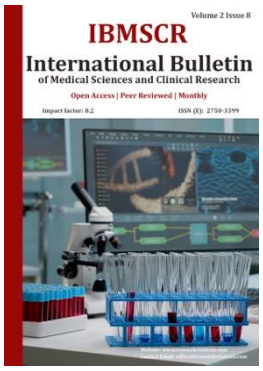

INFORMATION ON THE EFFECTIVENESS OF PROSTHETIC METHODS USED FOR COMPLETE EDENTIA.

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Abstract. The anatomy of the dental, dental and basal arches, in the presence of intact dentition on the upper jaw of the arch, consistently narrows towards the apex, and the lower jaw, on the contrary, expands downwards. After complete loss of teeth, the difference immediately begins to decrease, disrupting the relationship of toothless jaws. On the upper jaw, its vestibular side atrophies more, and on the lower jaw, the lingual side in the lateral sections and the vestibular side in the frontal section, as a result of which the upper dental arch narrows and the lower one expands. The ratio of the jaws in the transverse direction also changes.

Keywords: defect, caries, hard palate, atrophy, frenulum of the upper lip, prosthesis.

From an anatomical point of view, the most favorable are semi-oval and truncated-conical forms of the dental arch, which have a positive effect on retention and stability of orthopedic occurrence among patients reaches 55%. In addition, increased atrophy of the tissues of the prosthetic bed under the prosthesis base often occurs. Wearing removable dentures leads to disruption of blood microcirculation under the base of the prosthesis, which subsequently leads to the development and progression of atrophy in the tissues of the prosthetic bed[3, 9].

Based on the above, we can conclude that long-term use of complete removable dentures causes a response from the tissues of the prosthetic bed. In most cases, it is expressed in an increase in atrophic processes occurring in the tissues of the prosthetic bed, and, in particular, in a decrease in the thickness and pliability of the mucous membrane, and the degree of manifestation of the response depends on the age of the patient, the design and chemical composition of the prosthesis. At the same time, the main goal of prosthetics for patients without teeth is to solve the necessary functional and aesthetic problems with a certain increase in the quality of life. Complete plate dentures must have retention and stabilization on edentulous jaws, and artificial dentition must integrate and interact with the tissues and organs of the maxillofacial area, and also optimally participate in the acts of chewing, speech production and breathing[4].

Successful orthopedic treatment largely depends on taking into account the individual anatomical and topographical features of the variability in the structure of tissues and organs of the maxillofacial region of each patient. But even with the same external signs, degrees of atrophy of the dental arch, the anatomical and topographic picture of the state of the bone bed, the structure of buffer zones, functional elements of the prosthetic bed for each patient are purely individual and require a personalized approach[7].

The anatomy of the dental, dental and basal arches, in the presence of intact dentition on the upper jaw of the arch, consistently narrows towards the apex, and the lower jaw, on the contrary, expands downwards. After complete loss of teeth, the difference immediately begins to decrease, disrupting the relationship of toothless jaws. On the upper jaw, its vestibular side atrophies more, and on the lower jaw, the lingual side in the lateral sections and the vestibular side in the frontal section, as a result of which the upper dental arch narrows and the lower one expands. The ratio of the jaws in the transverse direction also changes [8].

The above determines the rules for setting teeth taking into account biomechanics, which are fundamentally different from articulation with preserved dentition. Neglect of these rules has a negative impact on stabilization and chewing function [4]. In general, there are a large number of factors that, to one degree or another, influence the process and result of upper jaw prosthetics in the absence of teeth. Only by taking into account all the individual anatomical and topographical features of the upper and lower jaws does the anatomical and functional retention of a complete removable plate in the organs and tissues of the maxillofacial area and the whole body, associated with hormonal, muscular, and digestive imbalances, increase. At the same time, with age, the epithelial layer of the oral mucosa atrophies, elastic fibers disappear in the submucosal layer and the vascularization of soft tissues worsens.

The mucous membrane becomes sensitive and easily wounded. Metabolic and calcium imbalances lead to rarefaction of the cortical and spongy components of the jaw bones [5], where atrophic processes in the bone tissue intensify. In addition, there is a decrease in the tone of the masticatory muscles, which leads to a decrease in chewing efficiency. The narrow thin ridge of the dental arch with uneven atrophy, sharp mandibular lines and “dry” mucous membrane significantly complicates prosthetics.

