International Journal of
Health Systems and Medical Sciences

ISSN: 2833-7433
Volume 2 | No 5 | May -2023

# Anticipate Secondary Defects of the Maxillo-Facial Region of Children with Congenital Cleft Lip Palate after Surgery Using Morphometry

[1]Kambarova Shakhnoza Alixuseynovna, [2] Yadgarova Gulnora Satriddinovna

[1, 2,] Assistant professor, Bukhara state medical institute, Assistant, Bukhara state medical institute, Shani2112@mail.ru

**Annotation:** However, there are diseases that are asymptomatic, and many of them can be detected only by violations of growth and body proportions. The physical development of the child is due to a complex set of hereditary and environmental factors. Most developmental disorders make themselves felt with specific symptoms. However, there are diseases that are asymptomatic, and many of them can be detected only by violations of growth and body proportions. For this purpose, a unified measurement technique has been developed - anthropometry. Anthropometry is a method of measuring physical proportions and physique. To assess the child by this method, a combination of indicators is used, which can be conditionally divided into basic and complementary. The development and growth of the craniofacial region of children with CCLP is a topic of discussion, since half of the children studied were children with CPH and the likelihood of secondary defects after primary plastic surgery is high. The study studied the morphometric parameters of the craniofacial region of children with CPH and revealed significant differences.

**Key words:** physical development, child, anthropometry, craniofacial region, congenital cleft lip and palate.

**Introduction:** Anthropometry of children makes it possible to identify deviations at an early stage and prevent serious developmental disorders. Anthropometry is a method of measuring physical proportions and physique. The physical development of the child is due to a complex set of hereditary and environmental factors. Most developmental disorders make themselves felt with specific symptoms. However, there are diseases that are asymptomatic, and many of them can be detected only by violations of growth and body proportions. For this purpose, a unified measurement technique has been developed - anthropometry [1].

Cleft lip and palate is a common deformity requiring treatment by an experienced multidisciplinary team. The basic procedures popularized by Millard for unilateral and bilateral cleft lip, respectively, have been well studied and improved to achieve significantly better results. These primary procedures are performed regularly during infancy between 3 and 6 months of age. Even though it is a well practiced procedure, secondary deformities are still a nuisance. Defects range from unwanted hypertrophic scarring to muscle malfunction [2].

“One of the main causes of congenital cleft lip and palate is maternal illness in early pregnancy. This may be the influence of psychogenic factors: severe stress, unrest. This may be work at some enterprises with occupational hazards. Undoubtedly, bad habits cause irreparable harm to the

development of the fetus. According to statistics, about 10-15% of the total number of children born with clefts have a genetic predisposition," informs the head of the Department of Pediatric Maxillofacial and Plastic Surgery (Department 8) of the FSBI Turner National Research Center for Pediatric Traumatology and Orthopedics of the Ministry of Health Russia, candidate of medical sciences, maxillofacial surgeon Stepanova Y.V.

Conducting anthropometric and morphometric studies of congenital cleft lips and palate with the aim of their prevention and active participation in their life to improve and control the physical development of this work, along with doctors of various specialties of pediatricians, maxillofacial surgeons and orthopedic dentists, will improve the physical development of the child and predict appearance of a secondary defect.

**Purpose of the study:** to predict the appearance of a secondary defect in the craniofacial region of children with congenital cleft lip and palate after surgical manipulations.

**Material and research methods.** 630 children of the I and II periods of childhood with CCLP at the age of 3 to 12 years were examined. Among them, 390 boys, 240 girls who underwent surgical manipulation, depend on the severity of the anomaly of the lip and palate, in the Department of Maxillofacial Surgery at the Bukhara Children's Multidisciplinary Medical Center in Bukhara in the period from 2009 to 2018.

