

## Rapid Communication

# The Effectiveness of Therapeutic and Prophylactic Complexes in the Treatment of Chronic Generalized Periodontitis in Patients with Diabetes Mellitus

Yu MS<sup>1\*</sup>, Moroz PV<sup>2</sup>, Nektarevskaya IB<sup>3</sup>, Shelemekh OV<sup>4</sup> and Lukin RL<sup>5</sup>

<sup>1</sup>Associate Professor, Head of the Department of Dentistry No. 2 of the Federal State Budgetary Educational Institution of the Ministry of Health of the Russian Federation, Russia

<sup>2</sup>Doctor of Medical Sciences, Associate Professor of the Department of Surgical Dentistry and CHLH CHOU VO “St. Petersburg Medical and Social Institute”, Russia

<sup>3</sup>Candidate of Medical Sciences, Associate Professor of the Department of Dentistry No. 4 of the Federal State Budgetary Educational Institution of the Ministry of Health of the Russian Federation, Russia

<sup>4</sup>Postgraduate Student of the Department of Dentistry No. 2 of the Federal State Budgetary Educational Institution of the Ministry of Health of the Russian Federation

<sup>5</sup>Dentist-therapist MBUZ “Dental Polyclinic of the City of Rostov-on-Don

\*Corresponding author: Maksyukov S Yu, Associate Professor, Head of the Department of Dentistry No. 2 of the Federal State Budgetary Educational Institution of the Ministry of Health of the Russian Federation, Russia

**Received:** November 12, 2021; **Accepted:** December 03, 2021; **Published:** December 10, 2021

## Introduction

Local drug anti-inflammatory therapy is an integral part of the comprehensive treatment and prevention of periodontal diseases.

Preparations used for topical use in periodontics are often poorly fixed at the place of application, as a result of which the exposure of the drug is not maintained. In addition, they are combined arbitrarily, without taking into account their compatibility and dosage, during one course of treatment, drugs with a different mechanism of action are used each time, the multiplicity of procedures is not maintained. The selection of medicines is carried out by the doctor empirically.

The aim of the study was to determine the effectiveness of the use of various therapeutic and prophylactic complexes in the treatment of periodontitis in patients with diabetes mellitus.

## Research Objectives

- To study the dental status of patients with diabetes mellitus.
- To conduct a comparative analysis of the effectiveness of treatment of patients with chronic generalized periodontitis with the use of various therapeutic and preventive complexes.

## Materials and Methods

There were 40 patients with type 2 diabetes mellitus in the dental department during the medical examination (from 1.11.2019 to

30.01.2021), of which 15 were men and 25 were women. Anamnesis was collected and the dental status was studied. Sanprolight work was carried out with the distribution of information brochures and memos about oral hygiene, as well as therapeutic and preventive complexes. Each patient underwent professional oral hygiene using an ultrasound machine, chemical and mechanical methods. Clinical examination of patients was carried out before the start of therapeutic and preventive measures on the 7<sup>th</sup>, 14<sup>th</sup> and 60<sup>th</sup> days (2 months) from the moment of initial examination and the beginning of treatment.

The oral cavity of 36 people is not sanitized (90%). The CPI index (average value) is 12. All patients were diagnosed with periodontitis: mild - 28%, moderate - 50%, severe - 22%.

Patients of all three groups underwent oral sanitation with the replacement of substandard fillings and untenable orthopedic structures, patient motivation, oral hygiene training with subsequent monitoring at each visit. Standard initial periodontitis therapy was performed for patients with mild periodontitis, and patients with moderate and severe steppe were referred for consultation to a periodontist for surgical treatment of periodontal pockets.

The removal of dental deposits was carried out by an ultrasound device, the elimination of traumatic supracontacts by selective grinding according to Jenkelson (1972). The number of visits depended on the dental and hygienic status of the patient.

For home use, patients were prescribed one of three medical treatment and prophylactic complexes and were given specially created memos and oral recommendations with a demonstration of its use. The course of application of the complexes in three groups was 14 days. At each subsequent visit, oral hygiene was monitored and corrected. The quality of tooth brushing was checked by patients independently with the help of erythrosine tablets.

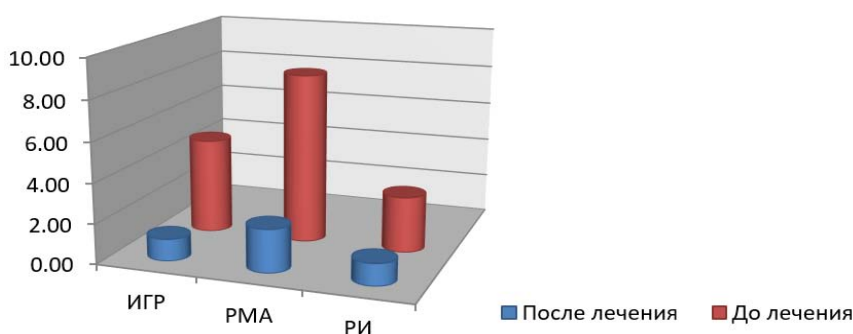
The first group of patients was assigned the complex “Asepta” (complex No. 1). It was recommended to use the following complex according to the scheme 2 times a day. After brushing their teeth with Asepta therapeutic and prophylactic paste, patients were recommended to rinse their mouth with 10 ml of Asepta conditioner for 20-30 seconds, then dry the area with a dry cotton swab. Then apply the adhesive balm “Asepta” in a thin layer with a finger, moisten the applied balm with water.

