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## IRON DEFICIENCY ANEMIA IN PREGNANT WOMEN: PRINCIPLES OF TREATMENT AND PREVENTION

**Resume:** The article presents recent years on an urgent global problem in obstetric and perinatal practice - iron deficiency anemia in pregnant women. This pathology, despite the introduction of modern methods of diagnosis, prevention and treatment, remains significant at the present time.

It was found that among the blood diseases in pregnant women, the share of various forms of anemia accounts for 90%, of which 75-90% is iron deficiency anemia (IDA). Other forms of anemia are not more common than in the population of non-pregnant women.

*Keywords:* iron deficiency, prevention, pregnant woman, clinical and epidemiological feature.

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## ЖЕЛЕЗОДЕФИЦИТНАЯ АНЕМИЯ У БЕРЕМЕННЫХ: ПРИНЦИПЫ ЛЕЧЕНИЯ И ПРОФИЛАКТИКИ

**Резюме:** В статье представлен последних лет по актуальной мировой проблеме в акушерской и перинатальной практике — железодефицитной анемии у беременных. Данная патология, несмотря на внедрение современных методов диагностики, профилактики и лечения, остается значимой в настоящее время.

Установлено, что среди болезней крови у беременных на долю различных форм анемии приходится 90 %, из которых 75–90 % составляет железодефицитная анемия (ЖДА). Другие формы малокровия встречаются не чаще, чем в популяции небеременных женщин.

**Ключевые** слова: железодефицитная состояния, профилактика, беременная женщина, клинико-эпидемиологическая особенность.

**Relevance.** According to the World Health Organization, the number of pregnant women who have been diagnosed with iron deficiency anemia reaches 20 million annually. Despite the organization of preventive programs in many developed countries, the level of IDA is not decreasing, but on the contrary, there is a tendency to increase it by 12 times [2.5].

If we consider the world statistics, the incidence of IDA in pregnant women is almost 3 times lower in developed countries compared to developing countries. This is explained by the programs carried out at the state level, which provide for mandatory examination of all pregnant women for the purpose of further management [1,7].

Currently, according to various sources, the level of anemia in pregnant women in Russia remains at a constant level and ranges from 35% to 42 % [4,6].

The great importance of IDA is due not only to the high incidence of this pathology in the structure of extragenital diseases among pregnant women, but also to the negative impact on the functioning of all systems and organs, as well as on pregnancy, childbirth, postpartum periods and on the fetus.

Anemia (from the Greek "lack of blood") is a clinical and hematological symptom complex, in which there is a decrease in hemoglobin and (or) red blood cells in the blood.

Iron deficiency anemia is characterized by a lack of iron in the blood, red bone marrow( CMC), as well as in the depot (liver, spleen, muscles), which

leads to a violation of the formation of heme – the main structural component of hemoglobin [3].

Many authors distinguish the so-called physiological waiting of pregnant women, manifested by moderate, and sometimes hidden (latent) iron deficiency. The reason for it is an increase in the volume of circulating blood necessary for fetal blood circulation. Due to the physiological IDA, the blood changes its rheological properties, its viscosity decreases, as the hematocrit decreases. At the same time, there is an improvement in microcirculation, which is a natural adaptation mechanism during pregnancy — the normal functioning of the placenta and fetal nutrition [8].

To date, according to L. F. Mozheyko, there are lower limits of the hemoglobin norm for the trimesters of pregnancy: in the first trimester -110 g/l, in the second -105 g/l, in the third -100 g/l. Everything below these indicators already belongs to the pathological IDA.

The purpose of the study. Optimization of diagnosis, prevention and treatment of iron deficiency conditions in pregnant women and maternity patients based on established pathogenetic variants.

**Materials and methods of research.** The prospective study included 102 women, divided into 4 independent groups depending on the tasks of the study.

The results of the study. The frequency of manifest iron deficiency (MJ) in pregnant women and maternity patients over the past 5 years has no tendency to decrease and is 25.9% in pregnant women and 11.2% in maternity women.

In a pregnancy complicated by mild MJ, compared with a pregnancy not complicated by iron deficiency, placental insufficiency and premature birth are 4 times more likely to develop; the threat of termination of pregnancy is 1.5 times more likely; the postpartum period is complicated by MJ in 1/3 of patients; postpartum bleeding and infectious complications are significantly more frequent; the frequency of birth of premature babies and complications in newborns in the early neonatal period is significantly higher. In pregnant women

with mild MJ, there was no significant effect of iron deficiency on the body weight of full-term children and the value of their condition assessment on the Appar scale at birth.

In pregnant women and maternity patients with the development of iron deficiency conditions, there is a decrease in the level of the coefficient of adequacy of erythropoietin production in proportion to the stage of iron deficiency. The frequency of inadequate erythropoietin production is detected on average in 47.2% of pregnant women with mild MJ, and in maternity patients-in proportion to the severity of MJ (in 12% of maternity patients with mild severity, in 50% - with moderate and in 80% - with severe MJ).

The effectiveness of treatment with iron preparations in pregnant women with IDC depends on the dose of elemental iron and on the level of endogenous erythropoietin. In pregnant women with an adequate level of erythropoietin, the effectiveness of treatment is 2.5 times higher compared to that in pregnant women with an inadequate level.

An algorithm for the diagnosis, prevention and treatment of IDC has been developed, which allows, based on the results of screening of pregnant women and maternity patients (determination of indicators of various funds of iron metabolism), to establish a pathogenetic variant of IDC and individualize treatment.

The introduction of the developed algorithm into a wide obstetric practice makes it possible to identify the early stages of IDC, effectively prevent the development of MJ (94%) and related complications in the mother, fetus and newborn, and provide effective pathogenetic treatment.

Conclusion. Thus, from all of the above, it can be concluded that the IDA of pregnant women is a serious pathology that entails many complications on the part of both the mother and the fetus. Therefore, this problem requires mandatory and immediate correction.

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