

# CLINICAL AND DIAGNOSTIC TREATMENT OF PATIENTS WITH PHLEGMON OF THE MAXILLOFACIAL AREA WITH IRON DEFICIENCY ANEMIA

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## Abstract

Iron deficiency anemia is a disease characterized by impaired hemoglobin synthesis due to a lack of iron in the blood plasma and bone marrow and, as a consequence, impaired trophic development of organs and tissues.

211 patients (patients aged 28 to 43 years) with inflammation of the maxillofacial area applied to the Department of Maxillofacial and Plastic Surgery of the BOMMC. Of the 211 patients, 118 were included in the study group, and the remaining 93 were included in the control group. Of the 211 patients, 64 patients had purulent phlegmon of the lower jaw on the left, 52 patients had purulent phlegmon of the upper jaw, 51 patients had purulent periostitis of the upper jaw, 44 patients had purulent periostitis of the lower jaw. diagnosis of retromolar purulent periostitis.

Patients of the main group were recommended to rinse the mouth with a decoction of covulla root 10 times a day and, along with the traditional treatment regimen, drink Gyno-Tardiferon.

After taking Gyno-Tardiferon, the patients' sleep improved, they became more alert and active, the hyperemic conditions at the incision sites disappeared (as a result of stabilizing the supply of oxygen to the tissues), and a decoction prepared from the roots, leaves and forge seeds has an analgesic, antibacterial, antiseptic and passivating effect of active microflora, occupy a positive place in restoring the health of patients.

**Keywords:** Blood plasma, medicinal plant, iron substance, hemoglobin, pus, tooth, odontogen.

## Introduction

Iron deficiency anemia is a disease characterized by a violation of hemoglobin synthesis due to a lack of iron in the blood plasma and bone marrow and, as a result, a violation of the trophy development of organs and tissues. TTK has been a major problem for many years due to its widespread use. According to the World Health Organization (WHO), 2,167,400,000 people worldwide have anemia, of which 80-90%, i.e. 1,950,660,000 people, suffer from CKD. In developed countries, this indicator is lower than in developing countries. In Europe and North America, 7,511% of women of childbearing age suffer from IDA. This condition is explained by sufficient rational nutrition, high consumption of meat products and low number of pregnancies. Iron is a trace element that participates in many metabolic processes of the body. The body receives the main part of iron from apoptotic erythrocytes by recirculation. In addition, iron is taken with food and absorbed by enterocytes in the upper part of the gastrointestinal tract (GI). This part plays an important role in satisfying the body's need for iron, because anemia is often associated with



this part. During tests with D-xylose and radioactive iron, it was found that iron is absorbed in the proximal part of the OIT, in the "duodenum+small intestine" complex - [1]. Iron with food is found in heme cholate (found in animal products - meat, fish, makes up 30-40% of all iron and is better absorbed) and nonheme cholate (found in fruits, vegetables, grains, nuts and plant products, makes up 60% of all iron and relatively poorly absorbed) enters the duodenum. Here, trivalent  $Fe^{3+}$  is converted to reduce  $Fe^{2+}$  under the action of ceruloplasmin, which acts as a ferroxidase.

In the basolateral part of duodenal-intestinal enterocytes, ceruloplasmin with hefeestin converts the reduced  $Fe^{2+}$  into  $Fe^{3+}$ . This process ensures that iron is converted to transferrin without the release of toxic substances. Cytosol, divalent metallothionein, hepcidin, ferroportin, hepestein are involved in the transformation of iron from food to biometal. In the body, iron is stored in the cell, outside the cell and in reserve - [3, 6]. Cellular iron is stored in:

