

**MICROBIOCENOSIS OF THE ORAL CAVITY IN CHILDREN WITH INBORN CLEFT LIP AND PALATE**

<sup>1</sup>Amanullaev Rustam Azimzhanovich, <sup>1</sup>Ikramov Gairat Alimovich, <sup>2</sup>Makhkamova Feruza Tashtemirovna, <sup>2</sup>Yakubova Farida Haldarovna, <sup>1</sup>Khodjaeva Feruza Khikmatullaevna,

<sup>1</sup>Tashkent State Dental Institute, professor of the Department of Pediatric Maxillofacial Surgery,

<sup>2</sup>Tashkent Pediatric Medical Institute, assistant of the Department of children's otolaryngology and dentistry.

✓ **Resume**

*Treatment of children with ARH is one of the most difficult tasks of modern reconstructive surgery of the maxillofacial area. The problem lies not only in the correction of the anatomical defect, but also in the full restoration of the function of the structures of the palatopharyngeal region. The microbiocenosis of the oral cavity is an important indicator of the functional and metabolic activity of the tissues of the oral cavity. The modern stage in the development of dentistry is characterized by the introduction of new effective preventive and diagnostic measures, which has become possible thanks to the discoveries made in the study of the mechanisms of formation of the pathological condition.*

*The modern stage in the development of dentistry is characterized by the introduction of new effective preventive and diagnostic measures, which has become possible thanks to the discoveries made in the study of the mechanisms of formation of the pathological condition. The results of microbiological studies showed that in children with ADH before surgery, a significant shift in the qualitative composition of microflora towards pathogenic species was revealed, as well as quantitative changes in the normal stabilizing microflora of the oral cavity. Correction of microbiocenosis of the oral cavity is required before and after uranoplasty.*

**Key words:** Congenital cleft of the upper lip and palate, uranoplasty, oral microecology.

**МИКРОБИОЦЕНОЗ ПОЛОСТИ РТА У ДЕТЕЙ С ВРОЖДЕННЫМИ ЗАЩИЩЕННЫМИ ГУБАМИ И ПАЛЬТОМ**

<sup>1</sup>Амануллаев Р.А., <sup>1</sup>Икрамов Г.А., <sup>2</sup>Махкамова Ф.Т., <sup>2</sup>Якубова Ф.Х., <sup>1</sup>Ходжаева Ф.Х.,

<sup>1</sup>Ташкентский Государственный стоматологический институт,

<sup>2</sup>Ташкентский педиатрический медицинский институт.

✓ **Резюме**

*Лечение детей с ВРГН является одной из наиболее сложных задач современной восстановительной хирургии челюстно-лицевой области. Проблема заключается не только в исправлении анатомического дефекта, но и в полноценном восстановлении функции структур нёбно-глоточной области. Микробиоценоз полости рта является важнейшим показателем функционально-метаболической активности тканей ротовой полости. Современный этап развития стоматологии характеризуется внедрением новых эффективных мер профилактики и диагностики, что стало возможным благодаря открытиям, сделанным при изучении механизмов формирования патологических состояний. Результаты микробиологических исследований показало, что при у детей с ВРГН до операции выявлен значительный сдвиг качественного состава микрофлоры в сторону патогенных видов, а также количественные изменения нормальной стабилизирующей микрофлоры полости рта. Требуется коррекция микробиоценоза полости рта до и после уранопластики.*

**Ключевые слова:** Врожденная расщелина верхней губы и нёба, уранопластика, микроэкология полости рта.

**KONENITITAL HIMOYA QILMOQDA LIPLAR VA PIYATALAR BOSHQA BOLALAR UCHUN ORALI JAVOBNING MIKROBIOKENOSISI**

<sup>1</sup>Amanullayev R.A., <sup>1</sup>Ikromov G.A., <sup>2</sup>Maxkamova F.T., <sup>2</sup>Yakubova F.X., <sup>1</sup>Xo'jaeva F.X.,

<sup>1</sup>Toshkent davlat stomatologiya instituti,

<sup>2</sup>Toshkent pediatriya tibbiyot instituti.

