

Modern Methods of Treatment of Chronic Periodontitis on the Background of Iron Deficiency

Norbutayev Alisher Berdikulovich, Rizayev Jasur Alimjanovich

Department of Stomatology №1, Samarkand State Medical Institute, Uzbekistan

Abstract In patients with iron deficiency anemia, insufficient oxygen saturation of organs and tissues occurs, so there are negative changes in their trophism, impaired function of the salivary glands, which leads to a decrease in its secretion and buffering ability. This condition, in turn, predisposes to dental caries. As a result, various dental diseases are noted, in particular, an increase in the number of carious teeth, discoloration of the enamel and impaired healthy washing, paresthesia and dryness of the oral mucosa, atrophy of the tongue, as well as pathologies of the hard tissues of the teeth, periodontium and oral mucosa. cases and severity increase. In addition, the discomfort and pain associated with dental caries, in turn, make it difficult to eat, leading patients to consume less of certain foods that contain iron, which is an additional reason for the development of iron deficiency.

Keywords Chronic periodontitis, Iron deficiency anemia, Ferritin, Transferritin, Iron deficiency condition

1. Introduction

When there is a deficiency or increase in macro- and micronutrients in the human body, resistance to adverse environmental factors decreases, immune deficiencies develop, antioxidant immune system malfunctions, diseases become chronic, the risk of developing communicable diseases increases, quality of life and treatment effectiveness decrease. One of the vital trace elements of the human body is iron. Its deficiency in the body is an important medical and social problem that causes the development of pathologies such as iron deficiency anemia and iron deficiency cases. In such cases, protein and mineral metabolism is disrupted, leading to functional and morphological changes in all organs, including the oral mucosa and periodontal tissue. [2,6]

In patients with iron deficiency anemia, insufficient oxygen saturation of organs and tissues occurs, so there are negative changes in their trophism, salivary gland function is impaired, which leads to a decrease in its secretion and buffering ability. [1,4,5] This condition, in turn, predisposes to dental caries. As a result, various dental diseases are noted, in particular, an increase in the number of carious teeth, discoloration of the enamel and impaired healthy washing, paresthesia and dryness of the oral mucosa, atrophy of the tongue, as well as pathologies of the hard tissues of the teeth, periodontium and oral mucosa. cases and severity increase. [3]

2. The Aim of the Study

The aim of the study was to improve the comprehensive treatment of chronic periodontitis developed on the basis of iron deficiency status and anemia.

3. Object of Research

In this study, 100 patients (average age 34.5 ± 14.5) were admitted to the Samarkand Regional Dental Clinic with diseases of the oral cavity for various reasons, including chronic periodontitis. Of these, 33 were men and 67 were women. In the first group, i.e. 50 patients, antianemic (combined iron II oxide - sorbifer durules / ascorbic acid) treatment and complex treatments in combination with glycodent gel were performed for standard periodontal treatments. It is recommended to take Sorbifer durules / ascorbic acid tablet 1 tablet 4 times a day, then 1 tablet 2 times a day until the blood is full of iron and ferritin reserves. Glycodent gel was prescribed to patients in the first period of treatments twice a day in the morning and evening after brushing teeth 1 tablespoon, after taking a little hold in the mouth and rinse in warm water. For the next 7-8 days, 1 teaspoon was ordered 1 time.

50 patients in the second group underwent standard periodontal procedures.

4. Results and Observations

In patients with chronic periodontitis, when the changes in the oral cavity were accompanied by a state of iron

deficiency, the hygiene index was very high before the complex treatment was 3.2 ± 0.12 . After complex treatment with glycodent gel and iron II sulfate - sorbifer durules / ascorbic acid in the standard treatment of periodontitis, the OHIS index was 1.36 ± 0.3 and changed to a positive positive ($P < 0.05$) compared to pre-complex treatment. Patients also had a mild look and a significant reduction or complete disappearance of tartar.

In the treatment of disseminated periodontitis, only in the second group, where its standard treatments were performed before and after treatment, the OHIS index was 3.4 ± 0.13 and 1.82 ± 0.7 , respectively. When chronic periodontitis is associated with iron deficiency, glycodent gel and iron-II sulfate-sorbifer durules / ascorbic acid are added to the standard treatment and the oral cavity is improved.

We also used the CPITN index indicators recommended by WHO experts to assess the condition of periodontal tissue in our follow-up. During the examination, each patient was identified with the most negative indicator of the degree of periodontal tissue injury (the highest code recorded in the examination) and the total number of injured sextants. The prevalence and intensity of pathological symptoms were then calculated when examined on the basis of the recorded data. When studying the results of the CPITN index, the following three indicators of change were noted: bleeding gums, the presence of upper and / or lower tartar, pockets of different depths (5-6 mm and larger) indicating the condition of periodontal tissue. When chronic periodontitis is accompanied by iron deficiency, glycodent gel and combined iron - II sulfate - sorbifer durules / ascorbic acid with complex treatment before and after treatment in group I patients with CPTIN index of 2.58 ± 0.3 and 1.2 ± 0 , respectively, ($P < 0.05$). The results have changed for the better.

When group II, i.e. periodontitis, was treated only with standard treatment, the values were 2.48 ± 0.3 and 1.8 ± 0.4 , respectively.

When chronic periodontitis was accompanied by iron deficiency and patients underwent complex treatments with glycodent gel and combined iron-II sulfate - sorbifer durules / ascorbic acid, papillary-marginal-alveolar parameters were reduced to 4.4 times. These figures confirm a significant positive change in the condition of the oral cavity after complex treatments ($P < 0.05$).

In the second group, ie patients treated only with standard treatment of chronic periodontitis, these values decreased by 92.3 ± 0.7 and 34.3 ± 0.7 , or 2.69 times, respectively. Although these figures showed a convincing change in the positive direction, $R < 0.05$, it was significantly lower than in the first group.

A study of the state of microcirculation in the periodontium when chronic periodontitis was associated with iron deficiency anemia showed the following.

In the first group of patients (with the addition of glycodent gel and antianemic drug sorbifer durules / ascorbic acid to the treatment) microcirculation, its square root deviation from the basal blood flow, reliable positive in

the coefficient of blood flow variation ($R < 0.05$, $P < 0.01$, $P < 0.001$ in all cases) changes were observed.

Although positive reliable changes were observed in the second group of patients (standard treatment of chronic periodontitis only), they were not highly reliable ($R < 0.05$ in all cases).

In chronic periodontitis, the combined use of standard treatments with glycodent gel and antianemic drug has been shown to have a positive effect on the microcirculation of oral tissues.

The results confirmed the presence of periodontal health indices and reliable positive changes in its microcirculation with the addition of antianemic drug sorbifer durules / ascorbic acid to the standard treatment of periodontitis in chronic periodontitis with iron deficiency. Also, a step-by-step multifactor regression analysis showed that there is a correlation between the eating habits of patients with OHIS, PMA, CPITN indices, harmful habits.

5. Conclusions

1. In the group treated with chronic periodontitis combined with iron deficiency, antianemic and glycodent gel, capillary-marginal alveoli decreased by 4.4 times, ie oral health status was positively confirmed ($R < 0.05$);
2. In the first group undergoing complex treatment, positive changes in periodontal microcirculation were also detected. In particular, reliable positive changes in the mean square deviation of basal blood flow to the microcirculation, the coefficient of variation of blood flow were detected ($R < 0.01$ and $P < 0.001$).

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