- 1) First of all, in hemoproteins (hemoglobin, myoglobin, cytochrome, catalase and peroxidase)
- 2) Non-heme iron-storing enzymes (succinate dehydrogenase, acetyl-coenzyme-A-dehydranase, NADNcytochrome, S-reductase and others) contain extracellular iron in transferrin and lactoferrin proteins, which carry out the function of transporting iron ions. Transferrin is a blood plasma protein included in R-globulins. In the human body, it is synthesized in the liver. Lastoferrin is a transferrin group protein that transports trivalent iron ions. Iron stores are the proteins ferritin and hemosiderin, which are stored in the liver, spleen, and muscles. Activated in the case of cellular iron deficiency. In addition, there are 80 and 90 mg of labile iron core, which can leave the blood plasma and enter the interstitial space, from it to the intercellular space, adhere to the cell membrane, and return to the plasma. A healthy person weighing 70 kg has 4.5 g of iron in his body, and it participates in the processes of metabolism of important substances in the body. Dietary iron makes up 20% of total iron in the body. The rest is made up of iron contained in enzymes such as hemoglobin, carrier transferrin, lactoferrin, and reserve ferritin and hemosiderin. The most iron-containing products (per 100 g) are beef liver 9.8 g, buckwheat groats - 8.0 g, beef tongue - 5.0 g, beans - 12.4 g, peas 9.4 g. There must be certain conditions for the absorption of iron from food products. Succinic acid, ascorbic acid, citric acid, fructose, methionine and cysteine contained in nutrients accelerate the absorption of iron, while phosphates, oxalate, calcium preservatives hinder its absorption. The amount of absorption of iron with food products is limited. The body independently controls the transfer of iron from the intestinal mucosa to the blood. If the amount of iron in the blood decreases, the iron in the mucous membrane is transferred to the blood. In the opposite case, the iron stored in the mucous membrane is combined with the end of the villi and passes into the stool and is excreted from the body. When eating healthy, if a man receives 18 mg of iron per day, 1-1.5 mg is absorbed, and if a woman receives 12-15 mg, 1-1.3 mg is absorbed - [3]. The maximum amount of absorbed iron does not exceed 2-2.5 mg. To this is added 21 mg of iron in broken erythrocytes, 11 mg of iron in the bone marrow, and 1 mg of depot iron. The total amount in 1 day is 35 mg. Consumption of iron: synthesis of hemoglobin (17-40 Mmg), physiological absorption (1 mg with waste, urine, sweat, skin epithelium). If there are imbalances in the intake and consumption of iron in the body, the lack of it in the body leads to the depletion of iron reserves in the body and the disease state. In turn, consumed plant and animal products are low in iron. Therefore, even if there is a rational diet, the body does not get enough iron. It is known that iron is transported from the intestines by special transferrin and lactoferrin enzymes. Congenital deficiency of this enzyme causes iron absorption disorders - [4]. The following order of factors causing TTK was determined. In the first place are metrorrhagia, often IDA occurred



after acute and chronic bleeding due to inappropriate use of an intrauterine device to prevent pregnancy. In the second place, the alimentary factor plays a leading role. Regular consumption of tea, coffee and milk products, which resist the absorption of iron in the body, also causes this disease. The third and fourth places are the short interval between births and frequent abortions. Now, if the number of children in the family is planned and the interval between births is more than 3 years, the fact that more than 2 abortions were performed during this period due to planning the sex of children in the family and other reasons also causes an increase in the amount of blood loss. Taking into account the above, it was noted that when mainly female patients referred to the face-jaw and plastic surgery department of BVKTTM with inflammatory diseases of the face-jaw area, they recovered in different periods, instead of recovery, in some patients, instead of recovery, the general condition worsened, and general blood tests when examined, the result of the examination showed normal indicators, and when it was decided to additionally check the level of ferritin in the blood, the level of ferritin in the blood of patients with inflammatory diseases of the face-jaw area, which healed in a short period of time, was 57.00-100.00 µg/l It was found to be equal.

In patients with IDA, inflammatory diseases of the face-jaw area also last longer than in a healthy person and can cause various complications.

### **The Goal**

Clinical-diagnostic treatment of patients with inflammatory diseases of the face and jaw in the presence of iron deficiency anemia (IDA).

### **Materials and Methods**

211 patients (patients aged 28 to 43 years) with inflammation of the maxillofacial area applied to the Department of Maxillofacial and Plastic Surgery of BVKTTM. Out of 211 patients, 118 were included in the main group, and the remaining 93 were included in the control group. Out of 211 patients, 64 patients had purulent phlegmon of the left lower jaw, 52 patients had purulent phlegmon of the upper jaw, 51 patients had purulent periostitis of the upper jaw, and 44 patients had purulent periostitis of the lower jaw. were treated with the diagnosis of retromolar purulent periostitis.

To obtain accurate research results, the following recommendations were followed:

biomaterial was strictly given on an empty stomach, food should be at least 8 hours before venipuncture;

It is important to drink clean and unsweetened water. This greatly simplifies the procedure for receiving biomaterial and reduces the risk of hemolysis (destruction of red blood cells in the test tube). Any violation of the rules for obtaining and storing biomaterial is a reason for mandatory cancellation of the analysis;

For 3 days, any medication containing iron was stopped;

30-40 minutes before taking the biomaterial, the patient should be away from physical and emotional stress. Because stress stimulates the endocrine system and affects the biochemical composition of the studied biomaterial.

