

**MODERN CONCEPTS OF COMPREHENSIVE TREATMENT OF CHILDREN WITH  
CONGENITAL CLEFT PALATE AFTER URANOPLASTY (REVIEW)**

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**Annotation**

In the domestic and international literature, there are a number of studies on the treatment outcomes of patients with cleft lip and palate, operated on at different ages using various uranoplasty techniques. However, there are no studies characterizing the relationship between biometric parameters of the maxilla and the uranoplasty technique. Comparative analysis of treatment outcomes in the vast majority of cases is conducted with an emphasis on a single diagnostic criterion. However, studying surgical outcomes in patients with cleft lip and palate is only possible using a comprehensive diagnostic algorithm that includes biometric analysis, graphic recording of maxillary parameters, and radiographic examination. Inadequate attention has been paid to graphic reconstructive analysis of the shape and size of the upper oral cavity in patients with congenital malformations of the maxillofacial region. The lack of information regarding the specific changes in the biometric parameters of the upper jaw using various methods of uranoplasty, as well as additional diagnostic methods for disorders of the dentoalveolar system in patients with congenital malformations, justifies further research in this area.

The anatomical structure of the nasopharynx and oropharynx in this group of patients determines the specific composition of the oral microflora. A healthy microflora is essential for nonspecific protection. Due to the synthesis of large amounts of lactic acid, many members of the autoflora (primarily streptococci and lactobacilli) exert a pronounced antagonistic effect on pathogenic and opportunistic microorganisms. In the postoperative period, the composition of the autoflora changes, which can lead to the development of dysbacteriosis, characterized by an increase in the excretion of opportunistic pathogens, such as *S. aureus*, *Enterococcus*, and *Candida* fungi, and a decrease in indicator species of *Lactobacillus* and *Streptococcus*, which can affect the course of healing processes.

**Analysis of literature.** Bryzgalova I.A., et al. (2010) observed patients with clefts of the alveolar process, hard and soft palate. The qualitative and quantitative nature of changes in the composition of the oral microflora before and after surgery were studied. In the preoperative period, cultures were taken from the edges of the cleft, in the postoperative period - from the wound surface in the suture area on the 3-4th and 10th day after surgical treatment. The study of microbiological material was carried out by generally accepted methods, providing for the isolation of the coccal group, enterobacteria, fungi of the genus *Candida*. In all children examined in the preoperative period, the following main pathogens were identified: *Streptococcus saungius*, *Peptostreptococcus anaerobius*, *Actinomyces* spp., *Fusobacterium* spp., *Prevotella intermedia*, *Serratia marcescens*. Gram-negative flora accounted for 41.7%. *Streptococcus* was detected in 80% of patients, *peptostreptococcus* and *fusobacteria* in 60%, and *actinomycetes* and *Prevotella* in 40%. *intermedia*, *Serratia marcescens*, *Haemophilus* spp. Moreover, the bacteria were isolated not as a monoculture, but in association communities of 3 to 6 species. An increase in microflora growth was observed on days 3-4. *Streptococcus* was the most frequently encountered. *saungius* (75%), *Fusobacterium* spp. (50%), *Serratia marcescens* (75%). Some species were not detected at all (*Actinomyces* spp.). With a favorable postoperative course, wound epithelialization is observed by days 9-10. During this same period,

a tendency toward normalization of the species and quantitative composition of the oral microflora is also noted. Thus, eliminating anatomical abnormalities of the oral cavity characteristic of patients with clefts of the hard and soft palate leads to a gradual normalization of the quantitative and qualitative composition of the oral microflora, which must be taken into account when prescribing antibacterial and anti-inflammatory therapy in the postoperative period. Today, comprehensive treatment of dental diseases is generally recognized as a modern priority. Therefore, correction of the oral microbiome in individuals with various dental diseases is a necessary addition to the treatment regimen, providing a protective effect against the growth of opportunistic bacteria.

