

RESULTS OF THE EFFECT OF COMPLEX TREATMENTS ON PERIODONTAL MICROCIRCULATION IN CHILD PERIODONTITIS WITH IRON DEFICIENCY

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Abstract. The results of the effect of complex treatment on periodontal microcirculation in patients with chronic periodontitis occurring with an iron deficiency state.

Purpose of the study: to study periodontal microcirculation in patients with chronic periodontitis occurring against the background of iron deficiency states.

Materials and methods: As the research sources, 100 patients who applied to the Samarkand regional dental clinic suffering from chronic periodontitis and iron deficiency were selected. The patients were divided into 2 groups, of which 1 main group consisted of 50 patients who received glycodent gel and an iron preparation (combined iron (II) sulfate - sorbifer durules / ascorbic acid). The second group received the generally accepted standard therapy for chronic periodontitis. The diagnosis of iron deficiency states was established by determining the parameters of iron and ferritin in the blood. Microcirculation was studied using the "Lazma" apparatus (Russia).

Results and discussion: A positive effect on microcirculation of the complex of treatment with glycodent gel and an antianemic drug for chronic periodontitis with an iron deficiency state was revealed.

Keywords: chronic periodontitis, iron deficiency states, iron, microcirculation.

Introduction. It is known that disorders of iron metabolism in the human body for various reasons, including all organs, cause negative changes in blood circulation in the oral cavity, especially in the periodontium [3,4,5]. This condition leads to changes in the microcirculation due to the imbalance of its demand for oxygen. This in turn triggers chronic inflammatory processes in periodontal tissues. In this regard, the study of periodontal microcirculation in chronic periodontal disease accompanied by iron deficiency status and deficiency is of scientific and practical importance.

The introduction of non-invasive laser Doppler fluorometry (ADF) in the study of microcirculation in practice has opened up new prospects for the detection of microcirculatory changes in periodontal tissue [1,2].

It is known that disruption of the blood supply to tissues as a result of anemia leads to the development of an imbalance in their metabolic needs. It has a negative effect on all organs and systems, including periodontal status [3,4,5].

Inspection materials and methods.

The source of the study was selected 100 patients with diseases of the oral cavity for various reasons, including chronic periodontitis, for the Samarkand regional dental clinic. All

patients were divided into 2 groups (primary and control) and treated in an outpatient setting. The first group consisted of 50 patients with glycodent helium and iron (combined iron-II sulfate - sorbifer durules / ascorbic acid individually until iron and ferritin reserves were replenished) for complex treatment of periodontitis, and the second group with 50 patients with generally accepted standard treatment of periodontitis. The recommendations of the International Classification of Diseases of the Periodontitis - C (standard treatment of diseases of the oral cavity, salivary glands, jaw: curettage, pharmacotherapy, analgesics and anti-inflammatory drugs and antiseptics used in rinsing) were used.

Examination and follow-up of patients were performed in collaboration with the therapist. The mean age of the patients was 34.5 ± 14 , with men and women in group I being 16 and 34, respectively, and in group II being 18 and 32, respectively. The duration of chronic periodontitis in the examined patients was 5.3 ± 0.4 and 5.1 ± 0.3 years, respectively, in the groups.

In accordance with the set goal, both groups underwent separate excellent dental clinical and laboratory-instrumental examinations.

Dental diagnosis was based on: a thorough dental examination of the oral cavity, assessment of the hard tissue condition of the teeth, and an index of hygienic and periodontal status.

In order to assess the state of iron deficiency, iron, ferritin, transferrin and its saturation were detected in the blood.

The inspection plan included:

- ✓ Perfect patient complaints, collection of medical history and objective examination;
- ✓ Fill in the questionnaire prepared by us;
- ✓ Thorough dental examination;
- ✓ Examination by a hematologist or therapist to confirm the state of iron deficiency;
- ✓ Carrying out special biochemical tests to determine the general clinical and laboratory status of iron deficiency.

Determination of microcirculation of mucous membranes and periodontal tissues by laser Doppler fluorometry was studied using the device "LAKK-02", a product of microcirculation "Lazma" IChK (Russia). The examination is performed in a poorly lit room while the patient is lying down. The sensor was placed in the area of the gums attached without excessive pressure. Indicators in each area of the milk were recorded for 2 min.

Laser beam probing is the basis of this method. Analysis of light reflected from the tissue is based on the separation of the Doppler shift signal, which records the number of signals reflected in proportion to the speed of movement of erythrocytes; The result is recorded as a change in blood flow in the microcirculatory system (fluometry).