Loss of bone volume in the upper or lower jaw is not limited to the dental arch. Parts of the basal bone may also be subject to resorption, especially in the distal parts of the mandible, where significant resorption can lead to a loss of 80% of its volume. The contents of the mandibular canal and mental foramen may be exposed and become part of the area supporting the prosthesis, where the result may be acute pain, transient or permanent paresthesia of the areas innervated by the mandibular nerve [5, 11].

It should be emphasized that the structure of the mucous membrane depends on functional irritations in each individual area of the prosthesis. In this case, mobile, semi-mobile and immobile mucous membrane is distinguished, depending on its ability to move relative to the bone base. The second component of the functional state of the mucous membrane is compliance, which depends on the severity of the submucosal layer and the ability to deform under the influence of vertical load [2].

In a number of clinical cases, mechanical trauma to the oral mucosa occurs due to dentures. Its main reason is the discrepancy between the microrelief of the prosthesis base and the microrelief of the prosthetic bed, as well as low compliance and atrophy of the mucous membrane. According to a number of authors, prosthetic stomatitis of traumatic origin accounts for about 75% of the total number of prosthetic stomatitis, and the frequency of its prosthesis, quality of life and patient satisfaction with orthopedic treatment [5]. Currently, during the rehabilitation of patients with complete loss of teeth, there are options using fixed and conditionally removable orthopedic structures supported by artificial supports [11].

The scientific literature describes several types of prosthetics supported by implants in the absence of teeth. In case of slight atrophy of the dental arches and the possibility of osteoplastic operations and the achievement of conditions for the installation of six or more implants, fixed bridges supported by implants are used. With the possible installation of four implants, conditionally removable dentures with a beam fixation system are used [4].

Orthopedic treatment with complete removable dentures supported by dental implants, in contrast to fixed prosthetics on implants, is less complicated for both the dentist and the patient. Rehabilitation of patients with complete removable plate dentures with unfavorable conditions of the prosthetic bed and without additional fixation methods is significantly difficult, therefore the use of dental implants as supports for removable dentures is the most convenient for the patient. But still, the use of implants is an invasive manipulation that requires the skills of a dentist, as well as certain conditions for anatomical and topographic variability in the structure of bone tissue in the maxillofacial area. At the same time, the patient's costs for installing implants, prosthetics and maintenance of implants and locking fasteners in a removable denture increase [7].

In case of insufficient retention of a complete removable plate denture on the jaw as a result of unfavorable conditions for fixation of orthopedic structures, the vast majority of orthopedic dentists offer adhesive preparations to improve the stabilization of dentures. The most common and widely used special products are "Korega", "Blend-a-dent", "Lakalut", "Protefix", "President", "R.O.C.S." and others, containing thickeners and plasticizers and increasing the viscosity of oral fluid. Their presence in the space between the prosthetic bed and the prosthesis temporarily improves their fixation and stabilization, prevents the entry of foreign substances into the area of the prosthetic bed and absorbs vertical alternating loads on the prosthetic bed [4].

In particular, all patients noted a noticeable improvement in the fixation of prostheses when using adhesive creams. No one complained about the appearance of an unpleasant taste or smell, or food getting under the dentures. Some people were uncomfortable with the presence of excess cream in the mouth. After instructions on the correct, economical use of the cream, these complaints disappeared. In general, in this case, detailed oral instructions on the use of these materials and its written equivalent, handed to the patient, are of great importance [5].

At the same time, adhesive creams, like all other therapeutic, preventive and auxiliary agents, in addition to their main effect, have a side effect. The latter, in particular, consists in increasing the compression of the mucous membrane of the prosthetic bed due to the hydraulic pressure of the formed dense adhesive film-layer. Compression occurs when grinding and crushing a bolus of food, during compression of the dentition. Microexcursions of a removable denture during chewing at the moment of opening the dentition, on the contrary, contribute to the stretching of the mucous membrane of the denture bed, that is, the latter experiences alternating baroloads.

This situation suggests that this has a detrimental effect on microcirculation in the blood and lymphatic vessels of the tissues of the prosthetic bed. At the same time, there is an indication for the use of adhesive prosthetic creams, which includes significant atrophy of the dental arch with complete loss of teeth, when it is not possible to create a reliable closing valve [11].

Thus, the issues of improving the treatment of patients with complete absence of teeth in the upper and lower jaws with complete removable plate dentures, taking into account individual anatomical and topographic variability in the structure of the soft tissues of the prosthetic bed, remain not fully resolved. In this regard, it is necessary to conduct further research aimed at eliminating these problems that have theoretical, scientific and practical significance

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