
IMMUNE STATUS OF ORAL CAVITY DURING ORTHOPEDIC TREATMENT

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Annotation

The tasks of orthopedic dental treatment include not only replacement of defects of teeth or alveolar processes with prostheses, but also prevention of recurrence of the disease. That's why for to the prosthesis healer tool as is viewed from him reasonable use healer and prevention measures to see possibility gives _ [3,7] Xar different of materials prepared each how prosthesis or orthopedic device , one from the side healer tool is another _ on the other hand , himself unwanted (side) effect as manifestation to do can _ [1,5,9]. Recently, there have been significant changes in world dental practice, which has led to the emergence of new methods of treatment of dental anomalies, and developments and research related to the use of non-removable orthopedic prostheses have become increasingly important [1, 2, 8]. To date, the factors of local immunity of the oral cavity, the nature of physiological and pathological processes that occur when using non-removable bridge prostheses have not been studied [3-5, 9].

Thus, in the complex treatment of malocclusion pathology aimed at preventing complications, clinical and laboratory studies of the dynamics of local immunity factors of the oral cavity are considered important.

Research Materials and Methods:

We took 75 people who applied for dental orthopedic care at SamDTU regional dental polyclinic. We examined 35 of them men and 60 women between the ages of 40 and 30, including a control group - 20 almost healthy people who do not use dentures and have all their teeth. All patients encouraged regular oral hygiene care and usually performed it using commercially available hygiene products and products of local and foreign production. Dental examination before orthopedic treatment included collection of complaints and anamnesis, examination, probing, percussion, etc. In addition, to determine the causes of dental anomalies, X-ray examination (orthopantomography, teleroentgenography), study of diagnostic models and clarification of the patient's habits were carried out.

All patients of the main group are divided into the following groups depending on the treatment performed:

Group 1 (control) - 68 people, only professional teeth cleaning and oral care trainings were conducted;

Group 2 — 61 people whose previous activity was filled with antibacterial treatment (7 days after the start of treatment with "Metrogil Denta", 1, 3 months and 1 year after installation of non-removable bridge-like prostheses);

Group 3 consisted of 63 people who, in addition to training for group 2, corrected local immunity with the biologically active additive Tinrostim in courses for 7 days, 1, 3 months and 1 year after the start of orthopedic treatment, non-removable bridge-like prostheses. In all groups, laboratory tests were

performed before the beginning of orthopedic treatment, as well as 7 days, 1 and 3 months after the installation of the specified prostheses. Lysozyme activity, secretory immunoglobulin α (siga) and interleukins- (IL-1B) and IL-4 levels were determined in mixed sputum. Saliva was obtained by spitting into sterile test tubes without stimulation. In determining the activity of lysozyme O. The methodology of V. Bukharin (1997) P. G. Storozhuk et al. [7]. Cytokine levels were determined by enzyme immunoassay methods using commercial Biohimmak kits (Russia). Measurements were made using a vertical spectrophotometer v-500 (China). Statistical processing of the obtained data was carried out by calculating the arithmetic mean, mean square deviation and mean arithmetic error. The reliability of the differences between the two samples was assessed using Student's t test.

Research results: 7 days after the installation of orthopedic prostheses in the Sulak centrifuge, an increase in IL content, a decrease in lysozyme activity and sIgA concentration were detected, which indicated the effect of orthopedic treatment on local immunity.