The alveolar, marginal surfaces of the gums and the area of adhesion of the gums are examined in the projection of the root apex of the teeth being examined. LDF-gram was analyzed using software: calculation of the average value of blood perfusion in the tissue - M, its "flexion" - the standard deviation of basal blood flow changes - OKO, coefficient of blood flow changes - Kv, as well as analysis of hemodynamic rhythm amplitude velocity spectrum (lower velocity - LF, ultra-low velocity - VLF, high velocity - HF, pulse wave) flaxomotsi index - taking into account IFM, microtomor tone - TT, intravenous resistance - R, blood shunt - PC, myogenic tone - MT and neurogenic tone - NT indicators were calculated.

Conclusions and discussions

A study of periodontal microcirculation in chronic periodontitis with anemia showed the following. It was noted that in the first group of patients treated complex with the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid), the microcirculation changed significantly after treatment compared with those who received standard periodontal treatment (Table 1).

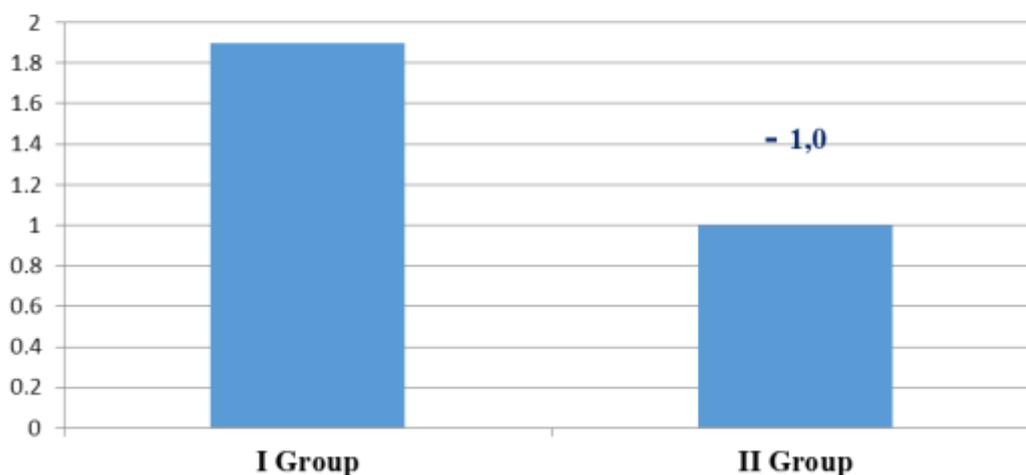
Table №1: When chronic periodontitis is accompanied by iron deficiency, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid) is a complex and only after standard treatment of periodontal microcirculation (peripheral unit)

№	Groups	Before Treatments	After Treatments	P
1	Complex treatment of chronic periodontitis with glycodent gel and iron-II sulfate (sorbifer durules / ascorbic acid) n = 50	44,5±1,2	23,2±0,9	<0,001
2	The standard treatment for chronic periodontitis is n = 50	40,8±0,7	37,6±1,2	<0,05

As shown in the table, the values in the first group varied from 44.5 ± 1.2 to 23.2 ± 0.9 peripheral units ($P < 0.001$). In the second group, these values ranged from 40.8 ± 0.7 to 37.6 ± 1.2 ($P < 0.05$).

At the same time, in the first group of patients receiving glycodent gel and iron in addition to the complex treatment of chronic periodontitis, the tension was reduced by 1.9 times. In the absence of complex treatment with the addition of glycodent gel and combined iron-II sulfate, the decrease in stress index was 1.0 (Diagram 1).

In case of chronic periodontitis with iron deficiency, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules) is a complex and only reduction of microcirculatory stress after standard - 1,9 treatment of periodontitis.



In addition to the microcirculatory status, we also studied the mean square deviation of its basal blood flow in the patients in our follow-up, and the following were identified.

Chronic periodontitis is characterized by iron deficiency and arthritis, and in the first group, which underwent complex treatment with glycodent gel and combined iron-sulfate (sorbifer durules / ascorbic acid), the mean square deviation of microcirculatory basal blood flow was 21.2 ± 0.7 to 8.6 ± 0.3 perf. decreased to unity.

The values were 23.2 ± 0.6 and 21.2 ± 0.5 , respectively, when standard periodontal treatments were performed only without the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid).

