

THE EFFECTIVENESS OF THE USE OF ANTIOXIDANT DRUGS IN THE TREATMENT OF GENERALIZED PERIODONTITIS

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<https://doi.org/10.5281/zenodo.10581813>

Abstract

In the pathogenesis of dystrophic inflammatory processes of periodontal disease, a significant place is assigned to disorders of lipid metabolism, lipid peroxidation and antioxidant protection. Therefore, it is important to find out the effectiveness of using antioxidant drugs. To determine the effectiveness of the use of coenzyme Q10 in the complex treatment of patients with generalized periodontitis.

Keywords: generalized periodontitis, treatment, coenzyme Q10

An important role in the pathogenesis of dystrophic inflammatory processes in periodontal tissues belongs to disorders of lipid metabolism, lipid peroxidation and antioxidant protection [3, 5, 6, 7]. The use of various therapeutic agents does not always have an effective effect on these mechanisms of periodontal diseases, so the problem of treating dystrophic inflammatory periodontal diseases remains relevant today [5-7]. Taking this into account, the use of antioxidant drugs in the complex treatment of periodontal diseases is justified. Coenzyme Q10 acts by converting fatty acids in the mitochondria to produce creatine phosphate and ATP. This increases the energy potential of the cell, reduces cholesterol in the blood, and restores the processes of oxidative phosphorylation [1, 2, 9]. Studies conducted over the last decade indicate the high effectiveness of the use of the drug coenzyme Q10 in the treatment of various diseases [1,2, 9]. An analysis of literary sources on the use of this drug showed that coenzyme Q10 was practically not used to treat patients with periodontal tissue diseases. The purpose of this study was to determine the effectiveness of the use of coenzyme Q10 in the complex treatment of patients with generalized periodontitis. 22–65 years old for generalized periodontitis of the I–II degree of chronic course. The main group consisted of 40 patients in whom coenzyme Q10 was used in the complex treatment of generalized periodontitis. The control group consisted of 15 patients who received standard treatment. A thorough examination of the condition of periodontal tissues was carried out in all patients before and after treatment. A clinical examination of the condition of periodontal tissues began with an examination and assessment of the condition of the teeth, periodontium and the oral cavity as a whole. The intensity and prevalence of the dystrophic inflammatory process in the periodontium was assessed using the Shiler-Pisarev test [10]. To quantify the inflammatory process, the PMA index according to CO was used. Parma [12], for clinical assessment of periodontal condition, the perio-

dontal index was determined according to A.L. Russell[13]. Quantitative and qualitative assessment of the state of oral hygiene was carried out using the Fedorov-Volodkina index [11]. When examining periodontal pockets, their depth was measured using a graduated probe or a smoothing tool with millimeter divisions. To assess the nature of discharge (serous or purulent) from periodontal pockets, a benzidine test according to S. Sorrin was used [14]. Differential diagnosis of periodontal and gum pockets was carried out using a formalin test according to C. Parma [12]. Pathological tooth mobility was determined according to D.A. Entin [5]. The resistance of periodontal tissue vessels was determined according to V.I. Kulazhenko [5, 8]. The diagnosis of periodontal disease was carried out according to the classification of M.F. Danilevsky [4]. All patients with generalized periodontitis underwent thorough removal of all periodontal tissue irritants (dental plaques, tartar, poor-quality fillings, dentures, etc.). For more effective drug treatment of patients with generalized periodontitis, an individual mouth guard was used to contain the drug. For this purpose, an imprint of the dentition was taken. This individual mouthguard was processed: excess material and sharp edges were cut off and adjusted within the selected limits of the dentition so that it did not injure the oral mucosa and periodontal tissue. After removing dental plaque, periodontal pockets were treated with an antiseptic solution (for example, hydrogen peroxide, chlorhexidine, etc.). Subsequently, a solution of coenzyme Co Q10 was injected into the periodontal pockets and mouth guard and the mouth guard was put on for 15–20 minutes (the patient bit the mouth guard and held it in the mouth. Patients in the control group were injected with Metrogyl Denta ointment into the periodontal pockets. blood in the area of the affected periodontal tissue patients were prescribed finger massage of the gums for 1–2 minutes 5–6 times a day. As a general treatment, patients of the main group were prescribed the drug coenzyme Q10 “Coenzyme Q10” in capsules, one capsule twice a day. The duration of the course of treatment was 5– 6 days.

Patients in the control group, after careful removal of all periodontal tissue irritants, were injected with Metrogyl Denta ointment into the periodontal pockets and prescribed rinsing the mouth with Givalex solution daily for 5-6 days.

The results of the study are discussed. When treating patients with generalized periodontitis according to the proposed treatment method using the drug coenzyme Q10, in patients with chronic generalized periodontitis, bleeding, a feeling of heaviness, pain and itching in the gums of 3 patients decreased after just 1-2 visits. And the degree of chronicity of generalized periodontitis, inflammation in the gums almost completely disappeared in all those examined. The mucous membrane acquired a pale pink color, was dense, swelling and hyperemia were not observed. The Schiller-Pisarev test was negative. The depth of periodontal pockets was significantly reduced. The pathological mobility of teeth decreased noticeably. On a radiograph (1-1.5 months after the start of treatment), a decrease in the number of osteoporosis of the alveolar bone was observed. Unpleasant subjective sensations in the gums disappeared. Discharge from periodontal pockets significantly decreased and disappeared. On radiographs (1-1.5 months after the start of treatment), a decrease in the number of osteoporosis phenomena in the alveolar bone of the jaws was also observed. Favorable treatment results are evidenced by data from an index assessment of the periodontal condition and functional tests. After treatment, the state of oral hygiene improved: the hygiene index decreased from 2.5 ± 0.25 to an average of 0.7 ± 0.27 . The level of gum inflammation decreased, as evidenced by a change in the PMA index from 57.24 ± 2.45 to $23.45 \pm 1.85\%$ after treatment. The resistance of periodontal vessels increased: before treatment, a vacuum hematoma formed in 11.8 seconds; after treatment, the time for hematoma formation increased to 28 ± 2.0 seconds. The periodontal index remained practically at the same level. The depth of periodontal pockets decreased from 2.6 ± 3.7 to 1.4 ± 0.25 mm. In patients with generalized periodontitis in the control group, treatment periods were longer, and the number of patient visits required to achieve the effect increased. Thus, with grade I of the chronic course of generalized periodontitis, a decrease in pain and bleeding of the gums, the depth of periodontal pockets and discharge from them was achieved on average after 6-7 visits, and with grades I, I-II, almost after ten. generalized periodontitis with the use of the drug coenzyme Q10, a significant improvement in the condition of the periodontium was observed. The proposed treatment method made it possible to eliminate the manifestations of inflammation and achieve stabilization of the dystrophic inflammatory process in the periodontium in a short period of treatment. In the immediate term of treatment, there is a more pronounced normalization of clinical indicators that characterize dystro-inflammatory processes in the periodontium. This makes it possible to achieve significant suppression of the dystrophic inflammatory process in the periodontium, as evidenced by the positive dynamics of changes in periodontal indices.

Conclusions

The proposed treatment method, taking into account the dynamics of positive changes in periodontal tissues, allows us to achieve a reduction in treatment time and increase the clinical effectiveness of treatment of patients with generalized periodontitis.

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