

Analytical Results of Immunological Studies Before and After Treatment In A Group of Patients With Metal-Ceramic Prostheses

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Abstract:

Today, the treatment and prevention of dental diseases is one of the urgent problems. The use of metal-ceramic and zirconium prostheses is considered effective for improving the effectiveness of orthopedic dental treatment of dental catarrh with secondary cysts. The evaluation of the effect of dental prosthetic structures made of cermet and zircon on the oral cavity has not been fully studied. Restoration of defects in hard tissues of teeth and gums is an urgent task not only for orthopedic dentistry, but also for general medicine.

Keywords: *metal-ceramic prostheses, immunological studies.*

Introduction

In our republic and a number of other foreign countries, metal coatings and bridgehead prostheses made of basic metals are currently used, sometimes they are coated with Nitro-titanium, which further muracabizes the protective mechanisms of the oral cavity. Such materials used for dental prostheses do not meet the aesthetic or functional requirements of modern dentistry. It is known that in ensuring the immunity of the mucous membrane of the oral cavity, oral fluid (OS) (saliva), which contains a large amount of substances with antimicrobial action: lysosimus, lactoferrin, immunoglobulins, antimicrobial peptides and other active substances, is of great importance [1.3.5.7.9.11.13.15.17].

Immunoglobulins in oral fluid (saliva), specifically sida, prevent the adhesion of microorganisms, lysozyme damages the walls of bacteria, and lactoferrin deprives bacteria of iron. Oral fluid contains components that determine its protective function - these are enzymes that make up the Complement System, immunoglobulins. The composition of oral fluid plays an important role in the functioning of not only the oral cavity, but also the entire body, is one of the indicators of homeostasis. Oral fluid

is a substrate with a very large amount of information, but its indicators are not always taken into account by practitioners.

Oral fluid testing (saliva) is a convenient non-invasive way to assess the general condition of the body, specifically the organs of the oral cavity. Collecting oral fluid (saliva) is convenient and simple, painless, the risk of infection of medical personnel is much lower than when working with blood, and some substances in saliva (for example, hormones, antibodies, drugs, etc.) reflect their concentration in the blood. Modern technologies for the study of proteins in a biological environment make it possible to determine the level of various immune parameters and their biological activity, including oral fluid (saliva) and other information that contains proteins under study in minimal concentrations. In connection with the above, it was of interest to study the condition of the humoral immune parameters detected in the oral fluid of patients, as well as the condition of the cytokine. Studying the state of local immunity can expand the understanding of the condition of the oral cavity after prosthetics, as well as provide an opportunity to revise the data obtained and use orthopedic treatment for additional correction. According to the assignments to accomplish this goal, men and women between the ages of 20 and 70, who were diagnosed with prosthetics in the dental department at the Buhti clinic, were examined and 30 practically healthy individuals entered the control group. Depending on therapeutic and preventive measures, all patients are conditionally divided into three groups:

Group 1 (control) - 30 people, only professional dental cleaning and oral care training were conducted;

Group 2-87 people who underwent metal-ceramic prosthetics; group 3 - 93 people underwent zirconium prosthetics. Immunological studies in all groups were carried out before the start of orthopedic treatment, as well as after 7 Days, 1 month after the moment of fixation of the non-removable prosthesis. Oral fluid levels of Dsiga, IgM, IgG, anti-inflammatory il-1B, il-6, TNF-a, and anti-inflammatory il-10 cytokines were found. Analyses carried out in the gastrointestinal tract of patients who need a prosthesis and conditionally healthy people revealed significant differences in the composition of immunoglobulins under study.

Immunoglobulins are protective proteins of serum or secretion that have antibody function and belong to the globulin fraction [2.4.6.8.10.12.14.16.18.20.22.23].

The leading role in the immune system of the local mucosa is given to the secretory iga (siga), the main source of which is the parotid glands is formed by the interaction of plasma cells that synthesize iga and the secretory component, the synthesis of which is carried out by epithelial cells of the ducts of the salivary gland. When using all prosthetic methods, impressions were obtained from both jaws, a roller of the base floor of a silicone or waxy roller used to detect a central occlusion was applied, and patients were offered to compress their teeth under the control of biting. Interclusal supercontacts were identified using articulated paper, foil, and a line of softened wax. When traces of perforation were detected, the detected topographic zones were lowered into the ground. Supercontacts were eliminated for all types of lower jaw movement. During repeated prosthetics in the place where the previous prosthesis was lying, changes in the form of hyperemia, edema, pressure ulcers, hypertrophy, bleeding were noted in the mucous membrane, which predetermined our efforts to eliminate the aforementioned similarities. After 2-3 weeks of wearing in the mouth and temporary fixation of non-removable finished structures similar to foam, and in the absence of complaints, final fixation (German) was carried out using glass ionomer cement.

The clinical examination of all patients with defects in dental hard tissues and with kdd was carried out according to a single scheme using special dental cards developed by us and on the basis of their voluntary consent about the scientific research carried out in the patient. Doctors began by studying the history of the disease, and then identified the patient's complaints, the reasons for going to the doctor, past and accompanying diseases, profession, noted bad habits and risk factors (smoking, social living conditions, professional working conditions, bad condition). Hygiene, overweight, computer loads, irrational prosthetics and the duration of the operation of unsuitable orthopedic structures), defined dental awareness, hygiene skills [17.19.21.23].

The external examination began with an assessment of the asymmetry of the face, breathing through the mouth, the peculiarities of the location and closure of the lips, the degree of opening of the mouth, the temporomandibular joint and facial skin, the condition of palpation. The examination of the lymph nodes was carried out, changes in the relationship of the third person, the presence of implants, the existing orthopedic structures (different types of prostheses, removable and stationary, taking into account the structural material). When examining the oral cavity, we paid attention to the inviolability of the oral cavity (the presence of upper and lower lip grooves, length and connective areas), the presence of traumatic occlusion, the condition of the oral mucosa (palate, cheek, tongue, gums - they were examined for color, moisture, density, edema, the presence of pathological changes), the condition of the hard tissues of teeth and teeth, pathological mobility. Secretory antibodies of oral fluid are immunoglobulins of the iga and IgM classes and are of local origin. They are produced by plasma cells located under the basal membrane in the connective tissue layer of the mucous membrane.

Conclusion. An analysis of the data obtained showed that immunoglobulins of all classes were close to control indicators before treatment in patients who needed prosthetics. Thus, in the main group, the iga level averaged 825 ± 8.80 mg / ml, in the comparison group its concentration was 780 ± 8.59 mg / ml ($r < 0.001$). The IgM concentration was 1.2 times higher than the values in the control group (68 ± 1.31 , $R < 0.001$, compared to 82 ± 2.71 mg / ml), as well as the IgG content varying by 1.5 from the values in the control group. Our data can be interpreted as follows. According to many studies, the ratio of immunoglobulins in the oral cavity is different from that of blood serum. If IgG is primarily in human serum and IgM is present in small amounts, IgA levels in saliva may be 100 times higher than IgG concentrations. At the same time, saliva contains significantly more iga than other immunoglobulins, for example, the IGA / IgG ratio in saliva is 400 times higher than in serum. Therefore, if there are no pronounced inflammatory processes in the oral cavity (periodontal disease of various degrees, gingivitis, stomatitis, etc.), the obtained indicators are fully consistent.

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