All studied children with CCLP were divided into 3 groups, depending on the type of anomaly. Group I - the main group, children with a severe form of anomaly, bilateral congenital cleft lip and palate (BCCLP) - 70 children. Group II - control group, children with a "lighter" form of the anomaly, without visible defects in the facial region, congenital cleft of the hard and soft palate (CCHSP) - 318 children. Group III - a comparative group, children with an "average" form of anomaly severity, unilateral congenital cleft lip and palate (UCCLP) - 241 children.

To achieve this goal, a morphometric study was carried out and morphometric parameters of the craniofacial region of children of the 1st and 2nd period of childhood with CCLP were obtained, clinical and anthropometric methods were used, followed by statistical processing of the data. When performing this work, the method of anthropometric studies of children was used according to the methodological recommendations of N. Kh. Shomirzaeva, S. A. Ten and Sh. I. Tukhtanazorova (1998).

All children underwent cheilorhinoplasty by the method of Millard-Kozina IA and palatoplasty by the method of Frolova-Makhkamova (soft palate for 3 months, lips and palate for 6 months). Cephalometric measurements were taken at the age of 6–7 years. A composite cephalometric analysis was performed to measure various parameters of craniofascial growth. Linear and angular measurements, a special compass, a tape measure, a protractor were used and recorded in a specially prepared special patient sheet.

**Results and discussion.** The results obtained were compared between the above groups of children with CCLP. The perpendicularity of the nose and face height to the point - A is higher in children with BCCLP compared with participants in CCHSP (R = 0.088) (R = 0.778). There was no correlation between the size of the cleft and its effect on maxillary retrusion. In this study, the angles of the nose and lips were analyzed in analog children compared to CCHSP participants. In the group of children with BCCLP and UCCLP, low indices of the nasolabial angle were determined, and muscle underdevelopment caused deformation of the lips and palate, the result of their flattening and lateral curvature was noted. And in some children, the compatibility of nasal deformities, the volume of diastasis between the fragments of the lips, the alveolar growth of the upper jaw are located in different conditions.

Whereas, in children with BCCLP, studies have shown a flattening of the maxillary convexity, which results in lower values of the angle of the turkish saddle point A. In children with BCCLP and UCCLP, the distance between the maxillary incisors (MI) is relatively small, which, in turn, may lead to great differentiation of the nasolabial angle. Orthodontic treatment should be individualized, a shortening of the nasolabial angle can be the reason for the extraction of teeth in the HF arch, but at

the same time, other types of anomalies are observed in the occlusion of children with BCCLP compared to CCHSP.

Maxilla growth (decrease in condyle length) is relatively limited in children with CCHSP. Hypoplasia of the middle part of the face in children with BCCLP and UCCLP may be a consequence of surgical intervention. The normal growth of maxilla is hindered by scarring after a surgical procedure. Bone tissue is usually not damaged during surgery, but due to fibrous scarring in the soft tissues, remodeling of mandible growth occurs, and mandible grows downward and forward [2]. Depending on the size and shape of the cleft in the area of the palate and lips, tissues are mobilized, so the larger the cleft, the larger the scar and the slower the growth of the upper jaw.

Also, the formation of a hypertrophic scar is associated with an abnormal response to healing and is observed with some regularity after plastic surgery of a cleft lip. Wound stress is an important contributing factor to unsightly lesions and is exacerbated by repetitive orbicularis oculi muscle activity. Cheiloplasty scars are often accompanied by lip asymmetries such as a flat upper lip, indistinct filtration columns, and red border deficiency.

Irregularities of the lip, mucosa, or vermillion may be due to normal patient growth and wound contracture after cheiloplasty. The orbicularis oculi muscle makes up the majority of the volume of the upper lip and is associated with several secondary deformities of cleft lip, including wide and convex filter and whistle deformities. Muscular abnormalities are best detected on physical examination, especially when the patient purses his lips. The orbicularis oculi protrudes on both sides if it has not been properly restored.

