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Morphological Changes in the Oral Mucosa with Non-Removable Dentures

Rajabov Otabek Asrorovich
Bukhara State Medical Institute

Abstract: Pathology caused by a complex of pathological symptoms of periodontal tissues, especially the dentition, has been little studied. The histological appearance of the gum of a tooth can be an important factor in determining the pathological nature when wearing prostheses with various attachments. Based on the tasks set, the purpose of this study is a histological and histochemical assessment of the condition of the mucous membrane of various bridges: cermets, metal plastics, zirconium dioxide coatings, when installing bridges.

The control and comparison group consisted of marginal tissues after tooth extraction. This group includes the separation of teeth according to the instructions associated with complex caries (pulpitis, periodontitis, in which conservative treatment methods are impossible, as well as fully or partially preserved teeth or their dystopia). Since the bridges, which were mostly removed in the main observation group, had pronounced marginal pathology, the collection of material was not difficult, since the entire treatment process was carried out under anesthesia.

According to Van Gieson, sections 6-7 microns thick were stained with hematoxylin-eosin, the PAS reaction had a fresh blue color, was impregnated with silver. Histological preparations were examined under a microscope. The research was conducted at the Department of Histology.

Existing bridges (metal-ceramic, zirconium, metal bridges with titanium coating, etc.) create conditions for the development of increased functional load on periodontal tissues of the base teeth. In the presence of dental bridges, it is necessary to carefully identify functional changes that may occur in periodontal tissues. Changes in blood circulation in periodontal tissues depend on the degree of deformation of the dental area, partly on the duration of toothlessness and the addition of loads to bridges [1.3.5.7.9.11.13].

In modern types of prostheses (cermet, zirconium), special attention should be paid to the change in the state of marginal periodontium at the level of microcirculation, which was one of the goals of this study. In particular, there was no information in the literature available to us about changes in prosthetics with metal-ceramic bridges or crowns made of zirconium dioxide.

Aim of the study. Is comparative assessment of morphological and functional changes in periodontal tissues when using metal, metal-ceramic and zircon dentures to improve the efficiency of prosthetics.

Materials and methods. A study of the state of marginal periodontal diseases in 75 patients aged 22 to 50 years was conducted. Unilateral defects with a length of no more than 2-3 m were used as base teeth.

The state of microcirculation of peripheral teeth in teeth supported by non-removable dentures was assessed in the dynamics of observation up to 1 year according to clinical and functional methods.

Doppler laser flowmetry was performed using a capillary blood flow analyzer, a Biomed two-channel ultrasound diagnostic complex (manufactured in the Russian Federation), which allows monitoring spectra using two-channel imaging. Vascular diagnosis was performed both on the side of secondary adentia and on the healthy side in the area of the base teeth (in the same patients to compare the results). The extension of the sensor range from 16 MHz made it possible to detect blood flow.

The condition of periodontal tissues was assessed by clinical and functional research methods in the field of basic teeth and the symmetrical side (patients of the comparison group), in particular, in the dynamics of observation: before treatment, after preparation of basic teeth, before a bridge prosthesis. placement and after, 1,3 6.12 months.

Erosive lesions in the form of edema, hyperemia, peripheral congestion, bleeding of the oral mucosa were found in the marginal area of the periodontium and in the interstitial space of missing teeth of bridges. During repeated prosthetics, removal of bridges, an X-ray examination was performed to obtain images of the oral cavity or an orthopantomogram to determine the condition of the dental periodontal complex. Electrodontometry (EOM) was used, taking into account radiological, functional parameters, and the condition of the periodontal complex of teeth: supporting teeth with depulpation or filling of root canals with poor-quality obturation [15.17.19].

