

TREATMENT AND PREVENTION OF IMBALANCE OF MICROBIAL FLORA AND INTOLERANCE IN THE ORAL CAVITY OF PATIENTS USING REMOVABLE DENTURES

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Abstract:

Relevance. Currently, the technologies and materials used in orthopedic dentistry are constantly being improved. Nevertheless, the frequency of complications after prosthetics, unfortunately, is still quite high. The presence of orthopedic structures in the oral cavity contributes to the development of dysbiosis and the occurrence of pathological processes on the mucous membrane of the tongue, cheeks, lips in the form of long-term non-healing erosions, hyperplasia and hyperkeratosis, the appearance of unpleasant subjective sensations in the form of burning, tingling and anemia. A long-lasting inflammatory process in the oral cavity is the result of the action of pathogenic microflora and its activation in the presence of dentures. The presence of dysbiosis plays an essential role in the pathogenesis of chronic diseases and is one of the most significant causes of the appearance of destructive and non-destructive forms of damage to tissues and organs of the oral cavity [2.4.6.8.10].

Introduction

Taking into account the urgency of this problem and, at the same time, the presence of many unresolved problems, in patients with partial and complete secondary adentia, having the phenomena of intolerance to dentures caused by oral dysbiosis, we decided to study the state of the oral microflora when wearing removable dentures.

Material and methods of research. To achieve this goal and solve the tasks, we examined and tested 40 patients with the phenomena of intolerance to dentures against the background of microbial imbalance of the oral cavity at the age of 40 to 70 years of both sexes.

Samples from modern dental structural materials (SCM) approved for use in medical practice were used for microbiological research. They are made in the form of a disk with a diameter of 7 mm and

a height of 1.5 mm, in compliance with all requirements and technological processes used in the manufacture of dentures. Basic plastics, alloys for stainless steel crowns with titanium, chromium, silver and gold nitride deposition were used [10.12.14.16].

The qualitative and quantitative composition of microorganisms taken from the surface of a removable denture (n=20) and flushing of the oral mucosa (n=40) before and after exposure in ozonated sterile saline Na Cl was determined. The exposure time is 15, 30 and 60 minutes. After that, the dentures were thoroughly washed under running water, then rinsed with boiled water at room temperature and flushed. The same manipulations were tested with samples of flushing of the oral mucosa of patients before and after the treatment. At the end of the incubation period, the number of grown colonies was calculated and the total microbial contamination, the number of colony-forming units (CFU) in 1 ml was determined. And the identification of isolated microorganisms was carried out according to generally accepted methods.

Depending on the type of treatment used, the examined patients were divided into 2 groups, in the main number of 20 people, received against the background of traditional (oral sanitation, elimination and correction of locally traumatic factors, irrigation of the oral cavity with well-known disinfecting solutions followed by applications of anti-inflammatory drugs) treatment and received general ozone therapy (intravenous administration of ozonated sterile isotonic solution Na Cl) and local application to the affected areas with ozonated rosehip oil. And the patients of the control group (20 people) received only traditional treatment [1.3.5.7.9.11.13.15.17].

The obtained results were processed by the traditional statistical method on the ECM with the calculation of the Student–Fisher t – test.

Research results and their discussion. Analysis of the data obtained showed that at the first stage of the study, dental structural materials placed on the surface of sterile blood agar (without colonies of microorganisms) do not cause hemolysis of erythrocytes. Samples of dental materials were placed on the surface of blood agar with frequent cultures of microorganisms at the second stage.

The results of the study found that the most pronounced positive reaction (+++) was detected from the silver-plated solder alloy to the microorganisms *Streptococcus pyogenes*, *Neisseria* spp, *Streptococcus haemolyticus*, *Staphylococcus saprophiticus*, *Klebsiella oxytuca*, *E.coli* and *Candida albicans*, and then from the stainless steel alloy with titanium nitride spraying, then from the alloy surface of the removable prosthesis. Positive (++) and weakly positive (+) reactions were detected from gold and stainless steel alloys.

Post-prosthetic complications such as intolerance, frequent complaints of burning sensation ($47.3 \pm 1.2\%$), dryness ($36.3 \pm 1.3\%$), anemia ($12.1 \pm 1.2\%$) and metallic taste ($7.4 \pm 0.8\%$) in the oral cavity were observed in patients using removable dentures.

The examination of the oral cavity showed that 9 patients ($45.0 \pm 1.6\%$) of the main group (out of 20 people) had pale cyanotic color, and 12 ($60.2 \pm 2.3\%$) patients had hyperemia of the oral mucosa.

After a course of ozone therapy and disinfection of removable dentures with ozonated saline Na Cl, these pathological changes disappeared completely for 3-5 days of treatment.

Our comprehensive studies of patients with post-prosthetic complications, in particular, with intolerance to removable denture materials against the background of microbial imbalance of the oral cavity allowed us to formulate the optimal algorithm for complex treatment and prevention of such patients:

1. Sanitation of the oral cavity
2. Diagnostics of the adaptive capabilities of the oral mucosa to structural dental materials and the effect of the imbalance of microbial flora

3. Removal of functionally defective removable structures
4. Treatment of the imbalance of the microbial flora of the oral cavity based on bacteriological analyses
5. Determination of functional adaptation of the oral mucosa and selection of structural materials
6. The use in the manufacture of dentures only tested and certified dental structural materials
7. The use of metal-free structures or CAD/CAM systems in order to prevent complications after orthopedic treatment
8. Thorough polishing of metal and plastic parts of removable dentures.

