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Treatment and Prevention of Complications of Diseases of the Oral Mucosa After Removable Dentures

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Relevance. In modern orthopedic dentistry, high-quality materials and advanced technologies are used for the manufacture of removable dentures. Meanwhile, like any medical manipulation, the procedure of dental prosthetics can lead to complications.

Key words: Treatment, Prevention, Complications,

Introduction. The main types of complications during removable prosthetics are stomatitis and gingivitis (gum inflammation), dental disease under dentures (caries, pulpitis, periodontitis), periodontitis (inflammatory processes of all tissues surrounding the tooth), allergic reactions to materials used in prosthetics, galvanic syndrome, cementation and loosening of the fixed structure, chipped lining artificial teeth and crowns, malocclusion due to too low or too high crowns and teeth, violation of the plane during prosthetics, fractures of bridge prostheses and crowns, and with removable prosthetics of teeth, there are cracks and chafing after the installation of prostheses, prosthetic stomatitis, diseases of the supporting teeth, weakening of the fixation of removable structures and a change in the position of the cheeks and lips.

Diagnosis and planning of orthopedic treatment, preparation of the oral cavity for prosthetics, during the clinical and technical stages of prosthetics, poor oral hygiene, as well as excessive or insufficient thickness of the base in the frontal part, incorrect determination of the height of the lower third of the face and the central ratio of the jaws, inaccurate placement of artificial teeth in the base of the prosthesis. There is a lot of information accumulated in the specialized literature about various errors and complications that develop at different times after prosthetics. The main complications of a biological nature are: destruction of hard tissues of teeth with secondary caries, inflammation of the pulp, damage to the marginal periodontal and diseases of the oral mucosa caused by the materials of dentures, which include galvanosis, toxic chemical and allergic stomatitis [2.4.6.8.10.12.14.16].

Orthopedic dentistry is subject to special consideration of the problem of the influence of dental prosthesis materials on the tissues of the oral cavity and the body as a whole. Currently, ceramic materials, plastics, stainless steels, cobalt-chromium, silver-palladium alloys, gold-based alloys, platinum, etc. are used for orthopedic treatment, which include the following metals: iron, chromium, nickel, titanium, manganese, silicon, molybdenum, cobalt, palladium, zinc, silver, gold, etc. To connect the parts of dentures, solder is used, the components of which are silver, copper, manganese, magnesium, cadmium. Thus, about 20 metals are used for the manufacture of prostheses from various metal alloys. If the polymerization regime is violated, the amount of residual monomer increases

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dramatically. Acrylic plastic, in addition to monomer and polymer, contains a variety of additives of low molecular weight compounds that give it characteristic specific properties. These include: plasticizers - substances introduced to increase the plasticity of plastics at high temperatures, as well as to increase the elasticity of the polymer; stabilizers that reduce the aging rate of the polymer material under the influence of unfavora`ble external physico-chemical factors; fillers used to change the mechanical and physical properties of the product; dyes. [1.3.5.7.9.11.13.15.17.19].

All of the above materials have a certain biological effect on the body, and with an increase in the permissible concentration, toxic and allergic reactions may occur after orthopedic treatment in the near and long term. A dental prosthesis (in the form of an alloy of metals) inserted into the oral cavity can be subjected to an electromechanical (corrosive) process. It is known from electrochemistry that each metal immersed in an electrolyte solution acquires a certain potential peculiar only to it. This potential is measured with respect to a normal hydrogen electrode, the potential of which is assumed to be zero. If there are metal alloys with different potentials in the oral cavity, then when they are closed, galvanic cells are formed. A metal with a high negative potential of a galvanic cell dissolves, i.e. it is destroyed, corrodes [18.20.22.24.26].

The purpose of the planned research work is to develop an algorithm for the treatment and prevention of complications in the oral cavity after removable dentures.

The object of the study was 60 patients with various forms of post-prosthetic complications in the oral cavity aged 35 to 70 years of both sexes.

Depending on the type of treatment used, the examined patients were divided into 2 groups, the main one in the number of 30 people, received local ozone therapy against the background of traditional treatment, followed by applications of ”Kamistad gel” and a control one (30 people), which received only traditional treatment (oral sanitation, elimination and correction of locally traumatic factors, irrigation of the cavity mouth with well-known disinfecting solutions with subsequent applications of anti-inflammatory and keratoplastic agents.

The following research methods will be carried out in the planned research work:

1. Dental
2. Clinical and functional
3. Microbiological
4. Allergological
5. Immunological
6. Biopatentiometric
7. Determination of dental quality of life indicators
8. Statistical.