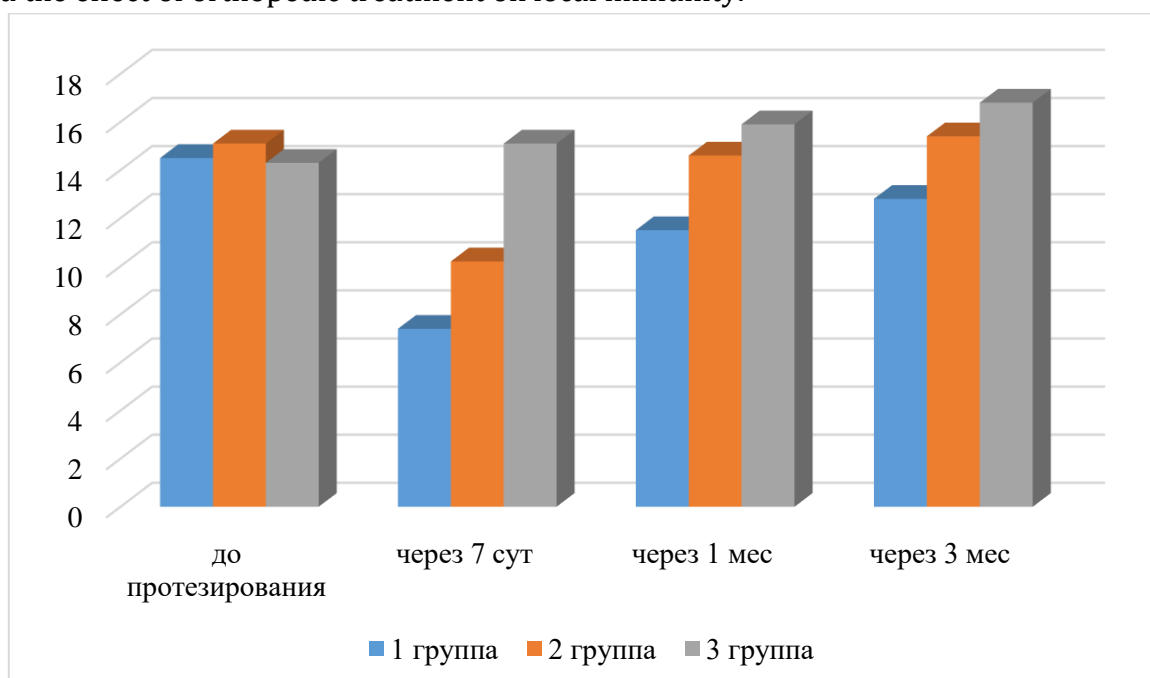


Figure 1. Activity of lysozyme in mixed saliva in groups of patients before and after non-removable bridge prosthesis

In group 1 patients, lysozyme activity at this time was 2 times lower than the initial value. After 1 month, this indicator remained significantly lower (by 21%) than the value determined before the start of treatment. Finally, after 3 months, the activity of lysozyme in the mixed sputum of group 1 returned to the initial level. Lysozyme activity in group 2 patients decreased by 7% 35 days after the installation of orthopedic equipment. After 1 and 3 months, this indicator in the group did not differ significantly from the indicator before the start of treatment. In group 3, Lysozyme activity always remained at the same level before treatment and after installation of orthopedic equipment. In group 2, 1, 7 days from non-removable bridge prosthesis then, lysozyme in saliva was 2.3 times lower than the initial value. After 1 month, this indicator remained much lower (38%) than the value determined before the start of treatment. Finally, after 3 months, the lysozyme level of the mixed serum returned to its original level. In representatives of the 2nd group, from non-removable bridge prosthesis After 7 days, the content of

lysozyme in the saliva was 46% lower than at the beginning. After 1 month, this indicator returned to normal and did not experience significant fluctuations thereafter. The content of sIgA in group 3 patients showed similar dynamics: after 7 days it decreased by 32% and after 1 month it returned to normal values.

