ISSN Print: 2394-7489
ISSN Online: 2394-7497
IJADS 2021; 7(1): 418-420

www.oraljournal.com
Received: 19-11-2020
Accepted: 21-12-2020

Holboeva Nasiba Asrorovna
Samarkand State Medical Institute, Uzbekistan, Samarkand, Uzbekistan

Turaev Alim Badriddinovich
Samarkand State Medical Institute, Uzbekistan, Samarkand, Uzbekistan

Turaeva Kamila Furkat Kizi
Samarkand State Medical Institute, Uzbekistan, Samarkand, Uzbekistan

Corresponding Author:
Holboeva Nasiba Asrorovna
Samarkand State Medical Institute, Uzbekistan, Samarkand, Uzbekistan

Evaluation of the effectiveness of non-invasive methods of treatment of periodontal tissues in violation of glucose hemostasis

Holboeva Nasiba Asrorovna, Turaev Alim Badriddinovich and Turaeva Kamila Furkat Kizi

DOI: https://doi.org/10.22271/oral.2021.v7.i1f.1164

Abstract
In patients with diabetes mellitus, there is a sharp weakening of the protective functions of the body and an increased risk of exposure to infections. A large number of microorganism's cause diseases such as gingivitis and periodontitis, which leads to bleeding, loosening and even loss of teeth. Also, diabetic diseases in the dental system occur as a result of an increase in the amount of glycogen in the gingival fluid, which serves as a good breeding ground for the reproduction of pathogenic microorganisms and the formation of dental deposits. A violation of microcirculation in the vessels of periodontal tissues leads to the occurrence of inflammatory and dystrophic processes.

Keywords: diabetes mellitus, microorganisms, dental deposits, inflammatory and dystrophic processes, non-invasive methods of treatment

Introduction

Relevance: Statistical data show a wide spread of periodontal diseases in patients with impaired glucose metabolism. Already from the early detection of the underlying disease, symptoms appear in the oral cavity.

Objective: The aim of our study was to evaluate the effectiveness of non-invasive methods of treatment in patients with impaired carbohydrate metabolism.

Materials and Methods: For the study, we selected the Samarkand Regional Endocrinology Dispensary, where patients with diabetes mellitus were on inpatient treatment. The material was used by 45 patients as the main group. Of these, 25 men and 20 women aged 40 to 66 years and 10 voluntary patients who applied for the treatment of caries in the city dental clinic. These patients did not have diabetes, and we selected them as a control group.

This study consisted of several stages. At the first stage, a complete sanitation of the oral cavity of all patients was performed.

At the second stage, the condition of periodontal tissues was determined using the Fedorov-Volodkin hygienic index. X-ray examination was performed.

The next stage consisted of a bacteriological examination of the gingival fluid. To determine the microflora of the oral cavity in all patients, we used a pipette and a cotton trendy fence gingival fluid. These procedures were performed on an empty stomach or 2-3 hours after eating, and patients were advised not to brush their teeth on this day. The gingival fluid of each patient was placed in sterile test tubes and sent to the laboratory of the Department of Microbiology of the Samarkand State Medical Institute. We seeded the gum fluid on the following nutrient media:

- Blood agar to determine the entire microflora of the oral cavity;
- 0.5% sugar broth;
- 0.05% thioglycol broth;
- The Saburo medium was used to identify fungi of the genus Candida.

At stage 4, professional dental cleaning was performed, if necessary: non - mineralized and mineralized supra-and subgingival dental deposits were removed. They taught all the rules of individual oral hygiene, the choice of toothbrushes and pastes, flosses and mouthwashes.

At stage 5, complex treatment of periodontal tissues was performed using non-invasive methods: antibiotic therapy, anti-inflammatory therapy, hormone therapy, vitamin therapy, and physiotherapy.

Antibacterial therapy was performed to prevent the growth and reproduction of pathological microflora in the form of applications of metronidazole ointment; oral baths with solutions of furacilin, eludril, chlorhexidine 0.06%, eucalyptus and chlorophyll. Anti-inflammatory treatment was prescribed with solutions for rinsing the oral cavity with tinctures of oak bark, calendula, lemon balm, chamomile, sage, burdock, lingonberry leaf, which also have an analgesic effect. Applications on the gums with ready-made ointments and gels with the addition of hormones and vitamins: Periodontal cell, which contains extracts of medicinal plants such as mint, sage, cloves and oregano; Gengigel – hyaluronic acid contained in this gel, promotes tissue regeneration. Hormonal drugs slowed down dystrophic processes, and vitamins stimulated metabolic processes in the tissues. Be sure to prescribe physiotherapy procedures aimed at improving blood flow in the vessels of the gums. These included electrophoresis with solutions containing extracts of medicinal plants; ultraviolet waves; hydro massage of the gums; laser therapy.

