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## EXPERIENCE OF SYSTEMIC TREATMENT OF PATIENTS WITH TOOTH HYPERSENSITIVITY

In the modern context, most European countries face a noticeable tendency of increased prevalence in non-carious lesions of hard dental tissues. It is fully related to the hypersensitivity of teeth (HT), which can exist as an independent disease, as well as to accompany other non-carious lesions and periodontal diseases [1, 3]. In recent years, new medications have been introduced in the dental market for treating HT, having different chemical composition and mechanism of action. However, their effective use is sometimes impeded due to the fact that functional and structural changes in the tissues of the tooth and periodontium occur against the background of disrupted general metabolic processes. Therefore, it is quite obvious that a significant increase in the effectiveness of treating patients with HT can be achieved through a comprehensive approach to eliminating its manifestations [2, 4, 5].

Significant interest is the work in which the relationship between disorders of calcium-phosphorous homeostasis at the level of an organism and the development of HT is established. As is known, the constant content of calcium in serum plays an extremely important role in providing vital processes of vital activity of the organism, such as enzymatic reactions, the functioning of mitochondria and cell membranes, intercellular communication, neural transmission, muscle contraction, blood clotting, etc. Given that 99% of the calcium of the entire human body is found in bone tissues

and solid tissues of teeth, they act as a reserve bank of this trace element in the event of a calcium deficiency in the serum. It is clear that the violation of calcium-phosphorus metabolism due to neuroendocrine and immune disorders, diseases of the digestive system, blood, kidneys, etc. can not adversely affect the processes of mineralization of solid teeth.

In our opinion, normalization of phosphorous-calcium metabolism in the body and the restoration of the processes of mineralization of enamel and dentin in the tissues of teeth should play a significant role in treating HT. Restoration of the processes of mineralization of enamel and dentine is carried out very slowly, therefore it is necessary to combine general and local therapy. Endogenous methods of treatment do not allow to get a quick result, but deeper influence on the processes of mineral metabolism in the body, preserving the achieved effect for a long time.

The aim of the research is to optimize the treatment of patients with hypersensitivity of teeth by joint using of the modern desensitizer "Gluftored" and "Calcium-D<sub>3</sub> NicoMed" for the correction of calcium-phosphorus metabolism.

**Materials and methods**. Our study was based on the results of examination and treatment of 68 patients with HT. In the examination of patients, the uniform integrated program aimed at finding out the local causes and identifying systemic risk factors for the disease was applied, with a compulsory assessment of its mineralizing potential.

To determine the clinical efficacy of the comprehensive therapy of calcium preparations, all patients were divided into two groups, relatively equal in number (group I comprised 33 patients, and group II – 35 patients). Topical treatment of patients of the 1st and 2nd groups was conducted by applying the "Gluftored" preparation to the sensitive surfaces of teeth. Patients of the 1st group were recommended a balanced diet to correct calcium-phosphorus metabolism. In the comprehensive treatment of patients in the 2nd clinical group, "Calcium-D<sub>3</sub> NicoMed" was used.

**Research results**. The assessment of the sensitivity of hard dental tissues allowed us to perform the following distribution of patients: in 14 patients (20.6%) HT of degree I was detected, in 31 (45.6%) – degree II, in 23 (33.8%) – degree III. Thus, among

patients under study, subjects with a more pronounced intensity of pain were prevalent. Analysis of the parameters of saliva microcrystallization before treatment allowed us to reveal its significant decrease, as well as to establish the relationship between the magnitude of its mineralizing potential and the severity of clinical manifestations in HT. Hence, if in HT of degree I the average index of mineralizing potential of saliva was 2.8  $\pm$  0.4 points, at the second stage – 2.1  $\pm$  0.7 points, then in patients with HT of degree III its value decreased to 1.4  $\pm$  0.3 points.

Subsequent examinations, during which the regression dynamics of the signs of this pathological condition was detected in patients with HT under the influence of therapy, it was found that this process was more effective in group II. Thus, in the 2nd clinical group, 2 weeks after initiation of treatment, although all patients reported a decrease in pain intensity and a number of stimulants that caused them, but only in 6 patients (85.7%) with HT of grade I, 9 (60%) – with HT of grade II and 6 (54.5%) – with HT of grade III – complaints were completely absent. The tests conducted after 3 months found that the results of treatment of 24 patients (72.7%) were stable. In 9 patients (27.3%), there was a recurrence or increase in the symptoms of the disease, in connection with which they were asked to undergo a re-treatment procedure of teeth with desensitizers. In 12 months, only 19 patients (57.6%) did not require re-treatment. Indicators of mineralization potential of saliva in patients of group I have not undergone significant positive changes.

In the 2nd clinical group, already in 2 weeks after the initiation of treatment, positive dynamics was observed in all patients of this group. Thus, complete elimination of pain sensations was recorded in 7 patients (100%) with HT of degree I, 14 (87.5%) – with HT of degree II and 8 (66.7%) – with HT of degree III. In 2 patients (12.5%) with HT of degree II and 3 patients (25%) with HT of degree III, a decrease in the intensity of HT to the values corresponding to HT of degree I was observed. One patient (8.3%) with HT of degree III, diagnosed before treatment, this index has changed to degree II. Long-term results of therapy in patients of group II indicated that in all cases the achieved therapeutic effect remained stable, relapse of the disease was not observed. There was also an improvement in the mineralization properties of saliva in all patients

of group II. Thus, in patients with HT of degree I, the index of mineralization potential in 1 month after initiation of treatment on average increased to  $3.53 \pm 0.6$  points, in persons with HT of degree II was  $3.15 \pm 0.5$  points, degree III –  $3.02 \pm 0.6$  points. The research, conducted after 1 year, has established further improvement of these indicators. In patients with HT of degree I, this indicator was  $3.85 \pm 0.7$  points, in patients with HT of degree II –  $3.64 \pm 0.4$  points, in patients with HT of degree III –  $3.61 \pm 0.3$  points.

Thus, the use of the proposed treatment regimens with application of "Calcium- $D_3$  NicoMed" allowed us not only to achieve a noticeable therapeutic effect in relation to the clinical manifestations of HT, but also had a positive effect on the parameters of microcrystallization of saliva, which indirectly indicates the normalization of phosphorous-calcium metabolism in the body of patients. The effectiveness of the proposed therapeutic regimens, confirmed by clinical and laboratory studies, allows them to be recommended for widespread introduction into dental practice to improve the quality of treatment for patients with HT.

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