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COMBINED TREATMENT OF ANEMIA OF PREGNANT WOMEN: IRON-CONTAINING DRUG "FEROFORT" AND MULBERRY TINCTURE

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Annotation: Iron deficiency anemia of pregnant women is a widespread disease that is traditionally treated with iron preparations. Oral iron preparations are mainly used to treat anemia and replenish iron reserves. The risk of low iron intake can be represented in the form of premature birth and fetal growth retardation. When using one of these medicines – Ferofort in combination with tincture of mulberry, a sharp increase in the effectiveness of treatment was noted.

Key words: Ferofort, tincture mulberry, iron-containingdrug, iron-deficient anemia, pregnant anemia.

INTRODUCTION

According to various authors, IDA occurs in 40-50% of women of reproductive age. The widespread prevalence of this disease in pregnant women is associated with high iron requirements during gestation. Early forms of IDC, primarily latent iron deficiency, are even more common. Pregnant women, along with young children and adolescents, belong to high-risk groups for the development of IDA. The concept of anemia refers to a state of hypoxemia associated with an increase in the number of circulating red blood cells per unit volume of blood and/or with a decrease in their ability to fill the oxygen needs of tissues. According to WHO criteria, anemia is determined at a hemoglobin(Hb) concentration <120 g/l in non-pregnant women. Iron coming from food provides on average half of the daily requirement. The missing amount of iron is replenished by reserves in the body or by taking iron preparations [4].

At the same time, iron replenishment in pregnant women is possible only if the reserves are not depleted due to abundant and prolonged menstruation preceding pregnancies. Only 20% of menstruating women have iron reserves sufficient to avoid the development of iron deficiency during pregnancy. Most often, pregnant women and women in labor with IDA had iron deficiency, both obvious and latent, even before pregnancy. Pregnancy itself, and lactation without previous iron deficiency, as a rule, do not lead to a significant depletion of iron reserves. But already the second pregnancy, which occurred shortly after the first, or the first pregnancy against the background of latent iron deficiency is inevitably accompanied by a lack of iron in the body [4].

Iron deficiency anemia in pregnant women is dangerous not only for the life of expectant mothers, but also for the fetus, and with all the complexity of treatment, it is among the urgent problems of modern medicine. The treatment of such anemia is long-term. This implies not only the elimination of tissue hypoxia and normalization of hemoglobin levels, but also the elimination of the risk of recurrence of the disease. The means that provide the main effect of treatment are iron-containing drugs, according to the recommendations of the World Health Organization on drug treatment and prevention of iron deficiency anemia during pregnancy:

- every woman should take 60 mg of elemental iron and 400 mg of folic acid from the beginning of pregnancy (the first 3 months) to childbirth in order to prevent iron deficiency anemia;
- if iron deficiency anemia is detected, the daily dose of these drugs is increased by 2 times;
- the requirement for an iron preparation: that it be convenient, effective and safe;
- treatment with iron preparations should be prolonged (at least 2 months) [5].

As can be seen from the above, great demands are placed on iron-containing drugs, and traditionally used medicines - solutions of iron salts - cannot fully meet such requirements, they must be drunk 1 hour before meals for assimilation, which, in turn, can affect the intestinal mucosa and cause constipation, gastritis or diarrhea a pregnant woman. As a result, the desire to take the medicine also decreases. Also, due to uncontrolled absorption of the drug (passive diffusion absorption of iron depends on the pH of the stomach), its amount increases, which can cause side effects. Mostly pregnant women recognize conditions such as a “metallic taste" in the mouth, darkening of teeth. In addition, iron salt preparations interact with other drugs of the group, increasing the ability to cause side effects [7].

Such shortcomings are eliminated in the preparations of the new generation of oral iron, since they are polymaltoses of non-ionized iron, that is, the mechanism by which natural iron compounds physiologically enter the blood and participate in metabolism is based on this. The structure of the preparation Ferofort, the composition of which consists of an ionic compound – 3-valent ferric hydrochloride – polymaltose complex, is close to the structure of the natural combination of iron - ferritin [10].

