



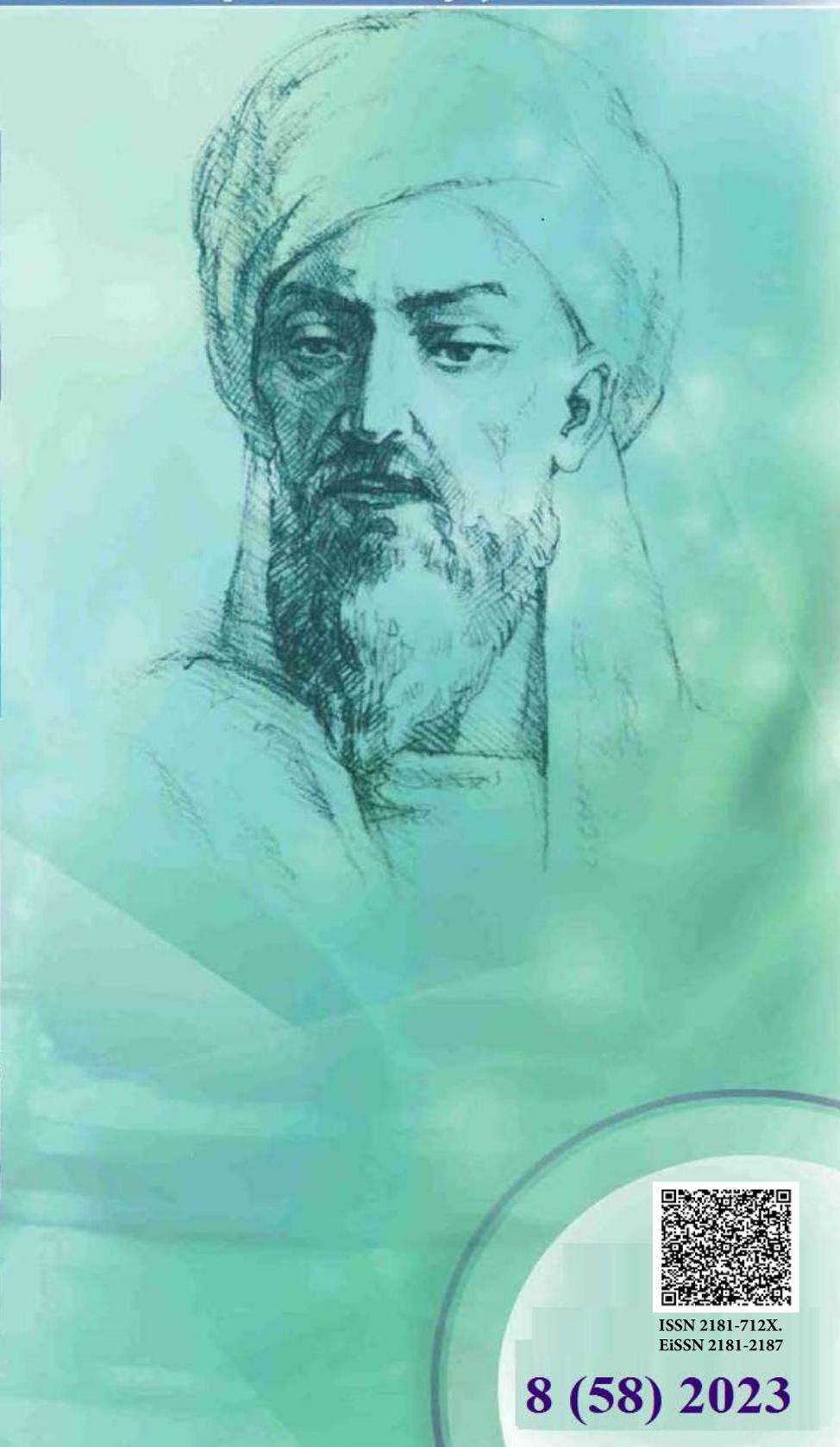
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**ТИББИЁТДА ЯНГИ КУН
НОВЫЙ ДЕНЬ В МЕДИЦИНЕ
NEW DAY IN MEDICINE**

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SECONDARY MAXILLARY DEFORMITIES IN PATIENTS WITH UNI- AND BILATERAL CLEFT LIP AND PALATE AFTER PRIMARY LIP AND PALATE SURGERIES

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✓ Resume

In this article, our goal was to determine the clinical and radiologic manifestations of secondary maxillary deformities in patients with uni- and bilateral clefts of the upper lip and palate after primary lip and palate surgeries. The study included 45 patients aged from 8 to 23 years with jaw deformities after cheilo- and uranoplasty. It was found that in patients with through unilateral cleft lip and palate who did not receive orodontic treatment after cheilo- and uranoplasty, typical clinical symptoms were defects of the nasal floor lining, rough scars in the upper lip area, caused by secondary healing, apparently related to the stitching of the wound edges, suturing the wound edges "on itself", without taking into account the peculiarities of the location of muscle fibers along the cleft edges, and the technique of surgery - cutting wide triangular flaps, most often by the Z-plasty method, which led to the development of standard residual deformities that could have been avoided using linear methods of treatment.

