayev. The Aral region had the highest rates, 1 case for every 540 live births.

The analysis and assessment of these modifications, when systematized, reduce the percentage of maxillofacial pathologies and have no effect on the child's hormonal development. In the younger generation, the dentate system and bite disorders are more common during the I and II years of childhood. This is the most notable increase in frequency. There has been some improvement in Uzbekistan's public health, with fewer cases of diseases affecting the teeth system and congenital cleft palates and lips in children. Still, there were some issues with the healthcare system. Among these, it was crucial to investigate the morphometric features of the craniofacial area in kids who had congenital cleft lips and palates. For effective integrated equipment of children with CCLP, it is necessary to periodically accelerate the dynamics of only segments [3].

During any surgical procedure, the development and growth of the nasal and maxillary complex in patients with CCLP is a topic that is frequently discussed. Studies by Graber [4] show three-dimensional alterations in the upper jaw in both patients following surgery and those with total lip and palate defects.

It was discovered that class III patients tended to have midline defects in their faces, shift their bites, and cross their anterior and posterior bites. When CCLP patients have surgery, two things have been demonstrated to cause abnormal person morphology: the development of internal defects and iatrogenic factors from surgical manipulation.

Bishara et al. [5] reported that maxillary deformation in patients with CCLP was caused by internal factors, but most authors noted that internal jaw factors were secondary to surgery. [6, 8] If maxillary deformation is a complication of surgery, it is important to determine the optimal duration and treatment conditions to close the defects of the lip and palate. Many studies have been conducted to determine the cause of stunting in patients with CCLP, and the general consensus at this point is that surgery's iatrogenic effects play a relatively significant role. In [9] Prior to surgery, there was a minor increase in the upper jaw in CCLP patients, which prompted more research into iatrogenic factors. According to some writers, the operation that is done in the sky is the primary cause of stunting. [10] In patients with palate defects, the mean value is usually taken into account in the growth assessment criteria and then correlated with other patients with palate and palate defects or with a normal population. [11-12] It is important to indicate the mean value of treatment outcomes, but it is relatively difficult to assess individual variability. Developmental changes have been noted by many authors. [13-14] These changes may depend on the type of crack and its complexity. To date, it has not been established whether the surgery really limits the growth of the upper and lower jaw. Therefore, to assess the effectiveness of cranial and facial growth surgeries in lip and palate defects, we conducted a study in patients with CCLP.

Materials and Methods: Kambarova Sh.A. scientific research was carried out at the Department of Surgical Dentistry of BDTI in Bukhara. Patients with CCLP were selected. 20 patients (14 men, 6 women, age: 5.6 ± 2) were divided into 2 groups. The 1st group included 10 people (9 men and 1 woman) with CCLP based on middle age. The average crack size was 5.3 ± 2.3 mm. Group 2 (control group (CG)) included 10 patients with defects (9 women, 1 man) first class.

The parents of the patients were consulted about the necessary studies and the surgical procedure, and their consent was obtained. The medial fracture segment wall in patients is laterally displaced and retropositive. The segment's cross section advanced without compressing. The alveoli with clefts face upward. Many patients report having nasal congestion. Retropositive and defective is the base of the nose wing in the slot area. The anterior wall and the maxilla's axillary depression are visible, and the alveolar slit has been moved to the side.

Every patient underwent a Millard-I.A. Kozin and a uranoplasty using the Frolova-Makhkamova technique (lip and uranoplasty at six months, and velociplastic surgery at three months). At the age

of six to seven years, cephalometric measurements were made. To measure various growth parameters of the head and face region, a thorough cephalometric analysis was carried out. Measurements, both linear and angular, were made and recorded on separate maps.

An individual patient map with all the information has been developed. All data were analyzed and primary normal measurements were obtained. Data obtained in addition to the mean standard deviation analysis showed statistically significant associations and a 95% confidence interval. $P < 0.05$ ($P > 0.05$) was taken into account. All measurements were repeated 8 weeks after the initial measurements to detect errors associated with linear measurements. Analysis of repeated measurements showed no differences between them.

Results and discussion: Measurements were obtained from CCLP patients and compared with CG participants. The perpendicular of the nazion and facial height to point A was higher in patients with CCLP than in CG participants ($P = 0.088$) ($P = 0.778$). Measurements of the remaining variables were higher in CG participants than in CCLP patients. The only differences are the length of the maxilla (condyle - point A) ($P = 0.026$), the length of the mandible (condylion-gnation) ($P = 0.045$), the upper 1 point ($P = 0.001$), the lower 1 point A to the pogonion ($P = 0.038$), the thickness of the upper lip ($P < 0.001$) and the deformation of the upper lip no correlation was observed between fracture size and its effect on maxillas retrusion.