From a microbiological perspective, the discovery and study of factors that ensure the persistence of opportunistic microorganisms is of great interest, as the creation of stable, unfavorable microbiocenoses poses the challenge of finding drugs aimed at reducing or eliminating these properties in the cultures colonizing the oral cavity of people suffering from dysbacteriosis. In this regard, the question of the possible impact of bacteriotherapeutic agents on factors contributing to the persistence of opportunistic microorganisms has generated particular interest. Factors that promote the development of complications may include exacerbations of chronic upper respiratory tract diseases, allergic reactions, and hormonal imbalances—that is, conditions leading to the development of general and tissue hypoxia.

Interesting data were obtained (Rusyanova E.E. et al., 2002) after rhinocheiloplasty for congenital cleft lip and palate at the age of 12 to 18 years. A comparative analysis of the results obtained across four biotopes revealed that microbial growth was observed on all mucous membranes except the oronasal ostium (8%). Monocultures were isolated in 42% of cases from the nasal mucosa on the uninvolved side and the oronasal ostium. Monocultures were absent from the pharynx in 100% of cases, and from the mucosa on the lesion side in one in four patients. The leading associations were two-component cultures on the nasal mucosa and three-component cultures on the oronasal ostium and pharynx.

Thus, the microflora determining dysbiosis in the studied biotopes are: *St. aureus*, *Str. group D*, *E. faecalis*, and yeast-like fungi of the genus *Candida*. These microorganisms were found more frequently and in greater quantities on the mucosa of the oronasal junction and the nasal mucosa on the affected side.

This study also analyzes the immunological data obtained. The results demonstrate that the most significant disturbances are found in the phagocytic function of neutrophils. These disturbances manifested themselves in a significant reduction in neutrophil phagocytic activity, their digestive capacity, and serum lysozyme levels.

Interesting data are presented in the work of Rogov L.N. et al., 2015 ; these data showed that congenital cleft lip and palate in children create favorable conditions for increased colonization of endotoxic microorganisms and nasal microflora in the periodontal grooves of teeth 3-4, as well as in the area of the cleft palate margins. The level of enterotoxic bacteria along the cleft is almost 6 times higher than in children without the pathology. In the oral mucosa, the basement membrane is thin and undifferentiated, an amorphous substance that is more permeable, which creates favorable conditions for the proliferation of opportunistic microflora.

The resulting phenomenon of "mouth breathing" leads to hyposalivation and reduced production of mucin, lysozyme, lactoferrin, IgA, and other oral mucosal protective factors. Also, against the backdrop of decreased local immunological reactivity, the magnesium-calcium balance, which is involved in the mechanisms of oral resistance and mucosal regeneration, is

altered. It is clear that all these changes contribute to the development of bacterial overgrowth syndrome.

The most interesting data are presented in the work of A.M. Azimov (2007). The results of microbiological and immunological studies showed that the inclusion of IRS-19 in combination with drug therapy before and after palatoplasty has a significantly positive effect on the microbiome and local protective factors of the oral cavity from the very first day after application, optimizing the course of the wound healing process.

In recent years, a revision of the microbiological concept of the impact on the oral microflora has been of particular interest, substantiating the use of probiotics – preparations of microbial or non-microbial origin that suppress the growth of pathogenic and opportunistic microflora and their associations.

Nevertheless, a promising direction in the complex treatment of oral pathology is the use of bacterial preparations, the active principle of which are strains of representatives of normal microflora with high antagonistic, enzymatic and immunostimulating properties.

However, it's important to remember that oral dysbacteriosis almost never occurs in isolation, so to correct it, it's necessary to identify and eliminate the underlying factors. Without this, bacterial therapy will be ineffective.

Today, there is a sufficient selection of means for preserving and maintaining the balance of normal microflora of the oral cavity, therefore, a more pressing task is their rational and targeted use, taking into account the individual characteristics of a particular patient's microbiocenosis.

Postoperative wound healing after uranoplasty depends on many clinical factors (inaccuracies in the choice of surgical technique, technical failures, errors in postoperative management, etc.) and the presence of general medical conditions. All of these factors ultimately impact the metabolic and structural changes in the palatal tissues, which directly influence the course of postoperative regeneration and healing.

