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INFLUENCE OF PHYTOCOMPLEX IN THE TREATMENT OF GENERALIZED PERIODONTITIS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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SUMMARY

A significant arsenal of traditional drugs does not always provide a quick and positive treatment result, which dictates the need to search for new, effective drugs and methods for the treatment of generalized periodontitis combined with diabetes mellitus. Significantly lower values ($p<0.05$) were obtained in patients of group 2 in terms of the level of hygiene, degree of bleeding and plaque formation. Based on the obtained clinical and functional data, it was found that the developed herbal medicine complex reduces visiting days by 2.5 days and prolongs remission by 2.2 months.

Key words

chronic generalized periodontitis, type 2 diabetes mellitus, hygienic indices, orthopantomogram, Laminalife, Laminaria Angustata and sea cucumber.

АННОТАЦИЯ

Значительный арсенал традиционных препаратов не всегда обеспечивает быстрый и положительный результат лечения, что диктует необходимость поиска новых, эффективных средств и методов лечения генерализованного пародонтита, сочетанного сахарным диабетом. Достоверно более низкие значения ($p<0,05$) получены у пациентов 2-группы по показателю уровня гигиены, степени кровоточивости и образования зубного налета. На основе полученных клинико-функциональных данных, установлено, что разработанный комплекс фитотерапии сокращает дни посещения на 2,5 дня, удлиняет ремиссию на 2,2 месяца.

Ключевые слова

хронический генерализованный пародонтит, сахарный диабет 2 типа, гигиенические индексы, ортопантомограмма, Laminalife, Ламинария Ангустата и трепанг.

Relevance of the study: pathology of periodontal tissues, namely chronic generalized periodontitis, is the main problem in dentistry, which occurs in 54% to

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99% of cases at a dentist's appointment. Somatic diseases often lead to various changes in the oral cavity, which are the immediate reason for the patient's visit to the dentist [2,4,10].

Global somatic pathology in the world is diabetes mellitus (DM), which is considered one of the most common diseases throughout the world. According to WHO data, from 1980 to 2014, the number of this pathology increased from 108 million to 422 million; in 2016, the incidence of people affected reached 425 million people; in 2019, diabetes became the ninth leading cause of death in the world and, according to estimates, a direct cause of 1.5 million deaths [1,2,5,7]. Against the background of diabetes, inflammatory diseases of periodontal tissues develop twice as often [2,6,7].

In patients with long-term, severe and chronic diabetes, microcirculation and blood flow speed in the capillaries are primarily impaired. This change primarily manifests itself in periodontal tissues, namely in the gum area. Often, periodontists send patients with varying degrees of severity of periodontitis to an appointment with an endocrinologist in order to determine the presence of pancreatic pathology. Diabetic periodontopathy is a specific sign of various changes in periodontal tissues in patients with diabetes [7,9,11].

The authors proved the influence of an increased concentration of glucose in the gingival fluid, which stimulates an increase in the titer of periodontal pathogens, which lead to lysis of the alveolar bone, the appearance of pathological periodontal pockets and the formation of dental plaque [10,11].

Improving comprehensive periodontal treatment methods is the most important task in modern periodontology [5,9]. The use of drugs containing cortisol and steroidal anti-inflammatory drugs contributes to the disturbance of glycemic levels. Today in dentistry great attention is paid to the search for drugs that are effective and inexpensive [8,9,11].

Herbal medicines are in great demand in many branches of medicine, dentistry is one of them. Laminalife is a homogenized, chilled gel with extract of the Far Eastern brown algae Laminaria Angustata and sea cucumber. The therapeutic and prophylactic drug has immunostimulating, detoxifying, antioxidant, regenerating, antiallergic, and antiplatelet effects. Kelp and sea cucumber - thins the blood, dissolves blood clots and cholesterol plaques. Strengthens the walls of blood vessels, which has repeatedly proven the need for inclusion in the complex of dressings for the treatment of generalized periodontitis in patients with diabetes [9,10,11].

A significant arsenal of traditional drugs does not always provide a quick and positive treatment result, which dictates the need to search for new, effective drugs

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and methods for the treatment of generalized periodontitis combined with diabetes mellitus (DM).

Purpose of the study: to determine the effect of the phytocomplex in the treatment of generalized periodontitis in patients with type 2 diabetes mellitus.

Materials and methods: to conduct the study, we selected 24 patients who underwent routine treatment in the Endocrinology Department at the multidisciplinary clinic of the Tashkent Medical Academy, diagnosed with type 2 diabetes mellitus. Glucose values ranged from 6.1 to 7.0 mmol/l. During the dental examination, all patients were diagnosed with chronic generalized periodontitis of moderate severity (CHGPS). The patients were divided by randomization into 2 groups of 12 people. The control group consisted of 10 patients without somatic pathology (according to the patients), with chronic generalized periodontitis of moderate severity (CGPS), of which 4 were men and 6 women, the average age was 47.6 ± 2.38 years.

All examined patients had bad breath, pain when brushing teeth, bleeding teeth, bone resorption up to half of the tooth root was determined in 67% of patients, and a pathological pocket of 4.5-5 mm was identified in 87% of patients. Tooth mobility corresponded to grade 1-2. All patients complained of periodic bleeding gums.

