

## BACTERIAL SCREENING OF SALIVA FROM POSTOPERATIVE WOUNDS IN CHILDREN WITH CONGENITAL ANOMALIES

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### ABSTRACT

*Differences in the anatomical structure of the nose and oropharynx in this group of patients also determine the composition of the microflora of the oral cavity. The most important condition for non-invasive protection is the normal microflora. Due to the large concentration of lactic acid, many representatives of the autoflora (especially streptococci, lactobacilli) have a pronounced inhibitory effect on pathogenic microorganisms and conditions. After this, the composition of the autoflora changes, which can lead to the development of dysbiosis, which increases the release of opportunistic species such as S. aureus, Enterococcus, fungi of the genus Candida and the reduction of Lactobacillus and Streptococcus species, which can affect the treatment process.*

**Key words:** congenital cleft lip and palate, dentoalveolar anomalies, prevalence, birth rate, children.

Bryzgalov, IA, et al. (2010) monitored patients with clefts of the alveolar process, hard and soft palate. We studied the qualitative and quantitative nature of changes in the composition of the microflora of the oral cavity before and after surgery. In the preoperative period, crops were taken from the edges of the cleft, in the postoperative period, from the wound surface in the area of the sutures for 3-4 and 10 days after surgical treatment.

The study of microbiological material was carried out by standard methods involving the isolation of the coccal group, enterobacteria, Candida fungi.

Streptococcus was detected in 80% of patients, 60% of peptostreptocock, fuzobakter, 40% of actinomycetes, Prevotella intermedia, Serrati marcescens, Haemophilus spp. Moreover, the bacteria were not isolated in the monoculture, but by communities in association from 3 to 6 species. For 3-4 days there was an increase in the growth of microflora. Streptococcus most commonly encountered sangrias (75%), Fusobacterium spp. (50%), Serrati marcescens (75%). Some species were not

identified at all (*Actinomyces* spp.). With a favorable postoperative course, epithelialization of the wound is noted by 9-10 days. At the same time, a tendency towards normalization of the specific and quantitative composition of the microflora of the oral cavity was noted. Thus, the elimination of anatomical disorders of the oral cavity characteristic of patients with cleft hard and soft palate leads to a gradual normalization of the quantitative and qualitative composition of the microflora of the oral cavity, which must be taken into account when prescribing anti-bacterial and anti-inflammatory therapy in the postoperative period. Today, complex treatment of dental diseases is generally recognized as a modern priority area. In this regard, the correction of oral microbiocenosis 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 the microbiological standpoint, it is of great interest to detect and study the factors that ensure persistence of conditionally pathogenic microorganisms, since the creation of persistent and unfavorable microbiocenosis poses the problem of searching for drugs aimed at reducing and eliminating these properties in cultures colonizing the oral cavity of people suffering from dysbacteriosis.

Interesting data was obtained (Rusyaneva, E.E. et al., 2002) after the operation of rhinochaeloplasty for congenital cleft lip and palate aged 12 to 18 years. Comparative analysis of the results obtained for the four biotopes showed that the growth of microorganisms is observed on all mucous membranes, with the exception of the oronasal mouth (8%).

Monocultures were isolated in 42% of cases from the nasal mucosa on the side without lesion and the mucosa of the oronasal fistula, while in the monoculture pharynx was absent in 100% of cases, and on the mucosa from the lesion side, every fourth patient. Among the associations, the leading were two-component on the mucous membranes of the nose and threecomponent on the mucous membranes of the oronasal fistula and pharynx.

Thus, microflora dysbiosis defining studied habitats are: *St. aureus*, *Str . D, E* group. *faccalis*, yeast-like fungi of the genus *Candida*. The listed microorganisms were more often and in large quantities met on the mucous membrane of the oronasal tract and the nasal mucosa from the side of the lesion.

In the same work the analysis of the obtained immunological research is done.

The results show that the most significant violations are determined in the phagocytic function of neutrophils. These disorders were manifested in a significant decrease in the phagocytic activity of neutrophils, their digesting capacity, and the level of serum lysozyme.

Interesting data is given in the work of L.N. Rogov. et al., 2015; Thus, these data have shown that congenital cleft lip and palate in children create favorable conditions for increasing colonization of endotoxic microorganisms and nasal microflora in the periodontal 3-4 teeth, as well as in the region of the cleft palate. The level of enterotoxic bacteria along the cleft is almost 6 times higher than in children without pathology. In the oral mucosa, the basement membrane is thin and undifferentiated, the amorphous substance is more permeable, which creates favorable conditions for the spread of conditionally pathogenic microflora.

