

IMMUNE HOMEOSTASIS OF THE ORAL MUCOSA IN PATIENTS AFTER PROSTHETICS WITH VARIOUS

Rajabov Otabek Asrorovich

Bukhara State Medical Institute

Abstract:

Relevance. In dental institutions in all age groups, tooth loss occurs in 40-75% of patients, which indicates insufficient quality of medical and preventive work. With increasing age, the ratio increases towards complete occlusive defects. More often, in the absence of one or more teeth, treatment is carried out with traditional removable dentures or bridge prostheses based on sharpened teeth. The level of the population's need for orthodontic treatment remains high, from 30.4% at the age of 20-29 years to the maximum values of 68.1% of those surveyed in the age group of 50-59 years. Research in the field of diagnostics of dental diseases, clinical and pathogenetic substantiation of the effectiveness of various methods of prosthetics using dentures, their development and optimization are constantly attracting attention. In this regard, it is necessary to improve the methods of diagnosing the condition of oral tissues, the development of various sets of prostheses, the development of various models of dentures and orthopedic treatment to world standards, optimal treatment of patients with dental defects taking into account social, physiological, aesthetic and psychological characteristics. Acquisition studies are of particular importance.

Introduction

A number of studies are being conducted around the world to improve the effectiveness of various methods of prosthetics using dentures. In particular, improvement of methods for diagnosing the condition of oral tissues; development of new models of dentures, orthopedic prostheses on internal bone implants; determination of the shape and physico-chemical properties of dentures, the development of cancer in the field of reimplantitis; creation of specially designed prostheses with a different set of shapes and sizes that allow patients to operate in any clinical conditions; In this regard, special attention is paid to the development of scientifically based concepts for improving modern technologies [2.4.6.8].

In our country, measures are being taken to improve the healthcare system, improve the treatment of dental defects through orthopedic treatment using high-tech dentistry, and improve the efficiency and quality of medical care provided to the population. Currently, there are 2 important tasks, such

as, "improving the efficiency, quality and popularity of medical care, as well as the formation of a system of medical standardization, the introduction of high-tech methods of diagnosis and treatment, the creation of effective models of patronage and medical examination, healthy lifestyle support and disease prevention." In this regard, there is a need to further deepen research on the adaptation of dentures to international standards and the development of highly effective modern methods of orthopedic treatment of people of different age groups.

The purpose of the study the optimal type of prosthesis was selected based on a comparative assessment of the effect of cermet and zircon prostheses on the oral mucosa and local immune factors.

Immunological studies were conducted in the laboratory of immunoregulation of the Institute of Human Immunology and Genomics of the Academy of Sciences of the Republic of Uzbekistan. 210 people were examined: the main group consisted of 180 patients with defects of dentition and hard tissues of teeth. In the main group 180 people, 1 group 87 people were treated with metal-ceramic prostheses, 2 group 93 people were treated with zirconium prostheses, the control group consisted of 30 practically healthy individuals. Immunological studies were carried out by enzyme immunoassay (IFT) to determine the amount of IgG, IgM and sIgA class immunoglobulins, cytokines - IL-4, IL-6, TNF-b, IL-1b in oral fluid (RV).

The data obtained during the study were subjected to statistical processing on a Windows 10 PC using built-in statistical processing functions, including Microsoft Office Excel-2013 office software and the SPSS package (Statistica 12.0).

At the first stage, a retrospective analysis of outpatient medical records of 1984 patients aged 20 to 70 years who sought dental care in 2015-19 was carried out.

As a result of the analysis, it was found that 1,154 (58.1%) patients needed orthopedic treatment, including 793 who sought orthopedic help. Among those who applied for orthopedic care, 486 (61.3%) women and 307 (38.7%) men.

As a result of our study, the majority of orthopedic patients were patients with DZRI- 31%, followed by patients with DTT - 28%, patients with DZR III - 18%, DZR II- 15% and DZR IV - 6%. The lowest proportion was in the category of patients without teeth at all - 2% [1.3.5.7.9.11.13.15].

