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Features of Burning Dentures in Diabetes Mellitus

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Annotation. In order for the provision of dental care was high quality, it needs to be tailored to a variety of systemic and chronic diseases from which the patients suffer. This feature of dental care is due to the fact that different approaches and methods of providing such assistance contributes, first of all, to improve the health of patients, improve their quality of life.

Key words: dental care, chronic noncommunicable diseases, diabetes mellitus, rehabilitation, old age, orthopedic structures.

The article describes the features of dental care for patients with chronic non-communicable diseases. According to the author, the Feedback of the dentist, endocrinologist and therapist also plays an important role in improving the quality of care for patients with diabetes, as the dentist taking into account the recommendations of the endocrinologist (the use of certain drugs) and timely referral to the dentist of such patients by the therapist and endocrinologist will allow regular monitoring of the state of the teeth and oral cavity of patients. The author comes to the conclusion that patients suffering from diabetes mellitus are included in a special group of dental patients who should be under special control of the dentist and receive his help in a timely manner to prevent the development of complications of the underlying disease and dental pathologies.Since in diabetes mellitus there is a metabolic disorder and multiple lesions of organs and systems, changes in the microflora occur in the oral cavity, which cause an increase in tissue resistance to insulin. As a result, metabolic control of glycemia is impaired. Thus, a vicious circle arises: with a high concentration of glucose in the gingival fluid, an excessive reproduction of periodontopathogenic bacteria occurs. Violation of carbohydrate metabolism also contributes to the development of hyperkeratosis, atherosclerosis, deterioration of tissue trophism and increased skin injury. At the same time, due to the thinning of the epithelial layer of the mucous membrane in children, accelerated eruption of permanent teeth is observed, accompanied by gingivitis. Structural changes in the salivary glands lead to a change in the composition of saliva, which contributes to the progression of caries. Under conditions of diabetes mellitus, the production of collagen and alkaline phosphatase by osteoblasts, which are necessary for the formation of bone matrix and its mineralization, decreases, osteoblast stimulation also decreases, and bone resorption by osteoclasts increases. These factors contribute to the violation of the formation of bone tissue. The complications listed above that occur in the oral cavity with diabetes mellitus must be taken into account when planning orthopedic treatment, namely, when prosthetics are removable. An integrated approach to the treatment of patients with diabetes mellitus is recommended. First of all, consultation with an endocrinologist is required to determine the type of diabetes mellitus, the degree of compensation, determine and control the patient's immunological status, and each clinical stage should be accompanied by an express control of glucose levels. The doctor must remember that with an elevated blood sugar level, it

is advisable to postpone orthopedic treatment until the compensation phase.

The main role in controlling the progression of complications of oral tissues in orthopedic treatment is played by improving the level of oral hygiene and compliance with the standards of hygienic care for prostheses. It is necessary to use the hygiene algorithms used in inflammatory periodontal diseases, since patients with diabetes are most prone to gingivitis, periodontitis, fungal lesions of the mucous membrane, xerostomia and, as a result, the development of caries.

Despite the active development over the past century of modern medicine with the development and implementation in clinical practice of innovative methods for diagnosing and treating acquired general somatic pathological conditions and the pharmaceutical industry, with the production of the latest forms of increasingly effective drugs, at the moment there are still diseases, the complete relief of symptoms of which and Unfortunately, 100% cure of these patients is not yet possible. One of these diseases is the scourge of our time - diabetes mellitus [7, 10]. According to a recent national screening study for type 2 diabetes mellitus, it was found that this form of endocrinopathology was detected in 5.4% of those examined, of which half - 2.9% - were not previously diagnosed. According to statistics, 1 out of 11 people in the world suffers from diabetes, and 5 million people die every year [4, 11]. According to the federal register, 9 million patients have been registered to date, which is 5.7% of the Russian population [8, 14]. According to forecasts, by 2025 the number of patients will double, and by 2030, according to the calculations of the International Diabetes Federation, there will be 500 million people with this diagnosis. Almost half of diabetic patients are in the 40-59 age group. Type 2 diabetes is diagnosed in 80-97% of patients, mainly in the elderly.

