

CLINICAL AND FUNCTIONAL CHARACTERISTICS OF THE ORAL MUCOSA DURING REMOVABLE AND NON-REMOVABLE PROSTHETICS

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Annotation: *The conducted scientific studies indicate a decrease in the adaptive capabilities of patients to wear removable acrylic and plate prostheses due-to the development of inflammatory processes in the tissues of the prosthetic bed.*

In the occurrence of this problem, a special role is assigned to the constant presence of residual monomer in the base of acrylic prostheses, which, being a "protoplasmic poison", has a toxic-allergic effect on the tissues and organs of the oral cavity.

Taking into account the above, it is necessary to note the importance of using biocompatible prosthetic carriers – medical-grade injection-molded thermoplastics based on polyethylene and polypropylene-in the manufacture of removable plate structures.

Key words: *acrylics, prosthetics, thermoplastics, inflammation Numerous studies conducted in various countries in the field of problems of orthopedic removable prosthetics and issues related to its complications have revealed the importance and timeliness of a detailed and more in-depth study of the etiology and pathogenetic mechanism of their development.*

Typical factors that are the causes of such complications are traumatic and toxic-allergic phenomena, which is associated with the presence of residual monomer in the base of the finished prosthesis, with a low elastic modulus of acrylic polymer materials, with a sharp decrease in the quality indicators of plate prosthetic structures even at a later date of wearing.

Clinical and laboratory studies in this area, revealing a very high level of use of acrylic prostheses in many countries, also indicate the influence of the residual monomer (methyl methacrylate) on the functional state of organs and tissues of the oral cavity (lysozyme titer, neutrophil activity, etc.) and cases of irritating and toxic effects of the monomer itself on the body of the prosthetic carrier [2, 4, 5].

From this point of view, the development and implementation of new and more advanced basic materials that have better properties and are free, if possible, of all the above-described shortcomings, as well as the improvement of methods of treatment and prevention of complications that occur when wearing acrylic prostheses, are the most urgent problems of modern orthopedic dentistry [6, 7, 8].

And the achievement of dental materials science in this area is the introduction of prostheses based on injection-molded thermoplastics of medical purity into orthopedic dental practice [1, 3].

Based on the results of some laboratory tests, certain conclusions can be drawn about the biological compatibility of the material with oral tissues and organs.

Taking into account the above, a comparative assessment of the condition of the oral mucosa and prosthetic bed in patients wearing various types of acrylic prostheses and prostheses based on thermoplastics of medical purity was carried out.

Material and methods. Using the developed specialized examination card for orthopedic patients, 620 patients were examined in three age groups: 4560, 6170, 7185; of these, 380 patients with acrylic prosthetic structures (ftorax – in 180, etacril – in 120, melodent – in 80 patients); 240 patients with prostheses based on thermoplastics of medical purity.

Changes in the soft tissues of the prosthetic bed and oral mucosa when wearing removable plate prostheses were determined by the degree and size of pathological processes using clinical research methods (visual, instrumental, palpation).

Results and discussion. The conducted clinical studies to identify areas of inflammation of the prosthetic bed tissues indicate that focal and diffuse (diffuse) mucosal lesions in the form of edema, erosions, and mucosal hyperplasia are most common in the 1st group of patients we examined – patients with partial and complete removable orthopedic structures made of acrylic plastics.

The large number of representatives of the elderly and senile age in the republic and the identification of factors that reduce the adaptive capabilities of the body to various inflammatory and dystrophic processes in this contingent when wearing acrylic removable prostheses led to the study of their level and severity in various age groups. The level of occurrence of inflammatory processes of a diffuse nature, most often within the boundaries of the prosthetic bed, in the form of puffiness, redness and erosions reaches the maximum level when wearing various acrylic plate prostheses in the age group of 45-60 years – $49.6 \pm 4.40\%$. When differentiating the effectiveness indicators of orthopedic treatment based on the data of clinical studies, it was revealed that the oral mucosa in patients of group II revealed minor pathological changes. In the majority of patients with medical-grade thermoplastic prostheses, the mucosa was virtually indistinguishable from normal in appearance, except for mechanical injuries in the projection of the boundaries of the prosthetic structures.

Conclusions. Clinical studies conducted among 620 prosthetic carriers have established the functional and biological compatibility of a new basic material for partial and complete removable orthopedic structures, which has properties close to ideal from the point of view of the almost complete absence of clinical manifestations of traumatic and inflammatory-destructive processes in the tissues of the oral cavity.

At the same time, the detection of foci of inflammation of the prosthetic bed tissues is typical for patients in both groups, but when using prostheses based on thermoplastics of medical purity, these indicators are significantly lower than in the group of patients with acrylic prosthetic structures.

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