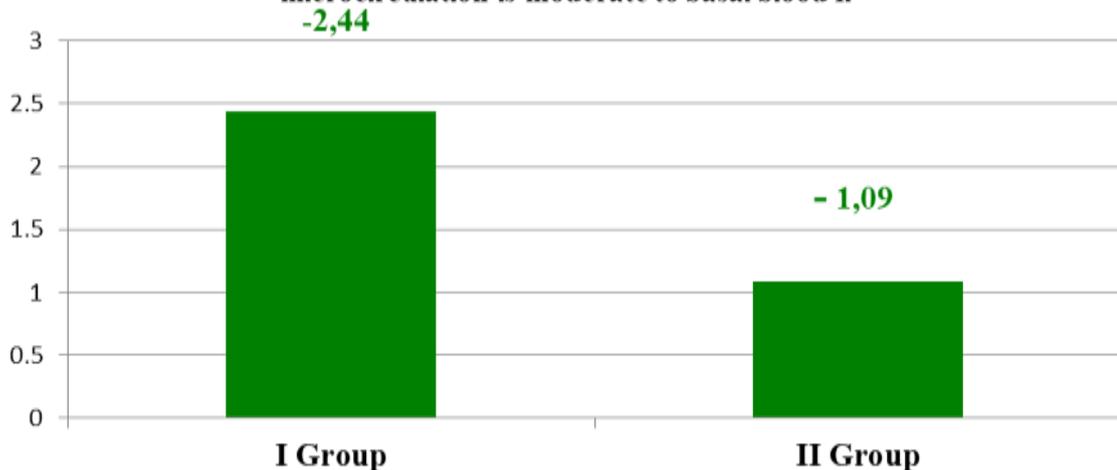
Table №2: When chronic periodontitis is accompanied by iron deficiency condition and anemia, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid) is complex and only after standard treatment of periodontitis indicators of average square deviations of microcirculation basal blood flow (peripheral unit)

№	Groups	Before Treatments	After Treatments	P
1	Complex treatment of chronic periodontitis with glycogen gel and iron-II sulfate (sorbifer durules / ascorbic acid) n = 50	21,2±0,7	8,6±0,3	<0,01
2	The standard treatment for chronic periodontitis is n = 50	23,2±0,6	21,2±0,5	<0,05

The figures in the second group indicate the low effectiveness of the treatment.

Indeed, in patients in the first group, the mean square deviation of basal blood flow to the microcirculation decreased by -2.44 times in the first group and by 1.09 times in the second group.

In chronic periodontitis with iron deficiency, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid) is complex, and only after standard treatment of periodontitis, the microcirculation is moderate to basal blood fl



Indicators of blood flow variation coefficient in both groups of patients in our follow-up were also studied. In the first group of patients with chronic periodontitis undergoing

complex treatment with the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid), the values before and after treatment were 40.2 ± 0.72 and 25.4 ± 1.2 , respectively. was equal to.

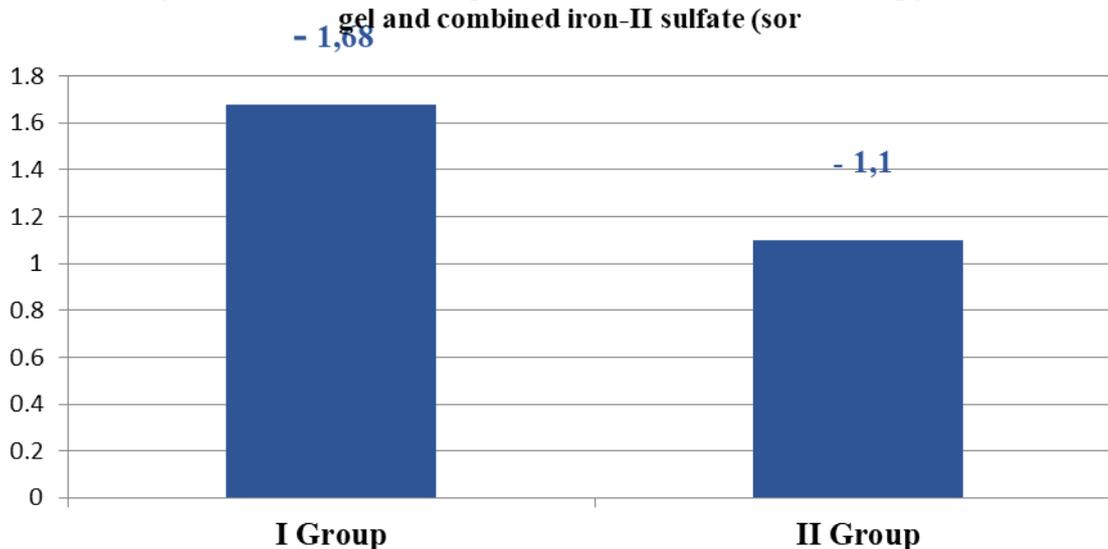
When chronic disseminated periodontitis was treated only with standard treatment, these numbers were 41.2 ± 0.8 and 37.3 ± 1.4 , respectively, before and after treatment (Table 3).

Table №3: When chronic periodontitis is accompanied by iron deficiency and anemia complex with the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid) and the coefficient of variation of blood flow only after standard treatment of periodontitis

№	Groups	Before Treatments	After Treatments	P
1	Complex treatment of chronic periodontitis with glycogen gel and iron-II sulfate (sorbifer durules / ascorbic acid) n = 50	42±0,72	25,4±1,2	<0,001
2	The standard treatment for chronic periodontitis is n = 50	41,2±0,8	37,3±1,4	<0,05

The table shows that in the first group of patients, the variation in blood flow decreased by 1.68 times, and in the second group by 1.1 times. This suggests that the results in the group to which the glycodent gel and antianemic drug were added were significantly more reliable (Figure 3).