Based on current understanding that energy metabolism plays a central role in organ and tissue metabolism and can act as a decisive factor determining the direction and nature of pathological processes, N. A. Kolesova (2012) believes that it is advisable to study its characteristics in various types of palatal defects, as these parameters, combined with structural changes, can reveal the underlying factors responsible for the low effectiveness of surgical interventions. A characteristic feature of energy metabolism in the palatal mucosa in congenital non-unions is the predominance of glycolysis in the epithelial and connective tissue cellular elements, which can be regarded as a sign of the development of compensatory and adaptive processes in the context of impaired tissue trophic supply in this pathology, which is normally characterized by a predominance of tissue respiration. With residual defects, there is a tendency for signs of tissue hypoxia to increase, as evidenced by a decrease in the activity of enzymes in all metabolic cycles studied by us. Microcirculatory disturbances also worsen, leading to decreased oxygen supply to tissues and increased tissue hypoxia, which stimulates fibroblast proliferation and high functional activity. This leads to fibrosis of the mucous membrane and impaired regeneration and postoperative wound healing. The mechanism of these disturbances may be due to increased trophic changes associated with soft palate surgery. Secondary defects of the hard palate are associated with a significant reduction in the energy processes of all studied cycles, both in the epithelium and in the cellular connective tissue elements. This is accompanied by progressive dystrophic and destructive changes in the surface epithelium and signs of acanthosis. The lamina propria of the mucous membrane is sclerotically altered and

thickened. Microvessels are compressed between collagen fibers, and the walls of many of them are thickened and sclerotic. In general, this indicates a worsening of trophic disorders in the tissues of the palate with secondary defects and an increase in signs of tissue hypoxia, which requires therapeutic correction.

For the surgeon, the presence of normal oral microflora is an important aspect of successful surgery. Often, a perfectly performed operation can be complicated by the proliferation of pathogenic microflora or the development of respiratory infections in the postoperative period. The success of antibacterial treatment is directly related to the timely identification of the child's oral microflora, which allows for the prescription of an etiotropic antibiotic. According to various authors, *Candida* predominates in the qualitative composition and quantity of microflora collected from the cleft. spp. (74.7%), *E. coli* (12.7%), *Klebsiella* spp. (18.7%). In this situation, an incorrectly chosen antibiotic initially can lead to the ineffectiveness of subsequent therapy and the need for repeated courses of therapy, which significantly increases not only the number of hospital days but also the cost of the entire treatment. This is why, in recent years, considerable attention has been paid to the rational selection of antibacterial agents, which presupposes not the novelty of the drug, but the timely administration of etiotropic therapy, taking into account the bacterial agent identified during microbiological testing.

A promising direction in the complex treatment of oral pathology is the use of bacterial preparations, the active principle of which are strains of normal microflora with high antagonistic, enzymatic and immunostimulant properties.

## References

1. Azimov A.M. Optimization of wound healing in plastic surgery of congenital defects of the palate in children using bacterial lysates: Dissertation of Doctor of Medical Sciences. - Tashkent, 2007. - P.56.
2. Bryzgalova I.A., Tsarev V.N., Ulyanov S.A. Microflora of the oral cavity before and after uranoplasty // Pediatric dentistry and prevention. - 2007. - No. 1. - P. 5-10.
3. Gavrilova O. A. Microecology of the oral cavity and its role in the etiopathogenesis of dental diseases in children with chronic gastroduodenitis: principles of complex treatment and prevention: author's abstract. diss.... doctor of medical sciences. - Tver, 2010. -P. 40.
4. Dusmukhamedov M.Z. Complex treatment of children with congenital cleft palate, prognosis and prevention of postoperative complications
5. Ibragimov U.F. Justification for the use of "Takhocomb" in uranoplasty to optimize wound healing: Diss... con. med. sciences. - Tashkent, 2010. - P. 58.
6. Ikramov G.A. Use of Actovegin in Children with Congenital Cleft Lip and Palate Before and After Uranoplasty. Diss. Med. Sci. - Tashkent, 2004. - P. 105.