When studying the pharmacological properties of the drug Ferofort, its superiority in attractiveness over iron vitriol preparations in terms of convenience and safety was noted. As for absorption (active absorption), Ferofort is similar to heme iron: the drug does not interact with food, so its intake is not limited, and its attractiveness also does not change. Due to the lack of negative effects on the gastric mucosa, the daily dose of the drug can be recommended to take 1 time. Due to the presence of these properties, Ferofort is also recommended for pregnant women [9].

The drug is absorbed into the blood after oral administration based on physiological mechanisms – as a result of active absorption and an increase in its concentration in the blood, Ferrum reduces the absorption of varnish based on the reverse mechanism, i.e. even with unintentionally high doses of poisoning with this drug does not occur. It should be recognized that the iron contained in the Ferofort enters the blood in a “convenient for use” form, that is, in a 3-valent form, and “enters” into metabolism. Due to these properties, Ferofort is a convenient drug for the treatment and prevention of iron deficiency anemia in pregnant women with complete elimination of iron deficiency, as well as with high efficiency and high safety [5].

Ferofort is produced in 2 types for oral use: syrup (mainly for children) and chewable tablets (from 100 mg). For preventive purposes, pregnant women are allowed to take 1 tablet 1 time a day, and for therapeutic purposes - to increase the amount of the drug to 2-3 tablets.

In our motherland, there are very rich stocks of medicinal plants and fruit trees, which serve as raw materials for the manufacture of medicines from them and the manufacture of dosage forms. Currently, the production of medicines based on domestic raw materials is one of the urgent tasks facing the pharmaceutical industry and requiring solutions [2,6]. The study of the pharmacological properties of a highly effective dosage form of tincture harmless to the body by extractive isolation of bioactive substances contained in mulberry fruits, which are local raw materials, is a time requirement. Abu Ali ibn Sina also used mulberry as a medicinal remedy: “....Elegance: Darkens the hair if you use mulberry leaves, grapevine and black figs by boiling them in rainwater. White mulberry leaf treats sore throat, fresh leaf

juice treats toothache, and mulberry fruit and its juice treats swelling in the mouth and throat. Dried mulberry treats intestinal diseases. Mulberry is used in the treatment of renal and cardiovascular diseases.

Mulberry fruit is juicy, contains up to 82.9-86.2% water. In addition, it contains a sugar content in sour fruit — 10.9-12.7%. If the mulberry is dried and eaten, the juiciness will increase even more. The sugar content in Mulberry Raisins is 73.29-83.71%. In addition, mulberry is also rich in vitamins B, C, E, K, PP. Of minerals, it is rich in potassium, sodium, zinc, selenium, copper, phosphorus, calcium, magnesium, iron; seeds contain up to 24-33% fat and other oxidants. It contains a large amount of phosphorus [4, 11, 15].

Abu Ali ibn Sina wrote in his writings that even for pregnant women, mulberry fruits are considered a source of necessary medicines for good fetal development. Mulberry fruits strengthen immune processes, strengthen the body's defense system against infectious diseases, protect the skin from premature wrinkles [3, 16, 17].

Based on the above, we sought to study the clinical effects of the use of mulberry fruit tincture, which has been widely used in folk medicine since ancient times, grown locally, with extensive reserves, in combination with the preparation Iron Lecithin, which is used in the traditional treatment of iron deficiency anemia in pregnant women. The fact that the combination of zero drugs with natural remedies promotes the absorption into the body of substances prepared chemically on the basis of natural processes is noted in modern medical literature [6, 12, 14].

METHODS AND MATERIALS

The research was carried out in the maternity complex of the city of Bukhara. It was attended by 32 voluntary pregnant women undergoing inpatient treatment and diagnosed with iron deficiency anemia of moderate severity. All women were prescribed the drug Ferofort, calculated individually according to the following formula:

AMF (mg) = W (kg) x **(RAF (g/l) – AFA (g/l))** x **0,24**

Where: AMF – amount of missing ferrum, W - weight, RAF - required amount of ferrum, AFA – amount of ferrum available.