In the process of prosthetics, the teeth of the base were sharpened according to the generally accepted method for cermet or zirconium dioxide: the design of the barrier, pulling the gum of the tooth with appropriate threads. The impression is created by the silicone sandwich method. Laboratory and clinical stages: installation, prosthetics, fixation of skeletons were carried out in accordance with the rules of orthopedic dentistry. The patients were monitored for up to 1 year or more using comprehensive research methods according to indications.

The clinical condition of marginal periodontitis was visually assessed using the Schiller-Pisarev test and the papillary-marginal-alveolar index (PMA), where hyperemia, edema, and bleeding were detected.

The clinical picture of partial adentation largely depends on the number of missing teeth, dystopia, type of bite, functional usefulness, not only the condition of the hard tissues of the base teeth, but also the complex of tissues surrounding the tooth.

Results and discussion. The appearance of a defect after tooth extraction disrupts its continuity, which leads to morphological and functional disorders. In our study, the shortened installation time of rigid bridges was associated with antagonistic teeth, where in some cases supercontacts were noted, and in others teeth were removed from the chewing movement, i.e. irrational prostheses were noted. One of the main points is that interference with the homeostasis of the oral cavity leads to a violation of the biological balance. Therefore, the choice of design features of non-removable prostheses should be at least as indifferent as possible. Marginal gums, where teeth contact occurs, are often interpreted as gingival pockets, gingival slits, physiological pockets, gingival cavities. The depth of the chest pocket is on average 2-3 mm. With bridges, the depth of the gingival pocket was up to 4 mm in 57% of cases with tooth sharpening and gum damage (periodontal pathology). These data were related to the operability of marginal teeth of the base teeth around the defect during repeated prosthetics in patients. The condition of the periodontal fracture served as the basis for our assessment of marginal periodontitis in persons who wore a non-removable prosthesis both during repeated prosthetics and during upcoming orthopedic interventions. The magnitude of electrochemical potentials associated with the presence of prostheses with different structural properties in the oral cavity was studied, as well as galvanic measurements in the materials from which they are made: cermet, zirconium dioxide, welded prosthesis with titanium coating, cast bridge prosthesis. Prosthetics [2.4.6.8.10].

It is known that prostheses made of various materials lead to a violation of the homeostasis of the oral cavity and have a negative effect on the body as a whole. In particular, this leads to disorders in the development of allergies, hyperergic conditions and ulcerative trophic processes.

In this regard, the identification and understanding of excitatory factors in the galvanic environment of the oral cavity is based on the use of paraclinical methods, in particular, the study of electrochemical potentials.

Electrochemical potentials between prosthesis + prosthesis, prosthesis + cheek, prosthesis + tongue, cheek + tongue were measured. 54 patients with recurrent prostheses were examined, including 26 women (48.1 ± 6.7) and 28 men (51.9 ± 6.7). In 24 of 54 patients (44.4 ± 6.7), the value of

electrochemical potentials during the installation of plastic-coated prostheses was significantly higher in all types of measurements. It was also seen that the values of the above indicators were not affected by age and gender characteristics. Our data on electrochemical potentials (ESPs) are consistent with the results of many studies and are usually up to 50 MV. Analyzing the detected ESP frequencies, it can be seen that the wear of metal structures is directly related to an increase in galvanic current levels. Thus, in the study of ESP in patients using structures made of heterogeneous materials, the average measurement values tended to high potential differences reaching the level of 100-150 mV. Vascular measurements were performed in the dental-periodontal complex using electrodontodiagnostics (EDD) to remove the bridge prosthesis of baby teeth. However, it has been found that the installation of stamped, soldered, plastic-coated, bulbous crowns and bridges leads to significant changes in pulp and periodontitis, especially inflammation of peripheral and periapical tissues. In 95% of cases, repeated depulpation revealed aseptic necrosis of the tooth pulp. This is due to the presence of technological defects in the tooth sharpening process, in particular, the fact that the teeth are sharpened without water cooling. When measuring the EOM, the data ranged from 40 to 100 μA and above. These indicators indicate the appearance of a vicious circle: odontopreparation without cooling leads to aseptic necrosis of the pulp and morphostructural changes in the periodontium. Another important fact is that in many cases orthopedic dentists perform endodontic treatment without proper qualifications. Poor-quality, incorrect endodontic treatment leads to changes in the periodontal complex, resulting in side effects and premature removal of bridges [12.14.16.18.19].