The structure of various types of orthopedic structures (non-removable metal-ceramic prostheses, non-removable zirconium prostheses, welded bridges with titanium coating and cast bridges) is analyzed depending on the age and gender of patients.

During primary prosthetics, titanium-coated bridges were removed in 38 patients, taking into account the adverse effects on the periodontal.

Orthopedic treatment was carried out with the expectation of rational prostheses, taking into account subsequent adverse events and financial capabilities of patients. Patients were informed about possible adverse events and complications when removing bridges in the oral cavity.

Diagnostic monitoring of the periodontal condition was carried out before and after the installation of metal-ceramic and zirconium coatings, as well as for 1, 3, 6, 12 months after primary and repeated prosthetics in the area of the location of the base teeth.

In phase II, we conducted a study of 214 patients in the period from 2019 to 2021 who had no pronounced concomitant visceral pathology, defects in the dentition and hard tissues of the teeth, as well as VZP. Of these, 141 are women, which is 65.9%, and 73 are men - 34.1%, respectively. Gingivitis was detected in 30.4% (65 people), CPLS - 44.4% (95 people), CPSS - 17.8% (38 people), CPTS - 7.4% of cases in patients with defects of dentition and hard tissues of teeth (people).

The prevalence of defects in dentition and hard tooth tissues was analyzed, taking into account age and gender differences in patients with inflammatory periodontal diseases. We identified 25 people (11.7%) in the group of patients 20-30 years old, with defects of dentures and hard tissues of teeth, as well as VZP, in the group of patients 31-40 years old - 44 people (20.5%), in the group of patients 41-50 years old revealed that 28 people (13.1%), in the group of patients older than 50 years - 117 people (54.7%).

Among the subjective criteria were noted: stomalgia in 10 cases before complex treatment, in 2 cases after complex treatment; bad breath: before complex treatment - 8, after complex treatment - 2 cases, dry mouth: before complex treatment - 12, after complex treatment - not noted; feeling of irritability: in 14 cases before complex treatment, in 2 cases after complex treatment; discomfort: 24 cases before complex treatment, 3 cases after complex treatment.

Among the objective criteria were observed: traces of teeth on the mucous membrane of the cheek or tongue - before complex treatment in 18 cases, after complex treatment in 6 cases; erosion, wounds in the oral cavity: in 10 cases before complex treatment, after complex treatment was not observed; discoloration of the oral mucosa: before complex treatment in 118 cases, after complex treatment in 22 cases.

Depending on the structural materials used in prosthetics, changes in the condition of the tissues and organs of the oral cavity of patients after orthopedic treatment with fixed metal-ceramic prostheses were also analyzed.

In patients with prostheses with metal-ceramic structures, 34 subjective and 28 objective criteria for the clinical condition of the oral cavity were noted before the start of complex treatment, and 2 objective criteria after complex treatment, no subjective criteria were observed after complex treatment. In patients with non-removable zirconium prostheses, 10 subjective and 11 objective criteria for the clinical condition of the oral cavity were noted before the start of complex treatment, and 1 objective criterion after complex treatment, no subjective criteria were observed after complex treatment.

In patients with braces and cast titanium-coated prostheses, 46 subjective and 137 objective criteria for the clinical condition of tissues and organs of the oral cavity were noted before the start of complex treatment, and after treatment - 4 subjective and 11 objective criteria [10.12.14.16.18].

After complex treatment, the CPI increased depending on the severity of the process of VZP, including with CPLS, mainly due to an increase in the number of depulped teeth according to the instructions, and with CPSS and CPTS due to depulpation and grinding of teeth and removal of defective teeth (the CPI index does not take into account teeth to be removed according to the instructions). Oral hygiene of patients improved by 100%, the inflammatory process in periodontal tissues decreased, as evidenced by the numerical values of PDI (decrease by an average of 25%) and CPI (decrease by an average of 35%).

