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Djalolidinova Shakhlo Djamolidinovna, assistant

Fergana Public Health Medical Institute

Uzbekistan, Fergana

**THE EFFECT OF DENTURES ON THE CONDITION OF THE ORAL
CAVITY**

Annotation: To restore chewing function, different treatment options are used, one of which is removable dentures. The designs are visually very attractive, the care is simple, but with incorrectly selected material or base there is a high risk of complications. Such problems include inflammatory foci, dysbiosis and mucosal lesions.

Key words: teeth, mucosal lesions, oral cavity, titanium nitride, denture.

The largest number of microorganisms of various types is observed in the oral cavity. Their number reaches about 15-16% of the total number in the body. At the same time, the number of species can reach 400 - these are candida, leptotrichia, veilonella, fusobacteria and others. In a normal situation and proper care, a person does not feel problems, inflammatory processes do not develop. But with violations of the microflora, pathogenic microorganisms begin to displace resistant ones, which causes the appearance of foci of inflammation and dysbiosis.

The species diversity of bacteria largely depends on the individual characteristics of the body, metabolism and external factors. The quality of saliva is also important for the remineralization of enamel, providing antioxidant and other functions. Removable dentures are one of the factors that affect the condition and quality of the microflora. At the same time, materials for the manufacture of structures cause the reproduction of certain types of microorganisms.

Products made of titanium nitride and steel are not recommended for patients suffering from low resistance to such simple microorganisms as oral amoeba, trichomonas, spirochete. Metalloplastics are contraindicated for those with a predisposition to candidiasis, composites are contraindicated for patients with

coccal gram-negative flora. Metal ceramics are not installed in the presence of inflammatory processes in a chronic form, periodontitis, mucosal lesions.

When choosing materials, the doctor takes into account the following factors:

- individual characteristics of the patient's body;
- features of the diet;
- as a personal hygiene of the oral cavity;
- the presence of bad habits, including smoking;
- professional factors;
- diseases of the soft tissues of the oral cavity;
- violations of preparation for prosthetics, incorrectly chosen shape or a prosthesis that does not fit under the bed;
- the presence of dental anomalies.

Microscopic examination of the state of the nerve elements of the mucous membrane of the hard palate and alveolar processes under removable plate prostheses. In the submucosal layer and subepithelial connective tissue, many nerve fibers were in a state of lumpy and granular decay. These processes are especially noticeable in myelin fibers. Myelin-free nerve fibers became fibrous and thickened, as a result of which swellings and vacuoles, varicose thickenings and neuroplasma drips formed along their course. The number of nerve endings in the form of glomeruli, bushes and twigs in the epithelial layer increased.

In most cases, receptor structures were detected in connective tissue papillae. Nerve endings, most of which were in a state of destruction, penetrated into all layers, reaching the surface part of the epithelium. These circumstances caused increased sensitivity of the mucous membrane of the prosthetic bed, burning sensation and dry mouth. The study of the reaction of the small salivary glands to the impact of removable prostheses, performed by N.S. Ivanova (1972), showed the presence of an increase in atrophic processes and chronic inflammation, the destruction of a part of the lobules and their replacement with fatty, granulation and connective tissue, a decrease in secretory activity and the viscosity of the

secretion. In some areas, the lumen of the terminal sections of the glands of the hard palate expanded, the height of the secretory cells decreased.

In some excretory ducts, there was a stagnation of the secretion, while their lumen was filled with a thick, layered mucous secretion, exfoliated degenerating epithelial cells and lymphocytes. The walls of the arteries thickened sharply. There was a large growth of connective tissue around the vessels and excretory ducts, accompanied by coarsening of collagen fibers. With an increase in the duration of use of prostheses, focal and diffuse inflammatory infiltrates were found, located both in the deep and surface layers of the glands and around their ducts. In the posterior third of the hard palate, they were more common than in the middle, the area of their distribution is larger. The transition of inflammatory infiltration directly from the subepithelial connective tissue to the glands and its spread along the excretory ducts took place only in cases of sharp infiltration of its own layer. Inflammation of the glands is caused by stagnation of the secretion. Extensive infiltrated parts of the glands were replaced by connective tissue and fat cells. The glandular cells of many end sections gradually atrophied and acquired an endothelioid appearance. The cell nuclei increased in volume, were unevenly or weakly stained with nuclear dyes. The basement membrane was compacted and subjected to hyalinosis. Connective tissue grew around the end sections. Sometimes the stagnation of the secretion led to a cyst-like expansion of the excretory ducts, thinning of their walls, and a decrease in the height of epithelial cells. Often, there was a sharp peeling of cells in the excretory ducts, and in some cases, focal proliferation of the epithelium.

