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Research Article

# EFFICACY OF MATERNA IN PREGNANT WOMEN WITH IRON DEFICIENCY ANEMIA

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## ABSTRACT

More than half of women worldwide suffer from anemia during pregnancy. It causes functional disorders of various organs and systems, lowers the quality of life and work capacity and increases the risk of complications during delivery. In the absence of timely and adequate therapy, iron deficiency may also occur in the fetus.

## KEYWORDS

Anemia, pregnancy, hemoglobin.

## INTRODUCTION

Anemia is one of the most common complications of pregnancy. Its leading feature in pregnant women is a decrease in hemoglobin (Hb) levels <110 g/l (Table 1).

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In 90% of cases anemia in pregnant women is iron deficiency anemia (IDA). Such anemia is characterized by impaired Hb synthesis due to iron deficiency resulting from different physiological and pathological processes. According to the WHO, the frequency of iron deficiency disease in pregnant women ranges from 21 to 80%. VLD leads to impaired quality of life, reduces work capacity, and causes functional disorders of many organs and systems. Iron deficiency in pregnant women increases the risk of complications in labor, and in the absence of timely and adequate therapy, iron deficiency in the fetus may also occur [1].

Iron deficiency anemia (IDA) is one of the most common pathologies occurring during pregnancy. In some women there is a relative decrease in the number of red blood cells due to an increase in circulating plasma volume, but in many cases pregnant women develop true anemia.

40-70% of pregnant women have iron deficiency. Under normal conditions, a woman's body has an iron reserve of 300 mg. During pregnancy, the need for iron increases to 1290 mg, which provides an increase in blood cells, contributes to the formation of the placenta and fetal development. The normal development of the fetus and the formation of the placenta requires 350 mg, to increase the number of red blood cells - 450 mg, to make up for the loss of iron during pregnancy - 240 mg, during childbirth - 250 mg. This equals 1,290 mg. This iron deficiency accounts for the high incidence of iron deficiency anemia in pregnant women who do not take iron supplements. Iron deficiency can lead to premature birth, low birth weight, and even death of the newborn. Anemia in pregnant women is deficient in vitamins C, B1, B12, B6, folic acid, and others. Vitamins are substances of high biological activity that participate in many biochemical processes occurring in the body. B-group vitamins (B1, B2, B6, pantothenic acid and nicotinamide) are involved in the metabolism of carbohydrates, proteins and fats, the nervous system. Vitamin A is essential for the functioning of epithelial cells and the synthesis of visual pigment. Vitamin D regulates calcium absorption and provides mineralization of bone and dental tissue. Vitamin C promotes the absorption of iron and is involved in many redox processes in the body. Vitamin E is a physiological antioxidant.

Micronutrients are also important for the mother and the fetus. They are part of the connective

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tissue, are activators and an integral part of enzymes and hormones. Calcium and phosphorus play a major role in the mineralization of bone and dental tissue, activate numerous enzymes, regulate the permeability of membranes. Iron and copper, along with B vitamins, are necessary for erythropoiesis. Magnesium, manganese and molybdenum, which are part of the enzymes, are involved in major biochemical reactions.

**Purpose of the study**: A study of the efficiency of materna drug in pregnant women with luteal anemia

## MATERIALS AND METHODS

The traditional method of treating pregnant women with anemia with iron preparations is often accompanied by the development of dyspeptic disorders and is often insufficiently effective. In recent years, various combinations of iron-containing vitamin-mineral complexes have been proposed for the prevention and treatment of anemia, one of which is MATERNA, a product manufactured by Wyeth-Lederle, USA. In the period of 2021-2022 we conducted a study of the effectiveness of materna preparation use in pregnant women with GAD.

## RESULTS&OUTPUTS

Forty pregnant women aged 19 to 37 years with GIHD were followed up. Of these, 18 women had their first pregnancy and 22 had a second pregnancy. One in three patients had a history of pregnancy failure, and 15% had a history of gestosis. During the study period, 45% of the women experienced early toxicosis.

All pregnant women from the late first to early second trimester were prescribed maternu 1 tablet a day until termination of labor. A dynamic clinical and laboratory examination of all pregnant women was performed. The main indices of laboratory blood tests in the women who took part in the study are shown in Table 1

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**Table 1.**

**Changes in laboratory blood values during treatment of pregnant women with GI with MATERNA**

| Diagnosis (number of examinees) | Hemoglobin, g/l | | Number of erythrocytes, - 1012/l | | Color indicator | |
|---|---|---|---|---|---|---|
| | before treatment | after 3 weeks of treatment | before treatment | after 3 weeks of treatment | before treatment | after 3 weeks of treatment |
| Grade I anemia (n=32) | 111±9,8 | 124±6,4 | 3,35±0,07 | 3,5±0,04 | 0,83±0,01 | 0,9±0,03 |
| Grade II anemia (n=8) | 89±3,4 | 114±0,07 | 3,0±0,2 | 3,5±0,06 | 0,67±0,02 | 0,86±0,03 |

Grade I anemia was detected in 32 pregnant women and grade II in 8. The hemoglobin level in the group of women with grade I anemia was 111±9.8 g/l. The mean red cell count in degree I anemia was (3.35±0.07)-1012/l, and the color index was 0.83±0.01.

In the group of pregnant women with degree II anemia, hemoglobin was 89±3.4 g/l, erythrocyte count was (3.0±0.2)-1012/l, and blood color index was 0.67±0.02. The number of reticulocytes reached 11.2±1.7.

Three weeks after the conducted treatment all pregnant women had positive changes of red blood parameters. In the group of pregnant women with first-degree anemia, the mean hemoglobin level was 124±6.4 g/l, the mean red cell count was (3.5±0.04)-1012/l, and the blood color index was 0.9±0.03. In the group of pregnant women with degree II anemia, the mean hemoglobin level was 114±0.07 g/l, the mean erythrocyte count was (3.5±0.06)-1012/l, and the blood color index was 0.86±0.03.

All women gave birth on time: spontaneous - in 33 women, by cesarean section for combined indications - in 7 women. The course of spontaneous delivery was complicated by premature discharge of amniotic fluid in 8 women and by manual examination of the uterine walls after delivery for placental debris in 3 women. Forty live full-term newborns were born with body weight ranging from 2580 to 4120, mean

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birth weight of the newborn was 3147±168 g, Apgar score - 7-9.

## CONCLUSIONS

Thus, it should be noted that the use of MATERNA caused practically no side effects. Only two pregnant women had mild nausea, the occurrence of which had no causal relationship.

The data obtained suggest that the combined drug MATERNA is effective in treating anemia in pregnant women. It is well tolerated by patients and causes practically no side effects. The therapeutic efficacy of MATERNA is confirmed by both clinical data and the results of laboratory studies

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