Secondary bilateral cleft deformity may present with central lip redness deficiency, inadequate gingival labial sulcus, and wide philtrum due to bidirectional traction of the orbicularis oculi muscle. Displacement of the vermilion border is usually due to a short vertical lip, which may be caused by scar contracture or inadequate lengthening of the lip during primary repair. Reconstruction of the filtration column is facilitated by the restoration of the underlying circular muscle of the mouth.

The use of mattress sutures for muscle repair not only prevents muscle dehiscence, but also inverts the edges of the muscle under the neophilic column to increase the ridge. Furrow deformities lead to aesthetic and functional problems and make orthognathic treatment difficult. Very rarely, this defect manifests itself. The lip is considered short in patients with a unilateral cleft if the filter column on the side of the cleft is 3 mm shorter than the filter column without the cleft. Tight lip defects are usually a bilateral deformity associated with a cleft [12].

During the study, many shortcomings and difficulties were observed, since it was not possible to obtain accurate measurements in children with CCLP on cephalometric and radiographic images (accurate measurements of the position of the head and occlusion, delays in eruption of permanent teeth and transverse occlusion).

**Conclusion.** Secondary cleft lip deformity is an undesirable result that can be better defined by the level of the defect: superficial or muscular. Proper recognition is critical to guide treatment. Interventions range from a few non-invasive options to complete revision cheiloplasty. Familiarity with the many treatments available provides surgeons with an arsenal of options to tailor revision cheiloplasty to the specific needs of their patients and subsequently achieve better results [2].

In children with congenital cleft lip and palate, in comparison with children with CCHSP, the length of the maxilla and mandible is small, which is associated with the effect of surgical intervention. The deformity and thickness of the upper lip also turned out to be less than in children with CCHSP, and were also located posterior to the anterior teeth in the maxilla and mandible. It can be seen that surgical interventions performed in children with CCLP affect the growth of the maxilla and mandible, as well as the dentition. Surgical interventions performed on the lip and palate affect the growth of the maxilla and mandible, which means that the growth effect in the basal part of the jaw bones is delayed.