As a result of morpho-histochemical studies of the mucous membrane of the edges of the cleft in patients who used plastic floating obturators for several years, a direct relationship was revealed between the effect of the timing of wearing an orthopedic structure on changes in the epithelium and connective tissue of the mucous membrane. As this period increased, the thickness of the granular layer decreased and the stratum corneum gradually disappeared. CHIC-positive material was observed in the granular layer, as well as throughout the spiked layer. There

was perivascular infiltration throughout the thickness of the mucous membrane, more widely represented in the subepithelial zone. Focal infiltrates were expressed in the area of the glands of the soft and hard palate. During the period of use of the obturator up to 3-4 years, minimal perivascular infiltration from polyblasts, histiocytes and plasma cells was expressed, and later focal and diffuse infiltrates appeared, in which hematogenic elements predominated. With prolonged wearing of the obturator in the loose connective tissue located along the vessels, the content of mast cells lying in small groups increased. The greatest inflammatory changes were found in children with poor oral hygiene. There were changes in the fibrous structures of the mucous membrane. The bundles of collagen fibers became thicker and more convoluted. Elastic fibrils acquired uneven contours and often branched. The accumulation of acidic mucopolysaccharides such as chondroitin sulfates in the intercellular substance of connective tissue, blood vessel walls, basement membrane, and mucous glands was observed. Hyaluronic acid was detected in the foci of inflammation of the nasal mucosa, as well as along the edges of the cleft. Destructive changes of nerve stems, fibers and preterminals were noted, which were more often observed from the mucous membrane of the nasal surface of the soft palate. Analyzing the causes of these changes, the authors associate them with the presence of chronic inflammation of the nasopharynx in this category of patients.

Under the influence of removable plate prostheses, the process of keratinization of the MMPB epithelium changes: desquamation of the epithelium increases, the number of cells of the middle and deep rows of the spiny layer, the number of microorganisms (mainly staphylococci and streptococci), polymorphonuclear leukocytosis is observed. There are structural changes in epithelial cells: vacuolization of the cytoplasm, pyknosis, cytolysis, "naked nuclei", karyorexis, binuclearity. Cytological examination by luminescent microscopy of impressions of the mucous membrane of the prosthetic bed after complete removable denture.

As a result of cytological examination of prints from the mucous membrane of the prosthetic bed, it was found that in persons using removable dentures made of polymethylmethacrylate for a long time, the development of prosthetic stomatitis manifests itself with a significant increase in the inflammatory and destructive index.

The created materials meet a qualitatively new level of medical and technical requirements: they are capable of long-term and harmonious functioning in the body, respond elastically to changes in the shape of biological tissues, do not collapse after repeated exposure, have high corrosion resistance in conditions of prolonged alternating deformation. For orthopedic dental treatment, the most acceptable modifications of the alloy based on titanium nickelide grades TN-10 and TN-20. The first one shows the effect of shape memory after deformation in the temperature range from 0 to +10 ° C, the second one restores the shape after deformation at room temperature, but requires an additional heat source, for example, warm water (1=40-45 ° C) for complete mold recovery. The mold setting temperature for both grades of alloys is in the range from 350 to 950 ° C.

Taking into account the many years and numerous positive experience in the use of shape memory materials in various branches of medicine, it seems possible to solve the problem of the interaction of the prosthesis and the prosthetic bed to use the cast alloy "Titanide" as the basis of the orthopedic structure in contact with the supporting tissues. In all cases, a satisfactory cosmetic and functional result was obtained.

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