EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND MANAGEMENT STUDIES

VOLUME04 ISSUE01
DOI: https://doi.org/10.55640/eijmrms-04-01-36 Pages: 197-203

RESEARCH OF THE MORPHOFUNCTIONAL STATE OF THE TISSUES OF THE ORAL CAVITY ORGANS WHEN USING NON-REMOVABLE ORTHOPEDIC STRUCTURES

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ABOUT ARTICLE

Key words: Cermet, non-removable prosthetics, periodontal tissues, prostheses, implants.

Received: 20.01.2024
Accepted: 25.01.2024
Published: 30.01.2024

Abstract: The article examines the effect of non-removable orthopedic structures on the condition of oral tissues. The problems of modern methods of prosthetics based on implants are highlighted. The most common errors and complications in non-removable prosthetics are analyzed. The assessment of the physical and technical properties of metal-ceramic structures has not yet been sufficiently studied. To prevent chipping of ceramics, contact of antagonistic prostheses is not allowed. Thus, the question of the effect on the clinical and morphological status of non-removable prosthetics in the absence of periodontal tissues remains unresolved.

INTRODUCTION

The study of the morphofunctional state of the organs of the oral cavity and the effect on the tissues of the oral cavity associated with the installation of non-removable prostheses remains insufficient and is a practical problem of orthopedic dentistry. As is known, partial tooth loss is one of the most common

forms of dentition defects, and therefore the restoration of the integrity of the dentition is carried out using various designs. Increasingly, preference is given to metal-ceramic prostheses. The advantages of metal-ceramic prostheses are strength, durability, aesthetics, patient convenience, hygiene and resistance to plaque formation on the ceramic surface K. Y. Obidny and O. A. Korshunova [26] examined the effect of prosthesis materials on the biological state of the oral cavity. The researchers found that, compared with other types of dentures, metal-ceramic structures do not violate the biological state of the oral cavity and do not contribute to the occurrence of inflammatory complications caused by a massive outbreak of pathogenic microflora. However, cermets have both disadvantages and advantages. Therefore, metals can cause allergic reactions in the organs of the oral cavity, and it is necessary to mitigate and prevent such conditions. V. V. Namkhanov and B. Z. A. Budaev [24] in their work "Peculiarities of the influence of dental orthopedic materials on the organs of the oral cavity", They investigate it and propose ways to correct and prevent such conditions. Metabolic and structural disorders cause glutathione deficiency in the patient's body, which requires the appointment of drugs that stimulate the biosynthesis of this tripeptide. Taking acetylcysteine (600 mg once a day for three weeks) It contributes not only to the disappearance of intolerance to metal solders, but also to the restoration of the effectiveness of the antioxidant system. The following factors influence this: the content of glutathione, diene conjugates, the activity of glutathione reductase and glucose-6-phosphate dehydrogenase in erythrocytes, normalization of lactic and uric acid in blood plasma. Due to its high efficacy, mild side effects, ease of use and accessibility, acetylcysteine can be recommended not only to improve already developed conditions, but also for their prevention. According to the literature, the process caused by excessive immersion of the edges of prosthetic crowns into the gingival groove has been widely studied [10], and the clinical and histological examination of A.B. Serov after prosthetics showed that, regardless of the design and dental materials used, gingivitis occurs where the subgingival position of the edge of the prosthesis is determined. It has been proven that it occurs [26, 27, 28].T.S. Alybekov drew attention to the condition of the periodontal margin in non-removable prostheses [1]. Low support crowns in bridge prostheses change the distribution of bending moments, which leads to an increase in the VAT of the prosthesis section by more than 10%. Small values of the stiffness criterion can lead to high stresses in the intermediate part of the prosthesis and in the teeth of the abutment, which will lead to a violation of the fixation of the abutment elements at different heights [2, 6, 17]. The use of non-removable bridges is positively perceived by patients. Patients note an increased level of subjective comfort after the manufacture of non-removable prostheses, and conversational and aesthetic adaptation is mostly completed in a short time. Patients adapt to the chewing function in a short time, while the chewing loads on the supporting teeth are evenly distributed, which avoids the