**Literature**

1. Idievna S. G. CHANGES IN THE CONTENT OF TRACE ELEMENTS IN THE SALIVA OF PATIENTS IN THE TREATMENT OF PATIENTS WITH TRAUMATIC STOMATITIS WITH FLAVONOID-BASED DRUGS //Journal of research in health science. – T. 6. – C. 23-26.
2. Idievna S. G. THE EFFECT OF DENTAL TREATMENT-PROFILACTICS ON THE CONDITION OF ORAL CAVITY ORGANS IN CHILDREN WITH TRAUMATIC STOMATITIS //Tibbiyotdayangikun» scientific-abstract, cultural and educational journal.-Bukhara. – 2022. – T. 5. – №. 43. – C. 103-106.
3. Idiyevna S. G. Discussion of results of personal studies in the use ofmil therapy in the treatment of trauma to the oral mucosA //European Journal of Molecular medicineVolume. – T. 2.
4. Idiyevna S. G. THE EFFECTIVENESS OF THE USE OF MAGNETIC-INFRARED-LASER THERAPY IN TRAUMATIC INJURIES OF ORAL TISSUES IN PRESCHOOL CHILDREN //Academic leadership. ISSN. – T. 15337812.
5. KS Alikhuseynovna Statistical Processing Of Morphometric Measurements Of Craniofacial Area Of Children With Congenital Cleft Labia And Palate I And II Of The Childhood Period // Zien Journal of Social Sciences and Humanities 5, 31-35
6. KS Alixuseynovna EFFECT OF SURGICAL MANIPULATION TO MORPHOMETRIC DEVELOPMENT OF FACE AND JAW IN PATIENTS WITH CONGENITAL LIP AND PALATE SPLITS // Web of Scientist: International Scientific Research Journal 2 (09), 29-35
7. KS Alixuseynovna Identification of the morphometric parameters of the cranio-fascial region of children with congenital cleft and palate reflections using a developed research map // Central Asian Journal of Medical and Natural Science 2 (3), 286-290 Vol. 2. - Issue 3. – P. 286 – 290.
8. KSA Xuseynovna Optimization of the Diagnosis and Treatment of Oral Epulis Based on Morphological and Cytological Analysis // Texas Journal of Medical Science 6, 24-26
9. *Lidia Sitnikova May 30, 2020 Anthropometry of children: an algorithm for conducting. Blog for heads of kindergartens. First part* https://parta1.com/blog/
10. SA Kambarova Effect of Surgical Manipulation in Morphometric Growth of Maxillofacial Area at Children with Congenital Lip and Palate Splits At I and Ii Period of Childhood// Annals of the Romanian Society for Cell Biology, 1853-1858. – 2021. - Vol. 25. - Issue 4. – P. 1853 – 1858.
11. SA Kambarova EFFECT OF SURGICAL MANIPULATION TO MORPHOMETRIC DEVELOPMENT OF FACE AND JAW IN PATIENTS WITH CONGENITAL LIP AND PALATE SPLITS // Новый день в медицине, 2021- P. 128 - 130.
12. SA Kambarova, GS Yadgarova CHARACTERISTIC OF MORPHOMETRIC PARAMETERS OF CRANIOFASCIAL REGION OF CHILDREN WITH CONGENITAL CLEFT LIP AND PALATE // Academic research in educational sciences 2 (9), 295-303
13. Sarrami SM, Skochdopole AJ, Ferry AM, Buchanan EP, Hollier LH Jr, Dempsey RF. Revisional Techniques for Secondary Cleft Lip Deformities. Semin Plast Surg. 2021 May;35(2):65-71. doi: 10.1055/s-0041-1728673. Epub 2021 Jun 8. PMID: 34121941; PMCID: PMC8186990.
14. Sharipova G. I. Light and laser radiation in medicine //European journal of modern medicine and practice. – 2022. – T. 2. – №. 1. – C. 36-41.
15. Yadgarova G. S. IMPROVING THE QUALITY OF THE LIFE STATUS OF INFANTS WITH UNILATERAL CONGENITAL CLEFT LIP AND PALATE //Central Asian Academic Journal of Scientific Research. – 2022. – T. 2. – №. 5. – C. 915-918.
16. ША Камбарова, ШК Пулатова REVITALIZATION OF NONSPECIFIC IMMUNITY FACTORS IN PATIENTS WITH DIFFUSE PHLEGMON OF THE MAXILLOFACIAL AREA USING A BAKTERIOPHAGE // Новый день в медицине, 128-130 // New day in medicine. -

2020. - P. 128 - 130.

17. Ядгарова, Г. С., et al. "Табиий ва сунъий озиқлантирилган олти ёшли соғлом болалар юзи ва пастки жағ бурчаги морфометрик параметрлари." Ozbekiston tibbiyot jurnali 6 (2014): 102-105.
18. Qurbonova N. I., Khabibova N. N., Ikhtiyarova G. A. Hygienic condition of the oral cavity and the level of hygienic knowledge of silk motor workers //European Journal of Molecular and Clinical Medicine. – 2020. – Т. 7. – №. 3. – С. 3027-3033.
19. Qurbonova N. I. Dental prevention ofmorbidity in silk welding workers //Academicia: An International Multidisciplinary Research Journal. – 2020. – Т. 10. – №. 5. – С. 1667-1669.
20. Kurbonova N. I. Optimization of prevention of dental morbidity in workers of the production of cholomatic production //Journal For Innovative Development in Pharmaceutical and Technical Science (JIDPTS). – 2021. – Т. 4. – №. 03.
21. Kurbonova N. I., Xabibova N. N. The results of the working conditions of workers in the silk industry //Journal For Innovative Development in Pharmaceutical and Technical Science (JIDPTS). – 2021. – Т. 4. – №. 3.