Key words: cleft lip and palate, secondary deformities, cheiloplasty, uranoplasty

ВТОРИЧНЫЕ ДЕФОРМАЦИИ ВЕРХНЕЙ ЧЕЛЮСТИ У БОЛЬНЫХ С ОДНО- И ДВУСТОРОННИМИ РАСЩЕЛИНАМИ ВЕРХНЕЙ ГУБЫ И НЕБА ПОСЛЕ ПЕРВИЧНЫХ ОПЕРАЦИЙ НА ГУБЕ И НЕБЕ

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✓ Резюме

В данной статье нашей целью было определить клинико-рентгенологические проявления вторичных деформаций верхней челюсти у больных с одно- и двусторонними расщелинами верхней губы и неба после первичных операций на губе и небе. В исследовании включено 45 больных возрасте от 8 до 23 лет с деформацией челюстей после хейло- и уранопластики. Обнаружено у больных со сквозными односторонними расщелинами губы и неба, не получавших после хейло- и уранопластики ородонтическое лечение, типичными клиническими симптомами были дефекты выстилки дна носа, грубые рубцы в области верхней губы, обусловленные вторичным заживлением, связанным, по-видимому, с шиванием краев раны "на себя", без учета особенностей расположения мышечных волокон по краям расщелины, и техникой операции – выкраиванием широких треугольных лоскутов, чаще всего методом Z-пластики, что приводило к развитию стандартных остаточных деформаций, которые можно было бы избежать, используя линейные методы лечения.

Ключевые слова расщелина губы и неба, вторичные деформации, хейлопластика, уранопластика

БЕМОРЛАРДА ЮҚОРИ ЖАҒНИНГ ИККИЛАМЧИ ДЕФОРМАЦИЯСИ ВА ТАНГЛАЙНИНГ БИР ВА ИККИ ТОМОНЛАМА КЕМТИГИ БЎЛГАН БЕМОРЛАРДА ЛАБ ВА ТАНГЛАЙ ОПЕРАСИЯСИДАН СЎНГ ҲОЛАТИ

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✓ Резюме

Ушбу мақоланинг мақсади беморларда юқори жағнинг иккиламчи деформацияларининг клиник-радиологик кўриниши ва танглайнинг бир ва икки томонлама кемтиги бўлган беморларда лаб ва танглай операсиясидан сўнг ҳолатини аниқлаш. Тадқиқотда хейлопластика ва уранопластикадан кейин жағ деформацияси бўлган 8 ёшдан 23 ёшгача бўлган 45 нафар бемор иштирок этишди. Хейлопластика ва уранопластикадан кейин ортодонтик даволанмаган бир томонлама лаб ва танглай ёриги бўлган беморларда аниқланган, типик клиник белгилар бурун пастки шиллиқ қаватидаги нуқсонлар, юқори лаб минтақасидаги кўпол чандиқлар, иккинчи даражали шифо, кўринишидан яраларнинг қирраларини "ўз-ўзидан" тикиш билан боғлиқ бўлиб, мушак толаларининг ёриқнинг четлари бўйлаб жойлашишини ва жарроҳлик техникасини ҳисобга олмаган ҳолда - кенг учбурчак қопқоқларни кесиш, кўпинча 3- Линеер даволаш усуллари кўллаш орқали олдини олиш мумкин бўлган деформацияларнинг ривожланишига олиб келди.

Калит сўзлар: лаб ва танглай кемтиги, иккиламчи деформациялар, хейлопластика, уранопластика.

Relevance

Treatment and rehabilitation of patients with congenital through cleft lip and palate is one of the complex tasks of modern maxillofacial surgery. Regardless of the method of primary surgery on the lip and palate and the timing of cheilouranoplasty, the so-called postoperative or secondary deformities of the middle zone of the face, and in particular of the maxilla, are often formed [1,4,6,11]. According to some data, maxillary deformities after cheilouranoplasty develop in 35-75% of older children [2,7,15]. According to the generally accepted opinion, secondary maxillary deformities are caused by surgical trauma in the area of the most important growth centers during palatal plasty at an early age [3,14,18]. At the same time, modern clinical and experimental studies have shown that midface retrusion and maxillary deformities are more likely to be due to inherent growth restrictions, the influence of cheiloplasty [primary alveolar bone grafting[5,8], and early traumatic palate grafting. Other authors believe that early palate grafting contributes significantly more to the reduction in the growth rate of the maxilla than a surgical intervention performed at any other age [9,13,16]. Some scientists associate secondary deformities of the maxilla with the absence of physiotherapeutic and orthodontic measures in the postoperative period [4,17]. Normalization of the ratio of bone structures, which takes many years to achieve, is a difficult task. Scar deformity after primary cheilauranoplasty and inadequate orthodontic treatment in such children can also cause impeded growth and development of the maxilla, asymmetry of the nasal wings, and underdevelopment of the middle facial zone [10,12,19].