When removing bridges from metal welded stamped structures, it was found that in 95% of cases, dark corrosion was fixed at the soldering points of the prosthesis body covered with nutrient masses. There was inflammation of the mucous membrane under the prosthesis, necrotic wounds, hypertrophy, bleeding.

The main disadvantages in the observed group of patients with repeated prosthetics are errors from clinical (laboratory treatment of hard tooth tissues without cooling, lack of morphometric parameters of the periodontal cavity, non-use of retraction thread, etc.) to laboratory ones. Laboratory stages (stamped structures made of soldering, modeling and absence of an equator in anatomical features, taking into account the group affiliation of the tooth and the manufacture of bridges). In dental work, the errors we observed at the stages of manufacturing non-removable prostheses were evaluated according to the following parameters: modeling the manufacture of the intermediate part of the crown and the body of the prosthesis; supercontacts if these asymmetries lead to allergies to teeth and the coating material of antagonists. The above data from clinically and paraclinically known methods of non-removable bridge prosthesis indicate the presence of pathological conditions leading to premature removal of bridges. The periodontal complex was evaluated in 92 patients receiving orthopedic treatment. Of these, 38 patients received primary and 54 patients received repeated orthopedic treatment with zirconium dioxide bridges with complete removal of acrylic and plastic veneers. In the main group of patients, 214 teeth under bridge supports and teeth on the upper and lower jaw and 34 healthy teeth in the control group were examined. The dynamics of observations began with the design features of bridges and the planning and coordination of future therapeutic measures with patients in the dynamics of treatment up to 1 year. Selectively, for up to 3 years or more, after prosthetics, some patients were called for a dispensary examination followed by clinical and X-ray examination, if necessary. During the examination of patients in the main control group, in particular, repeated prostheses, 54 patients revealed non-removable bridges made of stamped solder structure with titanium coating and plastic lining, inflammation of the peripheral periodontium and erosive lesions under the structural body of the bridge. the mucous membrane of the oral cavity after their removal.

Conclusions. In the dynamics of observations for 1 year or more during repeated prosthetics, special attention was paid to modeling according to the state of the gingival margin, the state of the entire oral mucosa, the anatomy of the grouping of teeth, supercontacts, the state of the intermediate bridge, as well as functional and aesthetic indicators.