The interrelation of periodontal diseases with defects of dentition and hard tissues of teeth is analyzed, the influence of various risk factors on the development of VZP, which is not only an obvious defect of dentition and hard tissues of teeth, but also the condition of the periodontal is determined. and risk factors for the development and progression of ESP can be taken into account when planning orthopedic structures.

When using metals in orthopedic medical practice (non-removable metal-ceramic prostheses, non-removable zirconium prostheses, welded bridges with titanium coating and cast bridges), reactions to these materials were explained by the occurrence of galvanic events in the oral cavity. As a rule, the diagnosis is formulated as "galvanosis", "electrogalvanosis". Due to the lack of sufficient sensitive research methods proving the presence of metal corrosion in the aggressive environment

of the oral cavity, this diagnosis was made based on the clinical picture and measurement of microcurrents.

The concentration of IgG in the oral fluid increased by more than 1.6 times after 7 days and amounted to 93 ± 2.38 micrograms/ml ($P < 0.001$). A month after orthopedic intervention, IgG synthesis was 2.2 times higher than the baseline level (125 ± 2.96 mg/ml compared to 56 ± 1.11 mg/ml) ($P < 0.001$).

Thus, in the group of patients with metal-ceramic prostheses, local humoral immunity actively responds to the action of antigens (intolerance to metal alloys), as evidenced by the high titers of sIgA, IgM and IgG in the oral fluid.

The cytokine system is the most important mechanism regulating intercellular interactions. It is said that production imbalances play an important role in the immunopathogenesis of the development of any disease [17.19].

We analyzed cytokine levels to assess changes in the state of the oral cavity and found that after a week the concentration of IL-6 increased to 42.9 ± 1.07 pg/ml (before treatment 14.7 ± 0.46 pg/ml) ($P < 0.001$), the amount of TNF- β increased to 37.2 ± 0.76 pg/ml (12.3 ± 0.32 pg/ml before treatment) ($P < 0.001$), and the amount of IL-10 increased to 21.5 ± 0.55 pg/ml (10.6 ± 0.32 pg/ml before treatment) ($P < 0.001$).

Conclusion

1. Structures of various designs (die-welded structures, structures with plastic coating, bridges made of stainless steel and bridges coated with titanium dioxide) with high values of electrochemical potentials (120-150 mV) unsatisfactory changes in surface hygiene, tooth-stain with adverse effects on the oral mucosa and marginal periodontal.
2. Hemodynamic changes of marginal tissues in dental row defects and their treatment with metal structures gave a negative result. Positive hemodynamic shifts were observed in prostheses made of cermet and zirconium dioxide.
3. When assessing microcirculatory changes in marginal gum tissues in catarrhal tooth defects and their treatment with orthopedic dental structures, the relevance of the laser Doppler fluorometry method was confirmed.
4. Infiltration by lymphocytes, macrophages and leukocytes into the marginal mucous membrane of the gum was observed in patients using solid metal structures.
5. It is shown that the diagnosis and treatment of high levels of galvanic currents should include pathogenetic treatment of periodontal tissues before removal and reprothetics of various additional metal structures.

REFERENCES

1. Ражабов О.А., Хайитова М.А. Клинические изменения полости рта при использовании 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 металлокерамическими и циркониевыми 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., Иноятлов 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 Prosthetics 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. Металлокерамика 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 Ultradisciplinary Research And Innovative Technologies // Table of Content -2021.- P. 271-272.
16. Ражабов О.А., Хайитова М.А. Результаты иммунологических исследований у пациентов с металлокерамическими и цирконными зубными протезами.-Бухоро.-2021.-327 б.
17. Ражабов О.А., Хайитова М.А. Металлокерамика ва циркон протезлари қўлланилганда оғиз бўшлиғидаги ўзгаришларнинг таҳлиллари.-Бухоро-2021.-330 б.
18. О.А.Ражабов, А.Ш.Иноятлов, З.С.Камалов Металлокерамика ва циркон протезлардан фойдаланилганда оғиз бўшлиғидаги иммунологик хусусиятларини таҳлил қилиш //Услубий тавсиянома.-Бухоро-2021.

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