In this study, the nasolabial angle was analyzed relative to CG participants in analog patients. In the group of patients with CCLP, low nasolabial angles were observed, and the lack of muscle development caused deformation of the lips and palate as a result of their flattening and curvature towards the cleft. These deformations are usually accompanied by a downward displacement of the collumella point near the lips. [13] In patients with CCLP, this angle is more acute, but does not correspond to 90-120 °. Lack of apparent difference between CCLP and CG patients may lead to upper lip deformation and retraction due to reconstructive surgery or upper incisor retraction and flattening of the subasal region. [14] Other researchers observed that nasal deformities in patients correlated with diastasis between lip fragments and that the alveolar process of the maxilla was located in different provisions. However, other studies have shown that the bulge of the maxilla is smoothed, which leads to lower values of the angle A [17]. Other studies have confirmed the retrusion of high incisors in patients with CCLP [18]. In patients with CCLP, the distance between the maxillas an incisor is relatively small, CG which in turn can lead to large differentiation of the nasolabial angle.

Orthodontic treatment should be individual, as a short nasolabial space can lead to tooth removal in the maxillas arc, but at the same time other types of abnormalities are observed in the bite of CCLP patients compared to CG. The increase in reduction in the length of the conditionum point is relatively limited in CG in patients with CCLP. Mid face of hypoplasia in patients with CCLP may result from surgery. Postoperative scars interfere with normal maxillae bone growth. [19] During surgery, bone tissue is not injured, but fibrous scars in soft tissues reconstruct maxillae bone growth, and maxilla grows down and forward. Depending on the size and shape of the fracture in the area of the palate and lips, tissue mobilization occurs, so the larger the crack, the larger the scar and the slower the maxillae bone grows. Comparison of the two groups revealed a statistically significant difference in mandibles length (condylion - gnation). In other words, the condition and length of the mandible was significantly affected by the surgical procedures performed. These results are similar to previous ones. [17]. Evidence suggests that mandibulae is relatively lagging, although mandibula has a normal length. Jaw retroposition in this position can be a functional reaction to changes in the mandibular complex as a result of the mandibular rotation, in which the muscle in it is remodeled and attached to the gonial region (the mandibulae is indicated by the angle and flexion of the region).

An increase in the vertical growth trend of maxillae was found in facial height measurement in patients with CCLP. The lower anterior angle of facial height was increased compared to CG patients. The results of such analyses have already been shown by other authors previously. [5,22,23] The increase in the front of the face angle may be due to active growth of the front face or passive growth of the back face. Clinical research needs to continue to develop specific protocols to treat factors impeding normal maxillae bone growth and development in patients with CCLP.

In this study, an increase in the height of the anterior lower face led to mandible being trailing. [20] In Deler's surgical practice, CCLP found that mandibles patients were small in size and relatively posterior, and at the same time eliminated lip and palate defects. This has been shown to improve patient pronunciation, but is considered a cause of relatively underdeveloped maxillae. The morphological status of mandible was found in patients with CCLP undergoing surgery, and when measuring face height, an increase in the vertical growth trend of surgical maxillae was found in patients with CCLP. The lower anterior angle of facial height was increased compared to CG patients. The results of such analyses have already been shown by other authors previously. [6,22,24 The increase in the front face may be due to active growth of the front face or passive growth of the back face. [24] For CCLP, special protocols were developed to treat factors impeding normal growth and development of maxillae in patients and found no difference in statistical analysis between the two groups compared to CCLP patients who did not have the necessary practice to continue clinical trials. It was noted that the growth of the lower jaw does not depend on the method of surgery. Mandible is not directly related to cleft, but there may be changes in the growth structure of mandible due to damage to mandibles and functional factors present. Changes were estimated for maxillae and mandible, where the incisors in the mandible dental rows were relatively retroclinical and retroactive compared to the control values.

The anterior cruciate ligament is more common in patients with congenital cleft palate. After surgical procedures, it was found that the incisors were similar to the incisors in the control group. Intensive plastic surgery on the lips can cause retroclination of the incisors in the maxillae, but has nothing to do with the growth of the middle part of the face.

Mandible was found to be relatively vertical compared to the CG in the dentition, possibly due to pressure on the lower lip during swallowing and the patient's desire to achieve an even oral cavity. The two groups showed significant differences in deformation and change in the thickness of the upper lip. In the CG group, the thickness of the upper lip increased, and in the CCLP group this indicator changed significantly. The upper lip ratio improved in the CCLP group. Numerous studies have shown that changes not only in the front teeth, but also in lip tension, muscle tone and lip thickness significantly affect lip shape and condition, especially in patients with CCLP. Solid tissue therapy can alter the soft tissue response. In patients, hypertrophy of the lower lip muscles is constantly observed to achieve bilateral closure of the lips.

Conclusion: In patients with CCLP, the length of maxillae and mandible is shorter than in the control group due to the effect of surgical interventions. The deformation and thickness of the upper lip were also smaller than in the control group, and the posterior arrangement was also found in the anterior teeth in maxillae and mandible. This suggests that surgical procedures performed in patients with CCLP affect the growth of maxillae and mandible as well as dentition. Surgery on the lips and palate affects the growth of the maxillae and mandible, which leads to a lag in the growth effect in the basal part of the jaw.

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