✓ **Rezyume**

*Yuqori lab va tanglay nuqsoni bilan kasal bolalarni davolash - yuz-jag' sohasidagi zamonaviy rekonstruktiv jarrohlikning eng qiyin vazifalaridan biridir. Muammo nafaqat anatomik nuqsonni tuzatishda, balki palatofaringeal mintaq tuzilmalarining to'liq tiklanishida ham ahamiyatga ega. Og'iz bo'shlig'ining mikrobiotsenoz og'iz bo'shlig'i to'qimalarining funktsional va metabolik faolligining muhim ko'rsatkichidir. Stomatologiyaning rivojlanishidagi zamonaviy bosqich patologik holatni shakllantirish mexanizmlarini o'rganishda kashfiyotlar natijasida yuzaga kelgan yangi samarali profilaktika va diagnostika tadbirlari bilan tavsiflanadi. Mikrobiologik tadqiqotlar natijalari shuni ko'rsatdiki, yuqori lab va tanglay nuqsoni bilan kasal bolalarda operatsiyadan oldin mikroflora tarkibidagi patogen turlarga nisbatan sezilarli darajada siljishi, shuningdek og'iz bo'shlig'ining normal barqarorlashtiruvchi mikroflorasida miqdoriy o'zgarishlar aniqlandi. Uranoplastikadan oldin va keyin og'iz bo'shlig'ining mikrobiotsenozini tuzatish maqsadida chora tadbirlari otkazish muhim.*

**Kalit so'zlar:** yuqori lab va tanglayning tug'ma nuqsoni, uranoplastika, og'iz mikroekologiyasi.

## Relevance

One of the most significant causes of complications is suppuration of the wound, leading to partial or complete divergence of sutures, scar healing of the postoperative wound contributes, in turn, to pharyngeal pharyngeal insufficiency.

The formation of postoperative defects by many authors is associated with errors in surgical tactics and the imperfection of surgical treatment methods, the conduct of primary uranoplasty without taking into account the state of resistance of the child's body. An important role is played by the provision of effective care for the oral wound after surgery. A congenital palate defect entails a violation of a number of body functions and systems: for example, acute respiratory viral infection occurs in 61% of such children, recurrent chronic bronchitis, rheumatism, anemia, hypovitaminosis and other diseases - 76.1% significantly worsens the results of surgical treatment crevices of the palate.

The results of uranoplasty are largely dependent on the functional and metabolic activity of the tissues of the oral cavity. The microbiocenosis of the oral cavity is an important indicator of the functional and metabolic activity of the tissues of the oral cavity.

The current stage in the development of dentistry is characterized by the introduction of new effective preventive and diagnostic measures, which has become possible thanks to discoveries made from the study of the mechanisms of formation of the pathological condition. To a large extent, this is due to the intensive development of medicine by microbiology, molecular biology and genetics.

It is known that uranoplasty is one of the time-consuming sections of maxillofacial surgery. This is due to the peculiarity of the analytical structure of this area and the presence of factors provoking various complications. Exacerbation of chronic diseases of the upper respiratory tract, allergic reactions, hormonal imbalance, that is, conditions leading to the development of general and tissue hypotension with impaired reparative processes in the tissues, can be complicating factors. At the same

time, the ratios of incigenous representatives of normoflora and opportunistic microorganisms that seed different biotopes, as well as the state of the immune system, can affect the severity and duration of the wound process.

Research goal: Prevention of anti-inflammatory complications in children with congenital cleft lip and palate after uranoplasty.

Research objectives: To study the state of microflora in saliva in children with congenital cleft of the upper lip and palate before and after uranoplasty.

## Data and research methodology

Inpatient and dispensary treatment in the Department of Pediatric Maxillofacial Surgery of the Tashkent State Dental Institute there were 50 children 27 boys and 23 girls with SRH from the age of 3-7 years. All children underwent uranoplasty surgery.

Patients were hospitalized for surgical treatment after examining a wide range of specialists, such as a pediatrician, otolaryngologist, speech therapist and orthodontist. According to indications consultations of other experts were appointed. Previously, patients underwent urine and blood tests, chest x-ray and ECG were taken. The blood type and Rh factor were determined. All examination results were discussed with a pediatrician and anesthetist.

All children underwent microbiological studies.

Oral fluid was taken from all examined children by rinsing from the mucous membrane of the oral cavity (by rinsing); for this, tubes with 4.5 ml of physiological saline were prepared (Erimovich 0.4., 2002). The material obtained in this way was considered as the first dilution (10), a series of serial dilutions were prepared from this material in the laboratory, after which a certain amount was sown on the surface of highly selective nutrient media (table No. 1). Crops on blood agar, endo agar, milk salt agar, esculin agar, Saburo medium were cultured under ordinary conditions for 18-24 hours at a temperature of 37 ° C, and the crops were cultivated for the isolation of anaerobes in anaerostat using gas-generating packages (Fig. No. 1).

Table 1.