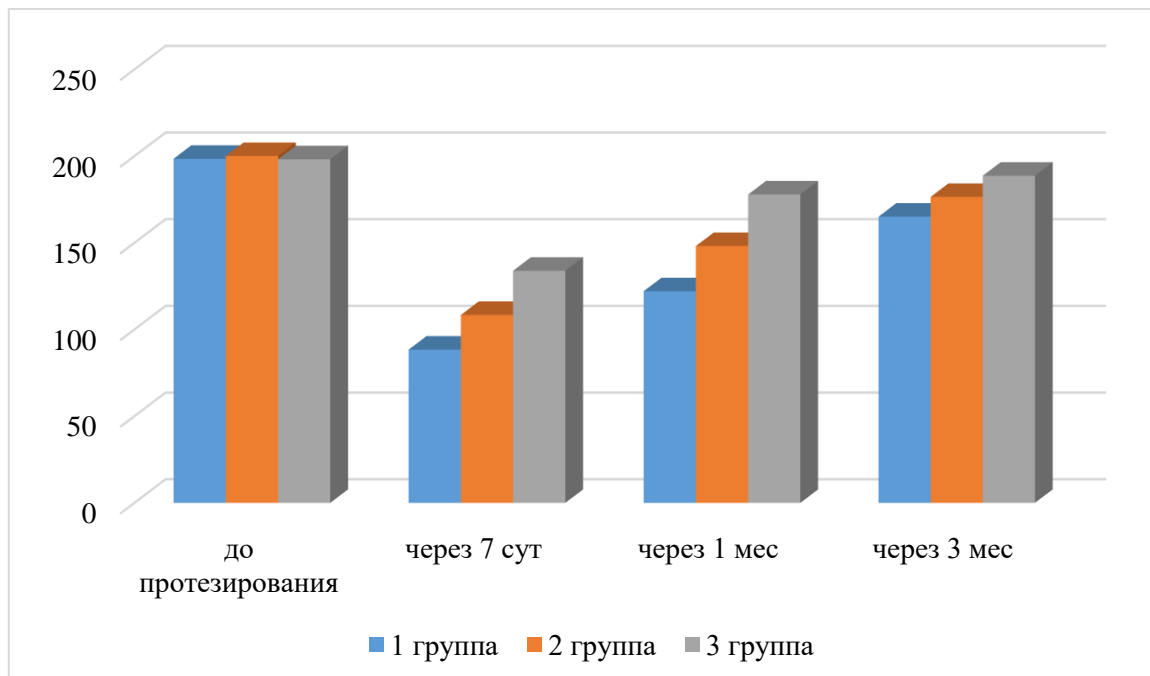


Figure 2. sIgA activity in mixed serum in patient groups before and after non-removable bridge prosthesis

The concentration of IL-1/3 and IL-4 in lactating fluid is not detectable during the study of indicators from cupruximone prosthesis. Significant differences in prices were previously identified. Thus, IL-1/3 concentration was 3.27 rkg/ml and IL-4 concentration was 2.5 rkg/ml. Seven days after the start of treatment, the concentration of IL-1 was 5.1, 0.18 pkg/ml, and the concentration of IL-4 was 2.4, 0.10 pkg/ml. One month later, the concentration of IL-1/3 was 3.82, 0.14 pkg/ml, and the concentration of IL-4 was 2.94, 0.12 pkg/ml.

3 months after the start of treatment, IL-1 concentration was 4.12, 0.15 pkg/ml, IL-4 concentration was 2.91, 0.12 pkg/ml. 1 year after the start of treatment, the concentration of IL-1/3 was 3.09, 0.11 pkg/ml, the concentration of IL-4 was 2.29, 0.10 pkg/ml. Thus, on the one hand, the cytokine study in the oral cavity of orthopedic patients confirmed the existence of an inflammatory process, on the other hand, the maximum effectiveness of the complex use of medicinal antibacterial therapy. - space in orthopedic patients with equipment allowed to increase the local immunity of the oral cavity without drugs. Under the influence of orthopedic treatment, the change of the stable indicator of the reaction of the mixed saliva indicates that there are very clear changes in the oral cavity associated with the disruption of local protective mechanisms, which leads to the development of the inflammatory process [6]. Perhaps, in the first week after the installation of a non-removable appliance, an inflammatory reaction to pre-professional teeth cleaning, changes in the consistency of food and, in the future, the accumulation of soft plaque develops. At the same time, there is an increase in protein metabolism products, plaque breakdown, gingival sulcus bacteria and oral epithelium [4]. This, on the one hand, leads to a decrease in lysozyme activity and sIgA concentration in saliva due to its active use under antigenic and bacterial