Laboratory diagnosis was carried out using cadmium sulfate according to the Klochkov method, as well as immunohistochemical methods using special antisera. In practice, more than the



histochemical method - Berlin Lazuri (iron sulfide) or Perls reaction was used to determine iron (III) oxide salts using potassium iron sulfide and hydrochloric acid.

The maximum amount of protein is observed in newborns. Thus, in the first 2 months, the level of ferritin in the blood reaches 600  $\mu\text{g} / \text{l}$ .

Then its value gradually decreases. In the period from 2 months to six months, normal indicators are from 55 to 210  $\mu\text{g} / \text{l}$ .

After six months, the indicator is quite stable up to 15 years. Its normal value varies from 8 to 143  $\mu\text{g} / \text{l}$ .

Appropriate indicators after the onset of puberty in a young man: 21 - 250  $\mu\text{g} / \text{l}$ .

Generally, women have slightly lower ferritin levels than men. Thus, the norm under the age of 15 is from 7 to 120  $\mu\text{g} / \text{l}$ . Normal values for girls over 15 years old are from 10 to 125  $\mu\text{g} / \text{l}$ .

Based on the above indications, ferritin analysis was carried out for the main group of patients, and after it was determined that its amount was relatively low (30.0-38.00  $\mu\text{g} / \text{l}$ ), Gino-Tardiferon, which increases the amount of ferritin in the blood, along with the traditional treatment regimen, was administered daily. It was recommended to drink 2 times for 14 days. After the ferritin analysis was carried out for patients in the control group, and its amount was found to be relatively low (30.0-38.00  $\mu\text{g} / \text{l}$ ), the oral cavity was treated 10 times a day with the traditional treatment procedure and furatsilin solution rinsing is recommended.

### Research Results and Discussion

In the analysis of the obtained results, the trend of purulent odontogenic inflammation in both compared groups is quantitatively very close to each other. In both groups, the causes of purulent odontogenic inflammation were mainly large teeth (untimely treated teeth, improperly treated teeth, pathological condition of the 8th tooth, teeth under an expired metal crown, oral cavity that the cavity hygiene is in a bad state). In the presence of purulent odontogenic inflammatory diseases in both groups, the importance of first medical and specialized aid is great, because the effectiveness of the treatment procedures, the survival of complications, and the high quality of the patient's life depend on these aspects.

In both groups of patients, the microbes that got inside the fat cell gathered around the blood vessels in it and the inflammatory process started. The development of this process took place in 5 stages: 1) swelling; 2) infiltration; 3) purulent tissue damage; 4) tissue necrosis; 5) surrounding and delimiting the resulting purulent inflammation with granulation tissue. Initially, serous inflammation was observed in the fat cells.

After the purulent hearth was cut open, the pus was removed from the cavity, the inflammatory process began to be eliminated, and the causative teeth were removed.

### Conclusion:

In both groups of patients, after the operative process, the granulation tissue formed in the wall of the cavity gradually proliferated, and the necrotic tissue was partially absorbed and partially squeezed out. Normal blood circulation in the tissue was restored, and the place of the dead tissue was filled with newly formed connective tissue. Patients mainly complained of pain in the inflamed area of varying intensity, swelling of the face and neck, and facial asymmetry. In addition, 1) limitation of mouth opening; 2) pain and limitation of chewing and swallowing movements; 3) articulation disorder in speaking and breathing; 4) complaints such as salivation disorder were also





recorded. It was observed that some patients complain of general weakness, discomfort, and headache.

In both groups of patients, all clinical signs of the inflammatory process in the phlegmonous process were intensively developed. The patient has a high body temperature, strong signs of intoxication, ESR index and other negative changes in the blood are at a high level, and the maxillofacial system is more disturbed, but in the main group of patients, the above-mentioned complaints and clinical symptoms indicate that the tincture of the root of the skull After starting to rinse the cavity and take Gino-Tardiferon 2 times a day, by the 4th day, there was a positive change, first of all, the asymmetric change caused by swelling on the face disappeared, the pain the pain intensity dropped to a low frequency and the chewing function was restored.

Based on this, it should be said that after drinking Gino-Tardiferon, the patients' sleep improved, they became more alert and active, hyperemic conditions in the incision areas disappeared (as a result of the stabilization of oxygen delivery to the tissues), and from the roots, leaves and seeds of the koval the prepared decoction has analgesic, antibacterial, antiseptic and passivation properties of active micro flora, and has taken a positive place in the recovery of patients' health.

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