Results

During the rehabilitation of the oral cavity of the main group, it was found that the lesions of the hard tissues of the tooth are practically absent; defects of the dentition are replaced by crowns, bridges, partial removable dentures, full removable plate prostheses. In patients with diabetes mellitus, inflammation and dystrophic changes in periodontal tissues were observed. In the control group, the periodontal tissues were healthy, and the cavities were restored with light-cured composite fillings. To assess the state of the oral cavity, we used the Fedorov-Volodkina hygiene index. At the same time, the vestibular surface of the lower front teeth was stained with iodine solution. The presence of plaque was assessed using a 5-point system. Patients of the main group were defined as follows: 28 1 point (tooth surface not painted), 2 2 points (there was a slight staining), from 7 to 3 points (painted half of the tooth surface), 5 by 4 points (painted half of the tooth surface) and 3 to 5 points (highlighted more than half of the coronal portion of the tooth). In patients of the control group, staining was practically not observed, but in 1-2 points (very slight staining of the surface of the teeth) and another 1-3 points (half of the surface of the crowns of the teeth was stained).

Table 1: Assessment of the state of oral hygiene according to the Fedorov-Volodkin index.

Groups	Gender	1 point	2 point	3 point	4 point	5 point
	25 men	16	1	3	2	2
45 patients	20 women	12	1	4	3	1
	5 man	4	1			
10 patients	5 women	4		1		

Based on the data of X– ray images, the results of the conducted tests, instrumental and visual examination, diagnoses were made to the patients of the main group: generalized chronic catarrhal gingivitis – 8.9%, generalized chronic periodontitis of moderate severity – 28.8%, generalized chronic periodontal disease of moderate severity-63.3%. Of the total number of people in the control group, 10% had localized acute ulcerative gingivitis, and 10% had generalized chronic catarrhal gingivitis.

After conducting a microbiological study, we received the results of the gingival fluid microflora. In 45 cultures of the first group, a large number of Gram-positive and Gram-negative bacteria were detected: streptococci, staphylococci, bacilli, vibrions, spirochetes. We have identified 5 groups of microorganisms by the nature of growth and expressed their quantitative composition in the form of a table.

The number of strains / Abs indicator	Groups of microorganisms				
	Aerobic gram-positive cocci	Anaerobic gram-positive cocci	Anaerobic gram-positive cocci	Anaerobic gram-positive cocci	Anaerobic gram-positive cocci
% of the total number	10,2%	23,1%	27,1%	16,3%	23,4%
165 strains	16	38	45	27	39

The composition of the gingival fluid of patients with diabetes mellitus differed sharply from the composition of the gingival fluid of healthy patients. In 10 cultures of gingival fluid taken from patients of the control group, there was a normal microflora, i.e. anaerobic gram-negative and gram-positive staphylococci and streptococci, spirochetes, vibrions, fungi of the genus Candida, which are saprophytes of the oral cavity.

A month after we conducted non-invasive procedures, we have re-examined the mucous membrane of the oral cavity of both groups of people.

The condition of periodontal tissues in patients with impaired carbohydrate metabolism improved by 75%, and in healthy patients-by 97%.

Discussion

Diseases with a violation of carbohydrate metabolism is not a reversible process, but they can be supported by various methods. This means that every patient with diabetes should always be under the supervision of both an endocrinologist and a dentist.

Conclusion

It is non-invasive methods of treatment of inflammatory and dystrophic processes of the gum tissue and compliance with the rules of hygiene standards that will help to cope with unpleasant sensations, because they receive various types of insulin therapy on a daily basis, both invasive and non-invasive.

References

1. Abolmasov NN. Strategy and tactics of prevention of periodontal diseases / N. N. Abolmasov / / Stomatology 2003;4:34.
2. Rizaev Zh A. The prevalence of periodontal diseases among the urban population of Uzbekistan. [Prevalence of periodontal diseases among the urban population of Uzbekistan] Med. Journal of Uzbekistan 2008;(4):55-58.
3. Barer GM. Periodontal diseases. Clinic, diagnosis and

treatment: textbook. manual / G. M. Barer, T. I. Lemetskaya. - M.: VUNMC 1996, 86 p.
4. Borovsky EV. Biology of the oral cavity / E. V. Borovsky, V. K. Leontiev. - M.: Meditsina 1991, 346 p.
5. Kargaltseva NM. Microscopic study of gingival pockets / N. M. Karagaltseva // Institute of Dentistry 2001, p. 61-62.
6. AI Nikolaev LM. Tsepov. Practical therapeutic dentistry 2017;9:S846-847