load conditions. On the other hand, phagocytic cells are activated under the influence of the substances produced after fixing the fixed equipment, which is reflected in the increase in their ability to synthesize and secrete IL-1 and -4. These cytokines activate the cells of the immune system, which may lead to the addition of the immune component of the inflammatory process at a later stage of research. This can be accompanied by the proliferation of β and T cells, increased expression of IL-2 receptors, induction of lymphokine gene expression, activation of endothelial cells, cycloinduction - and lipoxigenase gene expression, which causes the acute phase response [1]. At the same time, this does not exclude the inflammatory process in other tissues of the oral cavity, which ensures an increase in the level of IL-1/3 [10]. In group 1 patients, even 1 month after non-removable bridge prosthesis, it was shown that low indicators of Lysozyme activity and IL concentration in mixed sputum were preserved, these indicators were normalized only after 3 months. Cytokine levels remained elevated throughout the study. It is possible that a decrease in the tension of local protective factors lysozyme and Il contributes to the activation of the flora that supports the activation of the macrophage system of the oral cavity with an increase in cytokine formation. Normalization of local immune factors in patients with antimicrobial therapy combined with drug-free correction based on Tinrostim 7 days after the installation of orthopedic structures observed. This was shown by recording the increase of lysozyme activity and sigma concentration, as well as the decrease of the level of IL to the initial values. Thus, the use of a full range of preventive measures, including antimicrobial agents, immediately after the beginning of orthopedic treatment with a non-removable bridge prosthesis, combined with the correction of local immunity, made it possible to accelerate the elimination of inflammatory events of the periodontal mucosa and restore the factors.

References

1. Gaffarov S. A., Olimov S. Sh., Akhmadaliev N. N. Relationship between anomalies of the dentition and somatic diseases in children // Journal of Theoretical and Clinical Medicine. - 2016. - no. 2. - S. 74-77.
2. Abduvakilov Zh. U., Rizaev Zh. A. Significance of vascular endothelial growth factor in patients with chronic generalized periodontitis associated with metabolic syndrome // Periodontology. - 2019. - T. 24. - No. 4. - S. 123-126.
3. Kitsul I.S., Bakhareva A.E. Dental morbidity and the need of the population for dental care. - Irkutsk.: IGMU, 2002. - 143 p.
4. Kopeikin V.N., Mirgazizov M.Z., Malyi A.Yu. Mistakes in orthopedic dentistry. Professional and medical - legal aspects. - 2nd ed., revised. and additional - M.: Medicine, 2002. - 240s.: ill.
5. Abduvakilov J. et al. EVALUATION OF EARLY INFLAMMATORY CHANGES IN THE PERIODON OF THE BASIC TEETH // European journal of molecular medicine. - 2022. - T. 2. - no. 1.
6. Abduvakilov J. et al. EFFECTS OF NON-METAL NON-CERAMIC DENTAL PROSTHETICS ON SALIC ACID BALANCE AND MINERAL HOMEOSTASIS // European journal of molecular medicine. - 2022. - T. 2. - no. 1.
7. Kresnikova Yu.V. Clinical and epidemiological study of the results of orthopedic treatment of patients with partial absence of teeth: Dis. ... cand. honey. Sciences. - M., 2008. - 147p.
8. Kuzmina E.M. Dental morbidity of the population of Russia. Condition of hard tissues of teeth. The prevalence of dental anomalies. The need for prosthetics. M: MGMSU 2009; 236 p.

9. Kitsul I.S., Bakhareva A.E. Dental morbidity and the need of the population for dental care. - Irkutsk.: IGMU, 2002. - 143 p.
10. Kopeikin V.N., Mirgazizov M.Z., Malyi A.Yu. Mistakes in orthopedic dentistry. Professional and medical - legal aspects. - 2nd ed., revised. and additional - M.: Medicine, 2002. - 240s.: ill.
11. Kresnikova Yu.V. Clinical and epidemiological study of the results of orthopedic treatment of patients with partial absence of teeth: Dis. ... cand. honey. Sciences. - M., 2008. - 147p.
12. Kuzmina E.M. Dental morbidity of the population of Russia. Condition of hard tissues of teeth. The prevalence of dental anomalies. The need for prosthetics. M: MGMSU 2009; 236 p.