LITERATURE USED

1. Ражабов О.А., Хайитова М.А. Клинические изменения полости рта при использование металлокерамических зубных протезов //Tibbiyotda yangi kun. - Бухоро, 2020.- №1(29)-С.322-324. (14.00.00; №22)
2. Razhabov O.A. Clinical and functional changes in the oral cavity using ceramic metal dentures //Academicia An International Multidisciplinary Research Journal .- Индия, 2020.-Vol. 10.- P. 209-215.(14.00.00; (23) SJIF - 7.13).
3. Ражабов О.А. Заболевания слизистой оболочки полости рта,обусловленные метолокерамическими и цирконными зубными протезами //Tibbiyotda yangi kun.-Бухоро, 2020.- № 4(33).-С.106-113. (14.00.00; №22)
4. R.O Asrorovich., A.Shodiyevich Comparative assessment of structural and functional changes in periodontal tissues during prosthetics with metal-ceramic and zirconium dentures //European Journal of molecular &Clinical Medicine"-Англия, 2020.-Volume 7, Issue 7.-P.583-594. (14.00.00,(3) Scopus)
5. Ражабов О.А., Иноятов А.Ш., Ирсалиева Ф.Х. Клинико-Функциональные изменения полости рта при использовании металлокерамических зубных протезов //Stomatologiya. Тошкент, 2020.- № 2(2).-С.56-59. (14.00.00; №12)
6. Rajabov O.A. The State of Immune Homeostasis of the Mucosa in Prosthics with Metaloceramic and Zirconic Dental Prosthesis. //Central Asian journal of medical and natural sciences.-Испания-2021.-P.367-377.
7. Otabek Rajabov, Zaynitdin Kamalov, Husnitdin Irsaliev, Fatima Irsalieva. Comparative Assessment of the Cytokine Profile in Dynamics in Patients with Orthopedic Constructions from Different Construction Materials. //*Annals of the Romanian Society for Cell Biology*,-Румыния-2021.-Vol. 25.-P.-3197-3202.-(Scopus)
8. Ражабов О.А. Металлокерамика ва циркон протезлардан фойдаланилганда оғиз бўшлиғидаги клиник функционал ўзгаришларнинг диагностик таҳлиллари. //Проблемы биологии и медицины Научный журнал по теоретическим и практическим проблемам биологии и медицины –Самарканд.-2021.-№ 4 (129) (14.00.00; №19)
9. О.А.Ражабов "Сравнительная оценка цитокинового профиля в динамике у пациентов с металлокерамическими и цирконными зубными протезами"//Проблемы биологии и медицины Научный журнал по теоретическим и практическим проблемам биологии и медицины"-Самарканд-2021.-№ 5 (130) (14.00.00; №19)
10. Ирсалиев Х.И., Ирсалиева Ф.Х., Ражабов О.А. "Иммунный барьер полости рта при дефектах зубных рядов и после протезирования металлокерамическими протезами" //Stomatologiya. Тошкент, 2021. № 4.- (14.00.00; №12)
11. O.A Rajabov., A.S Inoyatov., S.S. Sobirov. Comparative assessment of structural and functional changes in periodontal tissues during prosthetics with metal-ceramic and zirconium dentures //International Journal of Progressive and Technologies 2020.-22 (2) -P.19-28.
12. O.A Razhabov., Khayitova M.A. Due to intolerance of dental materials used for therapeutic treatment //International Journal on integrated Education 3"(issue XI) 2020.- P.160-162.
13. Razhabov O. A. Conditioned Intolerance to Dental Materials Used for Therapeutic Treatment Eurasian Conference on Language. Antaliya, Turkey.- 2020.- P.23
14. Ражабов О.А., Хайитова М.А. Металокерамика ва циркон протезлари қўлланилганда оғиз бўшлиғидаги ўзгаришларнинг таҳлиллари // Научно-практическая конференция Актуальные проблемы в стоматологии Фарғона 2021.- С 164.

15. Rajabov O. A. Results of Immunological Studies Conducted Before and After Metallokeramic Prosthesis in Patients //International Conference On Ultidisciplinary Research And Innovative Technologies // Table of Content -2021.- P. 271-272.

16. Ражабов О.А., Хайитова М.А. Результаты иммунологических исследований у пациентов с металокерамическими и цирконными зубными протезами.-Бухоро.-2021.-327 б.

17. Ражабов О.А., Хайитова М.А. Металокерамика ва циркон протезлари қўлланилганда оғиз бўшлиғидаги ўзгаришларнинг таҳлиллари.-Бухоро-2021.-330 б.

18. О.А.Ражабов, А.Ш.Иноятов, З.С.Камалов Металлокерамика ва циркон протезлардан фойдаланилганда оғиз бўшлиғидаги иммунологик хусусиятларини тахлил қилиш //Услубий тавсиянома.-Бухоро-2021.

19. О.А.Ражабов, А.Ш.Иноятов Металлокерамика ва циркон протезлардан фойдаланилганда оғиз бўшлиғидаги клиник функционал ўзгаришларнинг диагностик тахлиллари //Услубий тавсиянома.-Бухоро-2021.