DYNAMICS OF IMMUNE PROCESSES DURING THE PERIOD ADAPTATION TO NON-REMOVABLE PROSTHESIS

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Adaptation to non-removable orthopedic constructions linked with the general state of the organism. Evaluation of the level of immunological parameters and buccal gingival fluid (IL-8, TNF-α, IFN-γ) for orthopedic treatment stages shows the development of inflammation in the oral cavity; the speaker presented indicators can serve as one of the quality criteria conducted orthopedic treatment.

Keywords: dentistry, immunology, orthopedic konchtruktsii

A number of urgent problems of modern dentistry is closely related to the general state of the organism. The new concept of "Healthy teeth and quality of life", formulated by Academician Leontyev VK (1999), established a systematic approach to prevention of dental diseases. It is well known that the success of the rehabilitation of patients with defects of hard tissue of teeth and dentition depends not only on the choice of the design of the prosthesis, applied technologies and materials, but also closely linked to the general state of the body [4].

The literature contains information about the features of rehabilitation in the treatment of non-removable metal-ceramic prosthetic patients with connective tissue dysplasia and diabetes [8]. We consider physiological aspects of human adaptation to the prediction of dental orthopedic structures and especially the rehabilitation of patients, depending on their psycho-emotional status [4, 5]. Studied the results of orthopedic treatment of solid rubber and metal-ceramic dentures conducted analysis of errors and complications during the treatment [3]. The problem of the interaction of the dental reception physician and patients with somatic diseases [6, 7]. The possibility of use in the process of adaptation to orthopedic constructions of the diode laser. [9] The analysis of the relationship of immune inflammation and clinical manifestations galvanosis oral cavity in patients with metal dentures [1, 2].

However, the available literature provides insufficient data characterizing the state of local immunity of the oral cavity with the use of different types of non-removable prosthetic. No information about the dynamics of immunological parameters of the gingival and oral liquid on stages of treatment non-removable bridges. Meanwhile, such information could be an important criterion for evaluating the quality of the treatment conducted and serve as one of the methods of prevention of errors and complications of non-removable prosthesis metal-ceramic designs.

Objective: To study the dynamics of immunological parameters of the gingival and the oral liquid in the process of adaptation to non-removable orthopedic constructions.

Material and Methods: During the period from September to December 2014 we have examined 50 patients aged 35-64 years, are treated at the orthopedic department Volgmu dental clinic. Among surveyed were 27 men and 23 women. Total produced 107 non-removable metal-

ceramic bridges. After receiving informed consent of patients for the study, collected the gingival and the oral liquid at orthopedic treatment stages: preparation to the teeth, after fixing the non-removable dentures for 3, 7 and 30 days.

Results: Study the content in the oral and gingival fluid of IL-8 in the process of adaptation of patients to fixed bridges revealed that the cytokine level in saliva much (more than 100 times) higher than its content in gingival fluid during all periods of observation. However, significant changes in the content of IL-8 in gingival crevicular fluid during the first week after the fixed prosthesis fixation patients we found (Table. №1).

Table 1.

The content of IL-8 (pg / ml) in the oral and gingival fluid of patients the first week of adaptation to non-removable prostheses.

IL-8	oral fluid	gingival fluid
До	215±23	1,86±0,6 *
3 сутки	187±29	1,22±0,34*
7 сутки	199±26	4,8±2,66*

* - Significant differences between the content of the oral and gingival fluid in the corresponding period of observation ($p < 0.05$)

Evaluation TNF-α levels in the oral and gingival fluid of patients during adaptation to allow non-removable prostheses reveal explicit dynamics of cytokine content in both compartments of the oral cavity. Thus, if the content of TNF-α in the saliva before prosthesis was 3.1 ± 4.4 pg / ml, already 3 hours after fixation of the prosthesis significantly increased to levels of 26.7 ± 3.7 pg / ml, and after a week of observation I was already 38,2 ± 6,6 pg / ml. Contents of cytokine in gingival fluid repeated the dynamics of its content in the saliva (Table. №2).

Table 2.

The content of TNF-α (pg / ml) in the oral and gingival fluid of patients the first week of adaptation to non-removable prostheses.

TNF-α	oral fluid	gingival fluid
До	14,4±3,1	16,3±3,37
3 сутки	26,7±3,7 #	35,0±4,7 #
7 сутки	38,2±6,6 ##	48,1±4,7 ##

- Significant differences with respect to baseline ($p < 0.05$)

- Significant differences with respect to baseline ($p < 0.01$)

Study the content in the oral and gingival fluids of IFN-$_\gamma$ first week patients adapt to the fixed prosthesis is not allowed to reveal significant changes in cytokine levels. Thus, the content of IFN-$_\gamma$ in saliva to prosthesis was 124 ± 31 pg / ml on day 3 of the prosthesis application rate was 151 ± 38pg / mL through week follow-up was 198 ± 88 pg / ml. There were no significant changes in the content of IFN-$_\gamma$ and gingival fluid (Table. №3).

Table 3.

The content of IFN-$_\gamma$ (pg / ml) in the oral and gingival fluid of patients during the first week of adaptation to the removable prosthesis.

IFN-$_\gamma$	saliva	gingival fluid
До	124±31	84,2±8,2
3 сутки	151±38	80,7±11,2
7 сутки	198±88	88,5±17,3

Conclusion. Collectively, these data suggest that patients adaptation to non-removable bridge is accompanied by the development of an inflammatory response in the oral cavity. Inflammation is associated with activation of innate immune mechanisms, as changes in the content of anti-IL-8 cytokine, IFN-$_\gamma$ adaptive immune related contact has been detected. The data (change the content of cytokines in the oral and gingival fluid during all periods of observation) can serve as one of the quality criteria conducted orthopedic treatment.

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