Purpose of the study: to investigate the clinical and radiologic manifestations of secondary deformities of the maxilla in patients with uni- and bilateral clefts of the upper lip and palate after primary surgeries on the lip and palate.

Material and methods

During 2020-2023, 72 patients aged from 8 to 23 years with jaw deformities after cheilo- and uranoplasty were under our observation. In order to determine the condition of the facial skull, telerradiographs of the skull in lateral projection in standard imaging conditions were performed in all patients with their subsequent analysis according to the scheme of Schwarz (1964) taking into account modern recommendations.

The nature of dentoalveolar deformity in patients with upper micrognathia was clarified using biometric studies performed on models of dental rows according to Popova's tridimension method. Diagnostic models of patients aged 8 to 23 years with the diagnosis of upper retromicrognathia were studied.

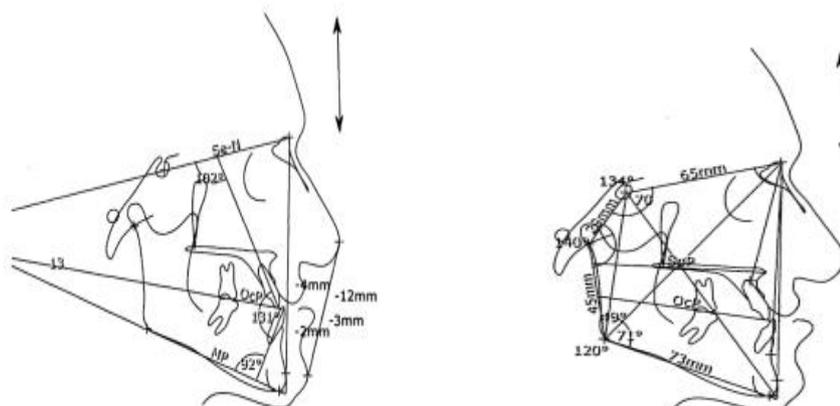
Results and discussion

In patients with penetrating unilateral cleft lip and palate who did not receive orodontic treatment after cheilo- and uranoplasty, typical clinical symptoms were defects of the nasal floor lining, rough scars in the upper lip area due to secondary healing apparently associated with stitching of the wound edges "on itself", without taking into account the peculiarities of the location of muscle fibers along the

edges of the cleft, and the technique of surgery - cutting wide triangular flaps, most often by the Z-plasty method, which led to the development of standard residual deformities that could have been avoided using linear methods of treatment. The vestibule of the oral cavity was often scarred and often completely absent. On the side of the cleft, according to the radiographic-cephalometric evaluation of the harmonious development of the dentoalveolar system, there was a sharp underdevelopment of the upper jaw, prognathia, and irregular growth of teeth - the result of the absence of pre- and postoperative orthodontic treatment. In addition, pronounced deformities of the osteochondral nasal region were detected: flattening and depression of the midface, deformation of the osteochondral region of the nose, deformities of the dental arches of the upper jaws, violation of the relationship of the tooth rows in three planes - sagittal, vertical and transversal. In the sagittal plane the bite was of the prognathic type, in the vertical - open, in the transversal - crossbite. The underdevelopment of the upper jaw in patients with GVHD after cheilo- and uranoplasty was characterized by the Engle class III ratio of the tooth rows, crowded arrangement of teeth, especially pronounced in the frontal region of the upper jaw, canines, and premolars.

Figure 1. Main cephalometric points for measuring linear and angular parameters.

The oral cavity revealed mesial occlusion of the lateral teeth, incisal dysocclusion, the size of the sagittal gap (negative) varied from 4 mm to 16 mm. An important place in the mechanism of postoperative deformities of the cleft upper jaw is occupied by the bone defect of the cleft edges and, first of all, the bone defect of the basal part of the alveolar process. Thus, 37 patients with unilateral and 20 with bilateral GVHD had a defect of the alveolar process on the cleft side. Twenty-five patients with congenital bilateral clefts of the upper lip, alveolar process and palate had anatomical abnormalities of



the middle facial zone of varying degrees:

sharply expressed scarring changes of the entire skin of the upper lip, absence of the prolabium, expanded and forward mobile intermaxillary bone, atrophied in some patients; disturbance of the relationship of the dental rows in three planes - sagittal, vertical and transversal. In the sagittal plane, 13 patients had a prognathic bite, the other 12 had a prognathic bite, in the vertical plane, the bite was open, and in the transversal plane, the bite was crossed. In patients with prognathic bite, cheiloplasty was performed according to Kozlyuk methods, as well as using one-stage linear methods and atypical variants. The study of diagnostic models of the jaws confirmed the results of clinical examination, according to which the position of individual teeth, tooth-alveolar arches, and the ratio of tooth rows were disturbed in patients. The data obtained indicate that in patients with jaw deformities without orthodontic treatment, deformities of the dentoalveolar system were formed in all three planes: sagittal, transversal, and vertical. When measuring tooth rows on jaw models according to the Pont method, narrowing of the upper dentition in the area of 4-4 teeth was found to be from 2 to 4 mm, and in the area of 6-6 teeth - up to 8 mm. Shortening of the length of the upper dentition in the sagittal plane in 13 patients reached 10 mm. The reduction of the SNA angle associated with retroposition of the maxilla is called upper retrognathia, which may accompany underdevelopment of the apical base of the maxilla. In the group of patients with unilateral GVHD, this angle was 72.5 ± 3.5 degrees, and in patients with bilateral GVHD, 76.4 ± 4.5 degrees. The SNB angle, characterizing the position of the apical base of the mandible (sagittal) relative to NS, in the patients examined by us was mainly within the normal range,

only in 17 patients it was 76.4 ± 2.2 degrees. The facial profile is judged by the value of SNA and SNB angles. The relationship of the apical bases of the jaws is determined by the angle ANB. In the examined patients, the ANB angle shifted to the negative side -3.9 ± 0.8 degrees, which corresponded to the ratio of the tooth rows according to Engle's III class. The upper jaw in patients with congenital clefts of the TMJ relative to the plane of the skull base is in the position of retroinclination. One of the important morphometric characteristics reflecting the presence of this fact is the posterior superior height (s'- snp') of the nasoorbital complex. In patients with congenital uni- and bilateral clefts of the TMJ, this index was significantly lower than in healthy children. The underdevelopment of the posterior parts of the maxilla in terms of height is explained by the lack of stimulating influence of the nasal septum and secondary underdevelopment of the facial skeleton on the cleft side. In bilateral clefts, the increase in the mandibular angle is more pronounced than in patients with unilateral anomaly (131.0 ± 1.3 and 129.0 ± 1.5 degrees, $P > 0.05$, respectively) and in healthy children (131.0 ± 1.3 and 126.3 ± 1.9 degrees, $P > 0.05$, respectively). The results of anthropometric and cephalometric measurements showed that it is impossible to normalize the relationship of the upper and lower jaws in patients with uni- and bilateral GVHD after cheilo- and uranoplasty when the relationship of the tooth rows is Engle class III due to orthodontic treatment alone. Combined treatment of these patients with orthognathic surgery is necessary. As an illustration, we present our observation. As an illustration, we present our observation. Patient A.R.2001 Diagnosis: right-sided transverse cleft lip and palate, condition after cheiloplasty and uranoplasty. From the anamnesis it was established that the patient had undergone Millard cheiloplasty and uranoplasty, and at the age of 9 - alveolar bone grafting. On external examination, there is a violation of the aesthetic proportions of the face due to depression of the middle zone of the face, underdevelopment of the upper jaw and its retroposition in relation to the lower jaw. X-ray image of the patient.

Conclusions

Thus, the analysis of the long-term results of surgical treatment of patients with unilateral and bilateral clefts of the upper lip and palate after cheilo- and uranoplasty allows us to draw the following conclusions: - patients with congenital unilateral clefts of the upper lip, alveolar process and palate after primary surgeries on the lip and palate have deviations of morphometric indices of the facial section of the skull from the age norm: increased forward inclination of the maxilla relative to the skull base, decreased vertical dimensions of the maxilla in its anterior and posterior sections, decreased dimensions of the maxilla base, retroposition of the apical base of the maxilla; increased mandibular angle and tooth-alveolar heights in the area of the first permanent molars and central lower incisors; increased height of the mandibular branch; - in patients with congenital bilateral clefts of the upper lip, alveolar process and palate, deviations of morphometric parameters of the facial part of the skull from the age norm are expressed in underdevelopment of the maxilla in the posterior region in height, increase in the maxilla base in length, increase in the angle of inclination of the mandible to the front relative to the skull base, and expansion of the mandibular angle. The results of anthropometric and cephalometric measurements showed that in patients with one- and two-sided BPH after cheilo- and uranoplasty, the relationship of the maxilla to the III class E. - The results of anthropometric and cephalometric measurements showed that in patients with uni- and bilateral BPHN after cheilo- and uranoplasty with Engle class III relationship of the tooth rows, normalization of the relationship of the upper and lower jaws is impossible only due to orthodontic treatment. Combined treatment of these patients with orthognathic surgery is necessary.

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