Microbiological research methods

№	Nutrient areas	Cultivation conditions	Highlighted
1.	Sodium Azide Blood Agar	Anaerobe	Total number of anaerobes
2	MRS-4	Anaerobe	Lactobacilli
3.	Blaurokka environment	Anaerobe	Bifidobacteria
4.	Blood agar	Aerobe	Total number of anaerobes
5.	Milky saulty agar	Aerobe	Staphylococci
6.	Endo environment	Aerobe	Enterobacteria, Escherichia
7.	Esculin Agar	Aerobe	Streptococcus
8.	Saburo environment	Aerobe	Fungus

Crops in an anaerostat with Blaurok, MPC-4 and KAB environment were placed in a thermostat at 37 ° C for 2-3 days. After these periods, the seeded cups were removed from the thermostat, counting the grown colonies, the group and species of isolated colonies of microbes were determined on the basis of Gram stain microscopy data, growth pattern on differential diagnostic nutrient media (Figure 2).

We attributed to group D streptococci strains that ferment mannitol, giving rise in 40% of bile, 6.5% of Na

chloride, recurring 1% blue in milk.

The number of microbes of each species was expressed in log KOE / ml.

## Research results

Based on the foregoing, we studied the quantitative and qualitative parameters of microbes living in the oral cavity in both healthy and sick children with congenital cleft lip and palate. The data obtained in these studies are

given in table. No. 1. The table shows that, in normal children, the oral flora is quite diverse. At the same time, in the anaerobic group of microbes, lactobacilli predominate; their number is  $\lg / 4.85 \pm 0.4 / \text{KOE} / \text{ml}$ .

In the optional group, the prevailing amount belongs to streptococci, with *Str.salivarius* taking the leading position. A group of gram-negative microbes such as *Escherichia*, *Proteus* and *Klebsiella* are sown in small quantities.

It is interesting to note that the total number of anaerobes and the optional group of microbes in healthy children is almost the same.

Along with these studies, we also conducted quantitative and qualitative studies of the oral fluid flora

in children with congenital cleft lip and palate before surgery. The data obtained in these studies are presented in table. No. 2. As can be seen from the table in the microecology of the oral cavity in sick children before surgery, there is a syndrome of increased microbial growth. So, in the anaerobic group of microbes, their significant decrease is noted, especially in lactobacilli.

At the same time, in the facultative group of microbes, significant shifts in the flora of the oral cavity in these children are increasing. In this case, the growth of pathogenic staphylococci is especially alarming, since it is this culture that has a large set of pathogenicity enzymes that will apparently determine the monitoring of the state of the oral cavity.

Table 2.

**Features of the oral fluid in children with congenital cleft lip and palate  $\lg / M \pm m / \text{KOE} / \text{ml}$**

№	Group of microbes	Number of microbes in 1 ml of saliva	
		Norm	Children without surgery
1.	Total quantity of anaerobes	$6.10 \pm 0.4$	$4.15 \pm 0.2$
2.	Lactobacilli	$5.0 \pm 0.3$	$2.0 \pm 0.1$
3.	Peptostreptococcus	$4.15 \pm 0.2$	$6.10 \pm 0.3$
4.	Total quantity of aerobes	$5.65 \pm 0.3$	$7.30 \pm 0.4$
5.	Staffil. golden	$0.40 \pm 0.1$	$1.60 \pm 0.1$
6.	Staffil. epidermal	$4.10 \pm 0.2$	$5.30 \pm 0.3$
7.	Streptococcus Salivarius	$4.85 \pm 0.3$	$2.10 \pm 0.1$
8.	Strept. mutance	$2.30 \pm 0.1$	$3.45 \pm 0.2$
9.	Esherichy	$1.10 \pm 0.1$	$2.30 \pm 0.1$
10.	Candid fungus	$1.10 \pm 0.1$	$3.10 \pm 0.2$

Along with these microbiological studies, we studied the condition of the affected area factor in the same sick children. The data obtained from these studies were carried out in table No. 3, from which it can be seen that the flora is also diverse here and both gram-positive and gram-

negative flora and fungi of the genus *Candida* are sown. Moreover, as a rule, their associations are most often sown. When analyzing the frequency of seeding and the occurrence of microbes, *Str.pyogenes* turned out to be (90%) and *Enterobacter* strains (20%) were the lowest.

Table 3.

**The state of the flora of the affected area in children with congenital cleft lip and palate  $\lg / M \pm m / \text{KOE} / \text{ml}$ .**

№	Microbe groups	Quantity	%
			Exclude
1.	Streptococcus	$7.10 \pm 0.4$	85.0
2.	Enterobacter	$5.85 \pm 0.3$	24.0
3.	Staffil. golden	$7.60 \pm 0.6$	29.0
4.	Staffil. epidermal	$6.90 \pm 0.5$	38.0
5.	Candid fungus	$5.15 \pm 0.3$	60.0

Based on these figures, it can be assumed that among all the studied parameters, the greatest deficit is the indicator of phagocytosis. Apparently an abnormal process, that is, a congenital cleft lip and palate.