The emerging phenomenon and —mouth breathing” leads to hypo-salivation and reduced production of mucin, lysozyme, lactoferrin, IgA and other factors that protect the oral mucosa. Also, against the background of a decrease in local immunological reactivity, the magnesiumcalcium balance, which is involved in the mechanisms of nosi resistance and regeneration of the oral mucosa, is changing. It is quite obvious that all these changes determine the appearance of the overgrowth syndrome of microbes.

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

In recent years, of particular interest is the revision of the microbiological concept of exposure to the microflora of the oral cavity justifies the use of probiotics - drugs of microbial or non-microbial origin that inhibit the growth of pathogenic and conditionally pathogenic 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.

To date, there is a sufficient choice of means to maintain and maintain the balance of the normal microflora of the oral cavity, so a more urgent task is their rational and targeted use, taking into account the individual characteristics of a particular microbiocenosis of a particular patient.

The healing of postoperative wounds after uranoplasty depends on many reasons of a clinical nature (error in the choice of the procedure, technical failures, errors of postoperative management, etc.), the presence of general somatic diseases. All this ultimately affects the features of metabolic and structural changes in the tissues of the sky, which directly affect the course of postoperative regeneration and healing.

Based on modern ideas that energy metabolism occupies one of the central places in the metabolism of organs and tissues and can act as a decisive factor determining the direction and nature of the development of pathological processes, in the opinion of N. A. Kolesova (2012) it is appropriate to study its features in case of various types of palate defects, since these indicators, in combination with changes in the structure, can reveal the main factors that cause the low effectiveness of surgical interventions. The peculiarity of the energy metabolism of the mucous membrane of the palate during congenital non-adhesions is the predominance of glycolysis in the epithelial and connective tissue cell elements, which can be regarded as assign of the development of compensatoryadaptive processes under conditions of impaired trophic support of tissues in this pathology, for which tissue respiration prevails. With residual defects, there is a tendency to increase the signs of tissue hypoxia, which is confirmed by a decrease in the activity of enzymes of all metabolic cycles, from scientists. Amplified and microcirculatory disturbances that cause deterioration in oxygen Incoming tissue buildup of tissue hypoxia that stimulates proliferation and higher functional activity of fibroblasts, which leads to fibrosis and impaired mucosal regeneration and healing of postoperative wounds. The mechanism of these violations may be due to increased trophic changes in connection with the operational intervention in the soft palate .

In the case of secondary defects of the hard palate, there is a significant decrease in the energy processes of all the cycles studied, both in the epithelium and in the cellular connective tissue elements. This is combined with the progression of dystrophic and destructive changes in the surface epithelium, signs of acanthosis. Own plate of the mucous membrane sclerotic changed, compacted. Microvessels are clamped between collagen fibers, the walls of many of them are thickened, sclerosed. In general, this indicates an aggravation in secondary defects of trophic disorders in the palatal tissues and an increase in the signs of tissue hypoxia, which needs therapeutic correction.

Children with CLP - often ill children mostly in the first year of life (65%) with a peculiar predominance of gram-negative microflora in the oral cavity. A favorable postoperative course is possible during surgery in the early stages - on the 3-8th day - and discharge on the 14-21st day of hospitalization. To prevent the development of complications is recommended microbiological examination, complete blood count, and the early stages - before entering or the first days of hospitalization.

The same opinion is shared by the American experts Sosso J. F. et al. (2010), which in a comparative study of differences in the microbial environment in children with a cleft palate and in children with a cleft lip in In order to determine the changes occurring in the microbial flora before and after surgery to restore the hard palate and upper lip showed that patients with a hard palate cleft had a significantly higher

frequency of colonization by staphylococcus, but not a resistant strain to methicillin *Staphylococcus aureus* ( $p = .0298$ ; chi - square test ). The closure of the hard palate cleft coincided with a significant decrease in the prevalence of *Klebsiella* genera and *Enterobacter* ( $p < .05$ ; McNemar test). The authors find that, despite the high prevalence of significant pathogenic and intestinal flora after surgery during primary reconstruction of the palate, wound infection after surgery rarely occurs during a prospective population study. However, the presence of beta-hemolytic streptococci was associated with a higher risk of wound discrepancy during surgical treatment; therefore, they consider justified routine screening for streptococci before surgery.

The success of the treatment of this category of children in practice will largely depend on the above conditions of care and treatment.

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