Based on the results of clinical and microbiological studies, we came to the following conclusions:

1. The presence of intolerance to dentures caused by microbial imbalance of the oral cavity indicates the prevalence of enterobacteria, which normally are not permanent inhabitants of the oral cavity
2. An increase in the total number and specific gravity of coagulase-positive streptococci, yeast-like fungi of the genus *Candida*, which contribute to the maintenance of the inflammatory process and the development of destructive changes on the part of the oral mucosa, has been established.
3. Most dental construction materials (chrome, gold) do not affect the enzymatic activity of pure cultures of microorganisms. And stainless steel coated with titanium and silver nitride and alloys used in violation of technological processes enhance the pathogenic properties of *Streptococcus pyogenes*, *Neisseria* spp, *Streptococcus haemolyticus*, *Staphylococcus saprophiticus*, *Klebsiella oxytuca*, *E.coli* and *Candida albicans* with an imbalance of the microbial flora of the oral cavity
4. In case of intolerance to removable dentures against the background of microbial imbalance of the oral cavity, it is necessary to use express diagnostics of functional adaptation of the oral mucosa, taking into account the result, to select a structural indifferent material.

Literature:

1. Безруков.А.А. Когерентная томография в диагностике веррукозной лейкоплакии слизистой оболочки рта и ее соотношение с результатами патоморфологического исследование // Стоматология.- 2018.- Том 97, №8.-стр 75.
2. Гайбуляев .Э.А, Гулямов .С.С Возможность использования Co2 лазера и фотодинамической терапии в комплексном лечение лейкоплакии полости рта// Журнал теоритической и клинической медицины- 2018, №-1.- стр 88-93
3. Рябинович.О.Ф, Рябинович И.М., Умарова Н.В. Применения фотодинамический терапии у пациентов с тяжелыми формами лейкоплакии // Стоматология .- 2022.- Том 101, №-5.- стр 11-16
4. Нивеч .М.А White oral lesions, actinic chlitis, and leukoplakis confusions in terminologiya and definition faces and controversies. Clin Dermatolog . 2010,28(3) 262-268.
5. Lodi J.,Franchini R.,W amaculasuriga Yuterventions for treating oral leukoplakia to prefekt oral cancer .Co chrane Database sust Rev.2016 7(7) = CD001829, PMID 27471845 PMCS, PMC6457856
6. Chaun h., Jabara.J.T ., Lai W, Topical agents for oral cancer chemoprevention. A systematic review of the literature. Oral oncos.

7. Idiyev G. E. Improving the effectiveness of treatment based on an interdisciplinary approach of specialists to the diagnosis of temporomandibular joint dysfunction // Science Asia. – 2022. – Т. 48. – №. 3. – С. 51-60. (Scopus)
8. Идиев Г. Э. Чакка пастки жағ бұғими касалликлари билан касалланган беморларда окклюзия-артикуляция, нейромушак синдроми ва пастки жағ каллагининг одатланган чиқишини клиник-неврологик ўрганиш натижалари // Тиббиётда янги кун. – 2022. – №. 11 (49). – С. 64-69. (14.00.00; № 22)
9. Идиев Г. Э. Чакка-пастки жағ бұғими функционал бузилишларини эрта ташхислашда функционал ва инструментал текшириш усуллари // Биология ва тиббиёт муаммолари. – 2022. – №. 6 (140). – С. 89-93. (14.00.00; № 19)
10. Идиев Г. Э. Чакка-пастки жағ бұғими патологиялари этиологиясида салбий таъсир этувчи клиник-неврологик омиллар қиёсий тавсифи ҳамда ўзаро боғлиқлигини таҳлил қилиш // Биомедицина ва амалиёт журнали. – 2022. – №. 6. – С. 295. (14.00.00; № 24)
11. Идиев Г. Э. Чакка-пастки жағ бұғими дисфункционал синдромлар эпидемиологияси, этиопатогенези ва уларни замонавий ташхислаш // Интегративная стоматология и челюстно-лицевая хирургия. – 2022. – №. 2. – С. 117-124.
12. Gaforov S.A., Idiyev G. E., Kazakova N. N. Interdisciplinary approach to the diagnostics of patients with high-lower joint diseases // World bulletin of public health. – 2021. – Т. 3. – С. 63-70. (Impact factor 7,635)
13. Gaforov S.A., Astanov O.M., Idiev G.E., Chin-The algorithm of diagnosis in pathologies of lower jaw activity and the effectiveness of komplex treatment methods // Middle European Scientific bulletin. – 2021. – Т. 16. – С. 106-118. (Impact factor 7,525)
14. Gaforov S.A., Idiyev G. E., Ibragimova F.I. Approaches to diagnostics of the dysfunctional state of the temporomandibular // International Journal of Progressive Sciences and Technologies (IJPST). – 2021. – Т. 22. – №. 2. – С. 201-206. (Impact factor 6,662)
15. Гафоров С. А., Идиев Г. Э., Остонов О. М. Междисциплинарный подход к лечению пациентов с синдромом болевой дисфункции височно-нижнечелюстного сустава // Universum: медицина и фармакология. – 2021. – №. 11 (82). – С. 10-18. (Googlescholar)
16. Gaforov S. A., Idiyev G. E. The importance of neurological and psychological methods in diagnosis of disorders of the activity of the jaw lower jaw // International Conference on Social and Humanitarian Research, Hosted from Cologne, Germany April 25rd -26th 2021. P. 130-134.
17. Идиев Г. Э. Междисциплинарный подход к диагностике пациентов с патологиями височно-нижнечелюстного сустава // XV Международного конгресса «Стоматология Кыргызстана - 2022» посвященный 60-летию стоматологического факультета и памяти первого президента САКР С.Б.Орозбекова, Киргизистан, 27-28 май, 2022 г. – С. 11-13.