In chronic periodontitis with iron deficiency, the coefficient of variation of microcirculatory blood flow after complex treatment of complex and only standard treatment of periodontitis with the addition of glycodent gel and combined iron-II sulfate (sor



In addition to the above, the phlox index, one of the indicators of microcirculatory status in the observed patients, was also studied.

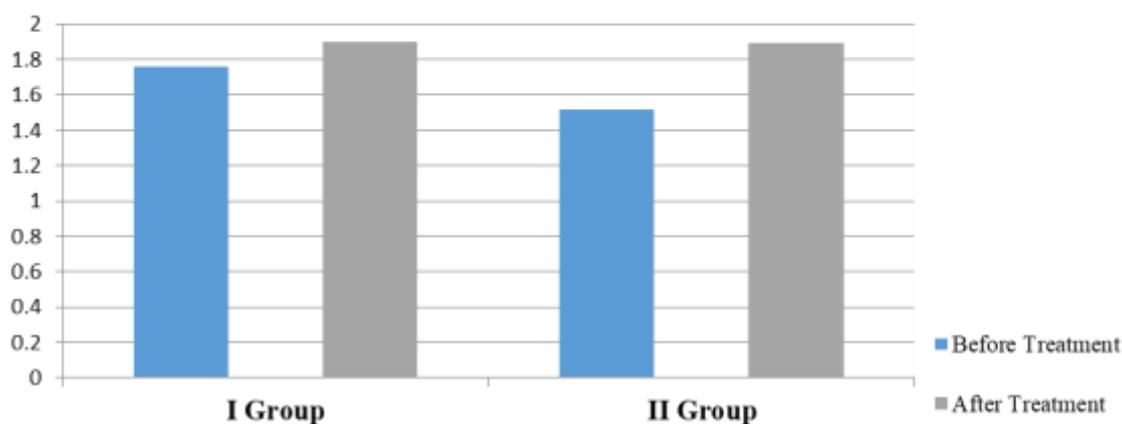
In chronic periodontitis with iron deficiency anemia and complex treatment with a combination of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid), the phloxmox index before and after treatment is 1.76 ± 0.03 to 1.9 ± 0.02 , respectively. Increased to 0.02. In patients with chronic periodontitis treated only with standard treatment, the values before and after the treatments were 1.87 ± 0.04 and 1.88 ± 0.03 , respectively. Uncertainty of change was noted in both groups (Table 4).

Table №4: When chronic periodontitis is accompanied by iron deficiency and anemia, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules / ascorbic acid) is a complex and only after standard treatment of periodontitis, the value of the phloxmox index

№	Groups	Before Treatments	After Treatments	P
1	Complex treatment of chronic periodontitis with glycodent gel and iron-II sulfate (sorbifer durules / ascorbic acid) n = 50	$1,76 \pm 0,03$	$1,9 \pm 0,02$	<0,05
2	The standard treatment for chronic periodontitis is n = 50	$1,82 \pm 0,04$	$1,89 \pm 0,03$	<0,05

The microcirculatory flaccid index was found to increase by 0.9 in patients with chronic periodontitis in the first group receiving complex treatment and in patients receiving standard treatment for chronic periodontitis in the second group as shown in the table (Figure 4).

In case of chronic periodontitis with iron deficiency, the addition of glycodent gel and combined iron-II sulfate (sorbifer durules) is a complex and only after standard treatment of periodontitis increase in microcirculatory phlox index



The study of microcirculation in chronic periodontitis with iron deficiency anemia showed the following.

In the first group of patients (treatments glycodent gel and antianemic drug sorbifer durules / ascorbic acid) microcirculation, its square root deviation from the basal blood flow, reliable positive in the coefficient of blood flow variation ($R < 0.05$, $P < 0.01$, $P < 0.001$ all cases) changes were observed.

Although positive reliable changes were observed in the second group of patients (standard treatment of chronic periodontitis only), they did not occur at high levels ($R < 0.05$ 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.

Conclusions

1. When chronic periodontitis is accompanied by anemia, significant changes are observed in its microcirculatory processes.
2. In chronic periodontitis, the concomitant use of standard treatments with glycodent gel and antianemic drug combined iron II-oxide (sorbifer durules / ascorbic acid) has a positive effect on the microcirculation of oral tissues.
3. This positive effect is manifested by a moderate square deviation of the basal blood flow of the microcirculation, a reliable positive ($R < 0.05$, $P < 0.01$, $P < 0.001$ in all cases) changes in the coefficient of variation of blood flow.

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