formation of habitual chewing lateral conditioned reflexes. Pain in the periodontal area of the post-prosthetic abutment tooth is not pronounced, which is due to the presence of physiological load shifts during functioning [6, 27, 30]. When analyzing the design features of prostheses with low clinical crowns, including in young patients, the authors note that preference is given to solid crowns, which saves preparation time [6, 13]. When modeling teeth for crowns, errors of dental technicians are observed. The most common mistake is the formation of high canines on the chewing surfaces of premolars and molars. Insufficient grinding of hard tissues from the occlusal surfaces of teeth leads to a bite of the artificial crown, overloading the periodontal ligament and causing traumatic periodontitis. A comparison of the two technologies for manufacturing non-removable prostheses shows that structures made using the traditional method have significantly more complications, unlike modern solid-cast and metal-ceramic structures. Stamped designs are now widely used in dental practice because they are more affordable. In many cases, stamped prosthetics have a negative impact on patients in the form of caries, its complications and marginal periodontitis. In addition, stamped crowns cannot restore occlusion or reproduce aesthetic parameters such as the color and shape of natural teeth. Based on these data, it is obvious that metal-ceramic or solid-cast prostheses are more preferable. The above-mentioned complications in patients with non-removable prosthetics are a good reason to monitor the condition of the prostheses at least once a year. According to the analysis of the long-term results of prosthetics, a violation of the fixation of non-removable prostheses is observed in 38% of cases. The errors and complications of non-removable prosthetics are analyzed. Based on the results of clinical, radiographic and laboratory diagnostics, as well as quality control data at the treatment stage, the most common errors and complications in non-removable prosthetics were identified. Errors at the stage of preparation for prosthetics - Violations of the principles and quality of endodontic treatment of abutment teeth - Inconsistency of the chosen treatment method with the established diagnosis - Injury of neurovascular bundles during mechanical processing of abutment teeth (overheated teeth, preparation without water cooling); - Depulpation of abutment teeth without indications - Perforation of root canals during preparation of root canals for inlays - Damage to marginal gums Preparation of abutment teeth without ledges; - Excessive taper of abutment teeth; - Lack of temporary teeth; - Errors in bite registration. Errors when removing the impression - the use of alginate impression material for the main impression; - inaccuracy of the impression; - gap between the basal and orthodontic layers; - skewed impression during fitting the impression; - the impression was removed without prior use of a retractor thread; - the impression was torn from a spoon. Errors at the stage of checking the prosthesis in the oral cavity: - excessive processing of the frame during inspection; - rapid processing of cermets; - violation of the shape, color and size of the crown Errors when fixing

the prosthesis: - incorrect choice of fixing materials; - violation of the instructions when using fixing materials; - uneven compression of the prosthesis during fixation. Errors detected at the prosthetics stage can lead to a number of complications: - destruction of the prosthesis; - chipped ceramics; - gingivitis near the crown; - traumatic periodontitis; - traumatic pulpitis/periodontitis; - gum recession; - discoloration of the gums around the crown; - secondary caries; - destruction of the crown under the crown; - dysfunction of the temporomandibular joint; - orthopedic pain near the middle of the object; - allergic stomatitis; - galvanism. Thus, the authors have studied the direct relationship between the occurrence of various complications and the violation of clinical and experimental protocols for the manufacture of prostheses [7, 8, 12, 18, 21, 29]. The issue of the functional state of the chewing muscles and a number of factors of local immunity of the oral cavity when using non-removable prostheses has been deeply studied [15]. The strength parameters of polymer intermediate prostheses based on dental implants have been studied [3] White considered the advantages and disadvantages of dentures with a metal-ceramic construction when fixed to intraosseous implants. To improve the quality of orthopedic treatment, he proposed computer milling of prostheses. Computer milling eliminates the stages of wax modeling and casting and ensures an accurate edge fit of the crown to the abutment of the tooth or implant [4, 5, 9, 11, 14, 16, 19, 20, 23,]. CAD/CAM-the manufacture of frames made of ceramic materials for metal-free prosthetics is the most developed in dentistry, which has led to their increasing use in lateral bridges. However, the strength of metal-free bridges and zirconium oxide abutments is problematic when implant support is required [5]. An analysis of the available literature shows that the main attention of researchers was focused on the problems identified at the prosthetics stage, such as mechanical damage to periapical tissues, violation of protocols for the manufacture and installation of prostheses, and toxicity of the materials used. It should be noted that the assessment of the physical and technical properties of metal-ceramic structures, for example, the effect of the hardness of the prosthesis on the periapical tissues of the periodontium and oral organs, has not yet been fully studied. To eliminate negative material phenomena arising from imperfections of physical properties used in orthopedic dentistry, it is necessary to take into account a number of provisions. In most cases, dentists should avoid close contact between antagonistic metal and ceramic prostheses to avoid ceramic chips. In the long term, this can lead to deformation of the occlusal plane due to elongation of the alveolar bone. There are no materials in the available literature devoted to the study of the influence of physical factors of metal-ceramic structures on the organs of the oral cavity and their morphological changes. These studies are especially important in restoring the integrity of the dentition using implants in the absence of buffering capacity due to the absence of periodontal tissues. An up-to-date presentation of

the features of clinical and morphological changes in the absence of periodontal tissues is a new and priority practical task for Uzbekistan.

CONCLUSION

Thus, the insufficient knowledge of the clinical and morphological features of the oral cavity tissues in metal-ceramic prosthetics and their practical significance for orthopedic dentistry prove the relevance of this problem and the need for further research to modify the protocols of orthopedic dentistry based on implants.

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