To substantiate the results obtained, clinical and paraclinical methods were used, which included the determination of indices: the degree of bleeding of the dentogingival sulcus, the plaque index, the depth of the periodontal pocket and the degree of tooth mobility. We used an orthopantomogram as additional methods. The obtained data underwent statistical processing.

Based on literature data and to conduct a comparative assessment, we formed 3 groups: control and 2 comparison groups, which received appropriate treatment methods. Before starting drug treatment, patients of all groups had sub- and supragingival dental plaque removed using mechanical and ultrasonic methods. Local treatment included selective grinding to eliminate the traumatic agent, sanitation of the oral cavity, and replacement of low-quality orthopedic structures. As a local medicinal treatment, antiseptic rinsing was carried out with a solution of chlorhexidine bigluconate (0.06%) 15 ml for 20-30 seconds 3 times a day after meals. Kamistad gel was prescribed for pain relief.

Group 1: antimicrobial therapy - a therapeutic bandage made of Metrogil denta under a protective and fixing bandage made of alginate mass.

Group 2: antimicrobial therapy - a therapeutic dressing made from Cholisal gel, which was mixed with Laminalife phytogel. The resulting gel-like mass was applied to the area of the pathological dental-gingival pocket and covered under a protective-fixing bandage made of alginate mass.

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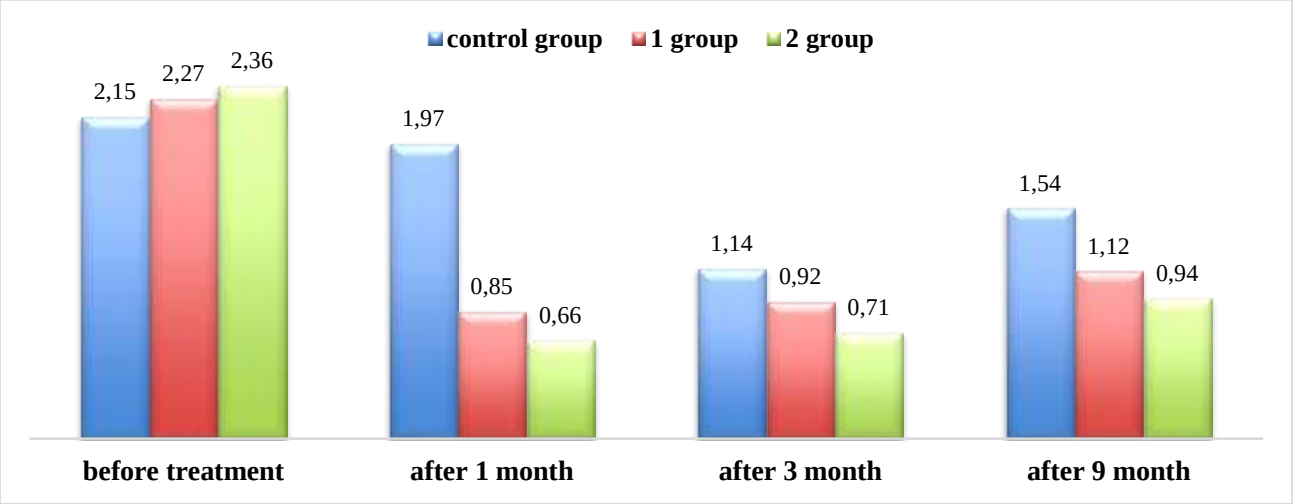
Results of the study: when comparing the Silnes-Loe index indicators before treatment, 1, 3 and 9 months after treatment, we established a statistically significant tendency towards normalization than before treatment, namely, in patients of group 1 - by 45.5%, group 2 – by 53.6%, control – by 50.0% ($p<0.005$).

The degree of bleeding of the dentogingival sulcus decreased significantly compared to the values before treatment, while the differences remained statistically significant 9 months after therapy in the main group 2 (Fig. 1).

The effectiveness of the complex herbal treatment was also reflected in the average depth of periodontal pockets. Before treatment in the compared groups, the indicators were 4.12±0.2 ($P\leq0.05$). Similar data were observed in the control group. after treatment and in the long term, after 1, 3 and 9 months, the indicators of group 2 were significantly lower. When analyzing the results obtained during the clinical study, it can be stated that the complex herbal therapy of CHPST in patients with diabetes had a significantly better result compared to group 1.



Rice. 1. Indicators of the Mullemann bleeding index before, after 1, 3 and 9 months

A similar trend was established with orthopantomogram images, which indicated the transition of the process to the stage of remission. After 9 months, we determined the restoration of the alveolar apexes, the restoration of the integrity of the cortical plate throughout, a decrease in the width of the periodontal fissure, and the absence of a progressive decrease in the level of bone tissue compared to the picture before and after 6 months. What once again proves the transition of the pathological process in periodontal tissues in patients with type 2 diabetes to the stage of stable remission.

Conclusions. Significantly lower values ($p<0.05$) were obtained in patients of group 2 in terms of the level of hygiene, degree of bleeding and plaque formation. After 3 months, the depth of pathological periodontal pockets was similar ($p<0.05$).

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