Then the women were divided into 2 groups: the 1st group consisted of 16 pregnant women, and they were traditionally given to drink the drug Ferofort for 12 days; the 2nd group of women were given mulberry tincture 20 drops 1 time a day in addition to the traditional amount of the drug Ferofort for 12 days. Before and after treatment, clinical and laboratory studies were carried out, during which a general blood test and the iron content in the blood serum were determined. The clinical efficacy of the study was evaluated based on a comparison of the results of primary (before treatment) and repeated (after treatment - on the 13th day) laboratory tests, as well as the dynamics of changes in clinical symptoms.

RESULTS

In pregnant women in both groups receiving antianemic therapy, clinical signs changed in dynamics in a positive direction, and the amount of hemoglobin increased significantly compared to the initial amount. When using the drug Ferofort in combination with mulberry tincture, the effect of treatment began much earlier – from the 2nd day and accelerated in positive dynamics (Fig.1).

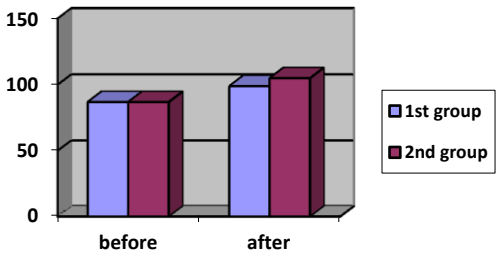

Fig. 1. The amount of hemoglobin

At the same time, the clinical signs of iron deficiency anemia began to decrease much earlier, laboratory indicators also confirmed this dynamics (Fig.2).

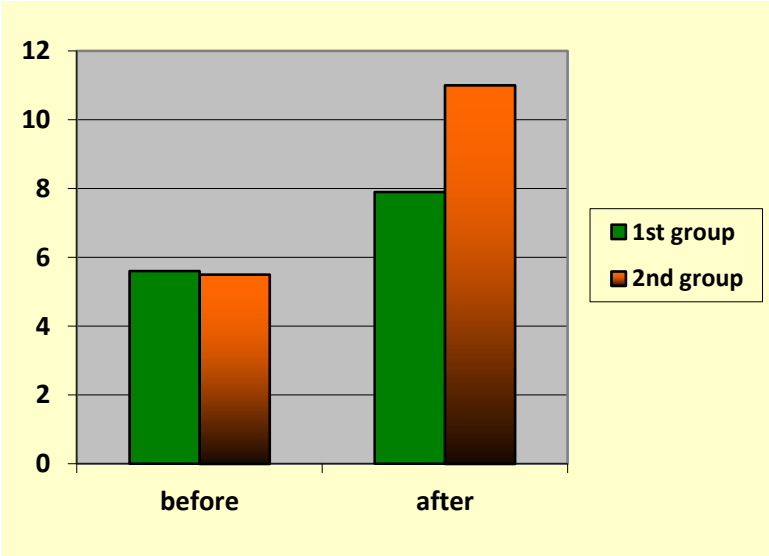

Fig. 2. The volume of iron in the blood plasma

It should be recognized that when combining an iron-containing drug with mulberry tincture, no side effects were observed compared to the group receiving traditional treatment. Such a positive effect is due to the fact that a large number of trace elements and vitamins, especially iron and vitamin B-12, contained in mulberry tincture, are actively absorbed, stimulate hematopoiesis, while eliminating metabolic failures and correcting the body's indicators [8, 13].

CONCLUSIONS

The results showed that the use of the drug Ferofort in combination with mulberry tincture is an effective and safe combination, as well as the rapid onset and high effectiveness of treatment in pharmacotherapy of iron deficiency anemia. Considering that iron deficiency anemia during pregnancy is an urgent problem, it is advisable to recommend such a method of treatment with a positive effect to be widely used and to expand research in the future.

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