

## CONDITION OF THE ALVEOLAR PROCESS AND PERIOSTE WHEN USING REMOVABLE DENTURES

*Axmedova Malika Qilichovna*

*Assistant of the Clinical sciences department, Asia International University, Bukhara, Uzbekistan*

**Abstract:** A direct relationship was revealed between the periods of use of removable prosthodontics and signs of chronic inflammation found in both the epithelium and connective tissue. Thus, when using removable dentures in the first 2–3 years, an accumulation of fibroblasts, lymphocytes, and macrophages is detected only around the vessels. Later (5–15 years), the number of infiltrates, consisting mainly of lymphocytes, neutrophils and plasma cells, increases. Moreover, they are found not only along the vessels, but also in other areas of the connective tissue. In the proper layer, diffuse round cell infiltration is detected, and in the submucosal layer, a focal accumulation of elements is detected. Infiltrates are also found in the epithelial layer. However, the intensity of infiltration decreases in the posterior parts of the vault of the palate. Apparently, a dense vascular network plays a certain role here, which seems to soften the pressure of the removable denture on the mucous membrane. Therefore, its changes in the posterior third of the hard palate appear to a lesser extent than in the anterior one.

**Keywords:** mucosa, removable denture, alveolar process, atrophy.

Under removable laminar dentures, intercellular structures also change structures. Elastic fibers take on an unusual appearance. They thicken appear, acquire uneven contours and sometimes gather in groups or become intermittent.

The studies carried out made it possible to establish that atrophy of the alveolar process under removable dentures is to a greater extent detected in its anterior section and is more pronounced in individuals with improper articulation of teeth.

The loss of tissue of the alveolar process is faster in the first 3 years, slowing down in the future. When explaining this process, the influence of three factors should be taken into account:

- 1) atrophy due to the impact of the prosthesis;
- 2) atrophy due to the loss of a physiological stimulus, i.e. chewable pressure;
- 3) development of age-related atrophy.

The periosteum also responds to a certain reaction to the effects of plastic night prosthesis. When using prostheses for up to 3 years due to severe focal proliferation of osteoblasts causes a pronounced thickening of it.

In this case, osteoblasts increase in size and sometimes acquire a special orientation, located parallel to the surface of the bone.

With prolonged use of prostheses, the periosteum of the hard palate and alve-

The polar processes undergo atrophy, become thinner, turning into a dense layer of fibrous tissue. The number of osteoblasts in it also noticeably decreases. It is easy to see that there is a certain analogy in the reaction of the mucous membrane and periosteum: first, there is a compensatory thickening of these tissues, and then their thinning.

The study of immediate and long-term results of prosthetics does not include only an assessment of the quality of dentures and their functional properties, but also a detailed study of the state and reaction of the tissues of the dental system, on which the denture has a direct or indirect effect. First of all, it should be borne in mind that the prosthesis can have an effect on the tissue and organs of the oral cavity direct action his effect is observed when the prosthesis comes into contact with tissues, which are usually combined with the term "prosthetic bed." For a removable denture, the bed is the mucous membrane of the hard palate, the alveolar part, natural antagonists, as well as the enamel of the teeth, which support the clasps. For fixed dentures (inlays, half-crowns, splints), the bed is the wound surface of the crown, the walls of the cavity for the inlay, and the mucous membrane of the gingival pocket.

In addition to the direct effect, the prosthesis also has an indirect effect on organs and tissues located outside the prosthetic bed and not coming those in direct contact with him. This effect is carried out through medially through various organs and systems.

The result of such an influence is a change in the function of the muscles and temporomandibular joints with shortening or increasing the interalveolar distance, periodontal dystrophy with functional overload of the supporting teeth, etc. Consequently, the influence of the prosthesis is not limited to the prosthetic bed, but goes far beyond it. Thus, we have come to the need to reveal the content of another term - "prosthetic field", which refers to all organs and tissues located in the sphere of both direct and indirect influence of the prosthesis. The prosthetic bed is part of the prosthetic field.

The responses of the prosthetic bed are determined, on the one hand, by the characteristics term, intensity and duration of action of the stimulus, and on the other hand, the reactivity of the body. Currently, it is no longer possible to talk about the effect of a prosthesis on the tissues of the prosthetic bed without indicating the connection between a specific stimulus and the corresponding reaction.

The study of the etiology and pathogenesis of reactions of the tissues of the prosthetic bed makes it possible to identify changes, the causes of which lie in the clinical, technical performance of various procedures in prosthetics, in the nature of the material from which the prosthesis is made, or in the principle of the design itself. The data obtained in this way makes it possible to prevent a number of changes, in other words, it will become possible to plan the prevention of unwanted reactions.

First of all, it is important to find out what kind of irritants are generated by the prosthesis and what properties they are associated with. There are side, toxic, allergic and traumatic effects of the prosthesis.

The side effects of a removable prosthesis are expressed in the transfer of chewing pressure to the tissues of the prosthetic bed, which is an inadequate irritant for the mucous membrane, in the violation of self-cleaning, thermoregulation, speech, taste perception, in the functional overload of the periodontium of the supporting teeth with clasp systems, etc. The side effects of a removable prosthesis include the "greenhouse effect" and vacuum. The "greenhouse effect" occurs when using prostheses with a plastic base, which has low thermal conductivity. As a result, a temperature close to the human body temperature is maintained under the prosthesis. This contributes to the proliferation of microorganisms and worsens the hygienic condition of the prosthetic bed, complicating heat exchange in the oral cavity.

A vacuum is created under the prosthesis with a good closing valve. Due to this, the effect of a medical (blood-sucking) cup appears, accompanied by hyperemia of the mucous membrane of the prosthetic bed and

its chronic inflammation. In the pathogenesis of this symptom, the state of the capillaries, in particular their permeability, which changes with many common diseases of the body, plays an important role.

The side effect of a bridge prosthesis consists of a functional overload of the periodontium of the supporting teeth, irritation of the marginal periodontium by the edge of the crown, etc.

It is easy to see that the side effect follows from the principle of the prosthetic design itself. By changing the type of prosthesis, it is possible to reduce the side effect, but it cannot be completely eliminated. It is possible, for example, to reduce the harmful effect of the prosthesis base on the mucous membrane by replacing the plate prosthesis with an arc prosthesis, but it is not possible to completely eliminate the effect of the prosthesis base. It is possible to reduce the functional overload of the periodontium of the supporting teeth of a bridge prosthesis by increasing the number of supports, but it is also impossible to completely eliminate it.

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