Dental markers of type 2 diabetes mellitus include the condition of the oral mucosa due to an increase, by almost an order of magnitude, compared with healthy people, of glucose content, an increase in calcium levels and a decrease in phosphorus levels, in which there is a violation of the secretion of the salivary glands, manifested as xerostomia. Disturbances in periodontal tissues occur as a result of mutually aggravating processes, on the one hand, type 2 diabetes mellitus has a destructive effect on the periodontium through pathogenetic pathways leading to the development of diffuse diabetic osteoporosis with varying degrees of bone tissue atrophy, peripheral diabetic polyneuropathy, impaired oral fluid secretion and immunological status ; on the other hand, the presence of periodontitis in a patient, by increasing the body's resistance to insulin, leads to an increase in the level of glycemia. Type 2 diabetes mellitus has a destructive and inflammatory effect on the state of all organs and tissues of the oral cavity. An orthopedic examination revealed that in patients taking insulin therapy and using various types of removable orthopedic structures, the dental status is characterized by progressive atrophy of the edentulous alveolar processes of the jaws, as a result of progressive bone resorption. Violation of salivation in the direction of its decrease leads to irritation of the oral mucosa, burning sensation and pain syndrome, in addition, there is a perversion of taste sensitivity. A decrease in immunoresistance, coupled with poor oral hygiene, is accompanied by manifestations of candidiasis. Gingivitis and periodontitis of varying severity occur in the periodontal area of existing teeth. These phenomena lead to the rapid loss of the remaining teeth, which leads to a further shortening of the service life of existing prostheses and the speedy replacement of partial removable structures with complete removable prostheses.

Before the start of orthopedic intervention, 100% of the studied patients were found to have various stages of gingivitis and periodontitis, in connection with which all patients underwent oral cavity sanitation, which includes the necessary complex of therapeutic, surgical and periodontal interventions with the relief of all available infectious and inflammatory diseases. Phenomena to maintain the proper level of oral hygiene before the start of prosthetics, all patients were trained in oral hygiene, and it was recommended to replace the existing ones and purchase the necessary additional means of hygiene and prevention of dental health. Depending on the clinical situation and the treatment plan we chose, we divided the studied patients into 3 groups: 1 - patient’s prosthetized with partial removable laminar dentures, 2 - patients prosthetized with complete removable laminar dentures, 3 - patients ents prosthetized with clasp prostheses. All patients previously used various types of removable orthopedic structures and had the skills to adapt and operate them. All types of removable prostheses for each of the groups of patients were made by us within the established period - 14 working days, a schedule of scheduled examinations was developed starting from the moment of the last visit, including the fixation of the orthopedic structure in the oral cavity of each

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patient: 1 visit - was carried out in a day , 2e - after 7 days, 3e - after 14 days, 4e - after 1 month, 5e - after 3 months. All studied patients were at the appointed time for a scheduled examination. Our statistical data showed that the incidence of the above symptoms in patients of group 1 was 30%, group 2 - 60%, group 3 - 10% of cases. The pathological symptoms arising in the process of adaptation completely disappeared as a result of medical corrections of the boundaries of the bases of the prostheses and the observance by patients of all hygiene and prevention measures in 96% of patients, in 4% of cases we detected the accumulation of soft plaque on the bases and artificial teeth of the prostheses as a result of a violation of the prescribed hygiene protocol oral cavity in patients over 70 years of age. Complete adaptation of patients to the fabricated constructs occurred in 100% of cases by the end of the study period. Patients are recommended further dynamic monitoring 3 months after the last visit, then every 6 months for the entire period of using the installed orthopedic structures, as well as a mandatory visit to a periodontist every 6 months for patients with partial types of removable dental prostheses in order to stop a possible deterioration in the condition. Periodontal tissues and increase the period of remission of periodontal pathology.

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