The second group of patients used drugs based on nanotechnology series “VIVAX Acute care” (complex No. 2), which includes toothpaste, rinse aid and gel containing peptides of blood vessels, cartilage and bone tissue, a synthetic analogue of thymalin, birch bark extract and mummy.

The third group used the therapeutic and prophylactic complex

**Table 1:** Dynamics of clinical indicators.

Groups	Indicator	Before treatment (average value)	7 days (average value)	14 days (average value)	60 days (average value)
The first group	ИГР	4.8	3.0	1.2	1.0
	ПМА	86%	40%	30%	20%
	ПИ	2.8	2.0	1.5	1.0
The second group	ИГР	4.8	3.0	1.4	1.1
	ПМА	85%	42%	31%	20%
	ПИ	2.8	2.0	1.5	1.1
The third group	ИГР	4.8	3.1	1.3	1.2
	ПМА	85%	45%	32%	25%
	ПИ	2.8	2.0	1.5	1.2



**Figure 1:** This diagram shows the indices before and after the use of complexes.

“Forest balm. For gum inflammation” (complex No. 3) based on essential oils and plant extracts of sage, aloe vera, decoctions of medicinal herbs (chamomile, yarrow, St. John’s wort, celandine, nettle), including toothpaste, conditioner with triclosan and gum gel, twice a day according to a similar scheme.

## Results and Discussion

When collecting anamnesis, it was found out that 6% of patients do not brush their teeth at all. 37% clean once a day. 57% brush their teeth twice a day. 8 patients are not regularly treated by a periodontist. 32 patients were not treated by a periodontist, and 10 of them did not know about the presence of periodontitis. The average value of the Green-Vermillion index is 4.8 (poor oral hygiene).

According to the examination of patients conducted for 2 months from the start of treatment, patients of all three groups had a decrease in periodontal indices, which are set out in Table 1.

The Green-Vermillion index before treatment averaged 4.8 (poor oral hygiene), and at the end of treatment after 2 months 1.1 (good oral hygiene).

The PMA index averaged 85%, after treatment 21.6, which indicates a significant improvement compared to the initial indicators.

PI has more than halved from 2.8 to 1.1.

From the indicators in Table 1, it can be seen that the therapeutic and prophylactic complex No. 1 is most effective in the treatment of periodontitis of mild severity, as well as moderate and severe after surgical treatment of periodontal pockets. Complex No. 2 is inferior to complexes No. 1 and No. 3 in terms of GAMES and PI (Figure 1).

To preserve the obtained result, emphasis is placed on sanitary work and oral hygiene training. The issued brochures and memos contain information for patients with diabetes mellitus. These materials contain detailed information for diabetic patients with periodontal diseases. Which compensates for the absence of a dentist in the antidiabetic team of doctors of the “School of Diabetes”.

## Conclusions

- When studying the dental status, it was revealed that the average indicators of the Green-Vermillion index are 4.8 (poor oral hygiene). 90% of patients lack oral hygiene skills, they did not apply to a periodontist for treatment. The CPI index (average value) is 12. All patients were diagnosed with periodontitis: mild - 28%, moderate - 50%, severe - 22%.

- Sanitary and educational work among patients was of an individual nature. A conversation was held with each patient with a visual demonstration of multimedia slides, a memo on oral care was issued.

- When using therapeutic and prophylactic complexes, a comparative analysis of their clinical effectiveness was carried out based on the results obtained. Application treatment-and-prophylactic complexes “Asepta”, “Vivax” and “Forest Balsam” contribute to a significant decrease in the severity of inflammation and normalization of the hygienic state of the oral cavity 7 days after the start of application, as evidenced by the dynamics of periodontal indices are given in Table 1.

Upon completion of the course the effectiveness of the complex “forest balsam” is higher than when using complexes “of Vivax” and

“Forest Balsam”.

### References

1. SB Ulitovsky. Hygienic care for inflamed periodontitis. M: MEDpress-inform. 2008: 280s.
2. GF Wolf, EM Rateitsah, K Rateitsah. Periodontology. M: MEDpress-inform. 2008: 548s.
3. T Kocher. Possibilities of prevention of periodontal diseases. International Dental journal “Quintessence”. 1998: 3c.
4. TF Flemmig, H Karch. Microbiological diagnosis of marginal periodontitis. International Dental journal “Quintessence”. 1998: 11c.