According to the results of the study, all patients were divided into five groups: 1 - persons with galvanosis - a disease caused by the action of galvanic currents resulting from the occurrence of electrochemical processes in the oral cavity between metal prostheses. It is characterized by a pathological symptom complex: a metallic taste in the mouth, a feeling of acid, a perversion of taste, burning of the tongue, a change in salivation (dryness). There were changes in neurological status: irritability, headaches, carcinophobia, general weakness, etc. Patients noted subjective sensations 1-2 months after prosthetics with metal prostheses. Characteristic complaints are a metallic taste in the

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mouth, a feeling of acid. This unpleasant feeling is constantly amplified when taking acidic food. Perversion of taste (taste sensitivity) is expressed in the fact that the reception of sweet is not fully perceived or as a feeling of bitter (this group consisted of 8 people). The pH shifts slightly to the acidic side (pH 6.5-6.0). The difference in electrochemical potentials exceeded 80 mV. Allergological tests for nickel, chromium, cobalt are negative. The indicators of the clinical blood test were unchanged. This group consisted of 6 people.

Toxic stomatitis when using metal dentures. The following signs were characteristic for patients of this group: burning of the tongue, acid taste, hypersalivation (less often dryness), paresthesia phenomena, violation of the general nervous status, gastrointestinal lesions, pH shift to the acidic side, sharp shifts in the mineral composition of saliva, the content of leukocytes (leukocytosis), erythrocytes (erythropenia) changes in the blood, the rate of erythrocyte sedimentation increases. The difference of electrochemical potentials is from 50 mV to 80 mV. Allergological tests for nickel, chromium, cobalt are negative [19.21.23.25.26.].

Stomatitis when using acrylic prostheses. The following signs were characteristic for patients of this group: hyperemia and swelling of the mucous membranes under the prosthesis, dryness of all the mucous membranes of the mouth, sometimes only under removable prostheses, the tongue is hyperemic, dry, the papillae of the tongue are smoothed, atrophied. The difference of electrochemical potentials is up to 50 mV. Allergological tests are negative. Changes in the blood are characterized by a decrease in the number of red blood cells, leukocytosis, later leukopenia is possible, an increase in ESR. This group consisted of 8 people.

Allergic stomatitis when using metal dentures. Patients of this group were characterized by the following signs: diffuse hyperemia of the oral mucosa, sometimes the pharynx, red lip border. Erosive areas on the cheeks, tongue, and bottom of the oral cavity were often observed against the background of hyperemia. On the mucous membrane of the soft palate - petechial hemorrhages, swelling of the mucous membranes of the cheeks, tongue. There are teeth prints on the side surfaces of the tongue and cheeks. Saliva is stringy, sometimes foamy. The tongue is overlaid, enlarged in volume, hyperemic. Metal prostheses are changed in color, the presence of oxide films, pores, roughness, etc. is noted. Frequent breakdowns of bridge prostheses in places of rations as a result of electrochemical reactions. The difference of electrochemical potentials is from 50 to 80 mV. It should be noted the recurrent nature of the allergic disease to metal prostheses: more often it occurred after repeated prosthetics, less often in patients who received metal prostheses for the first time. Clinical symptoms in typical cases appear after prolonged use of metal prostheses (5-10 years). Allergological tests are positive. This group consisted of 6 people.

The following signs were characteristic of patients in this group: hyposalivation, inability or difficulty in using removable prostheses due to a constant burning sensation in the area of the mucous membrane of the prosthetic bed. Sometimes there is a burning sensation of the tongue, mucous membranes of the alveolar processes, cheeks, lips. Removal of the prosthesis, as a rule, eliminated subjective feelings. Patients complained of dry mouth. Saliva is viscous, "foamy", "sticky". A characteristic complaint of patients of this group is swelling of the mucous membranes of the cheeks, tongue, lips, soft palate and pharynx. Due to edema, swallowing is difficult, sometimes breathing, the tongue does not fit in the mouth, "interferes", patients bite their cheeks, tongue. The difference of

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electrochemical potentials is up to 50 mV. Allergological tests are positive. This group consisted of 6 people.

Conclusion. Diagnostics, using modern methods and materials, carefully conducted differential diagnosis, rational prosthetics in combination with sanitation, general and local medical treatment contributes to a significant reduction in the intensity or disappearance of diseases of the oral mucosa caused by the materials of dentures.

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