A study of local signs shows that pain in the soft palate and pharynx during swallowing and eating was observed from the first to the fifth day. Already on the third day after removing the protective plate, fatigue and pain in the masticatory muscles disappeared.

In 7 (35%) of 20 children who received traditional postoperative wound care, the wound was infected and

on the fourth and fifth days 50% of sutures (along the A line and in the oropharynx, where the wound edge tension was greater than in other places) was in unsatisfactory condition (Figure 1). As a result, in 3 (15%) children, by the eighth to ninth days of treatment, a partial discrepancy of sutures occurred (Fig2).

### Conclusions

1. In children with a congenital cleft of the upper lip and palate in the postoperative period, there are a number

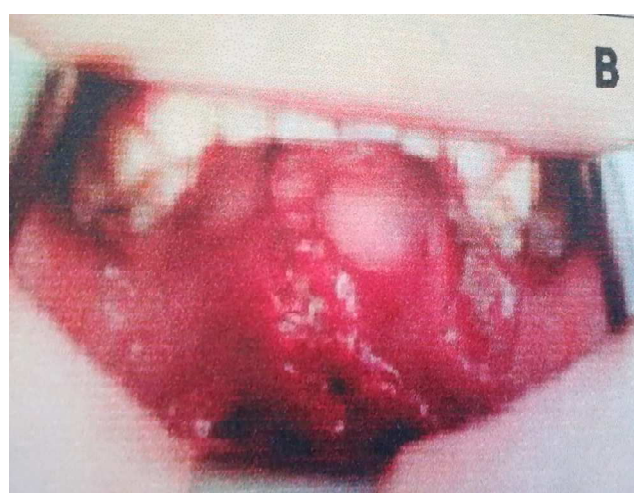
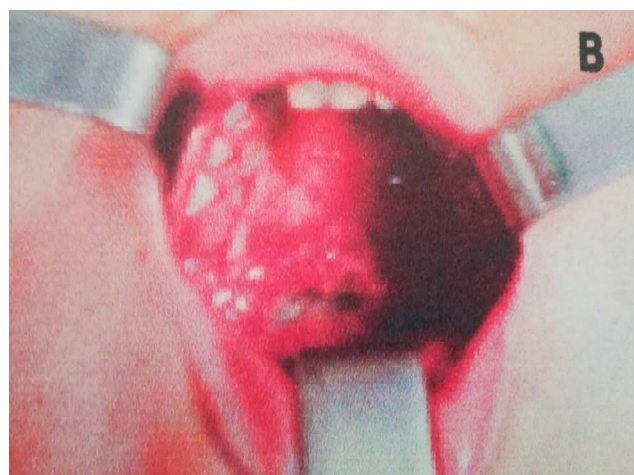
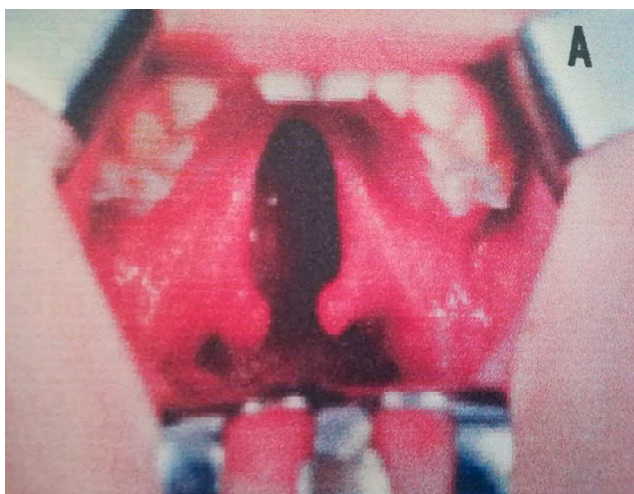


Figure 1. Patient S.E., 5 years old. Eastball No. 5487/4038.

Diagnosis: Congenital isolated cleft palate III A degree.  
A - before uranoplasty; B - after uranoplasty.

Figure 2. Patient H.I. 5 years. Eastball No. 5382/4003.  
Diagnosis: Congenital isolated cleft palate III A degree.  
A - before uranoplasty; B - after uranoplasty.

of complications such as divergence of sutures and soft tissue necrosis.

2. The results of microbiological studies have shown that in children with ARVI before surgery, a significant shift in the qualitative composition of microflora towards pathogenic species was revealed, as well as quantitative changes in the normal stabilizing microflora of the oral cavity.

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