

Features of women's reproductive health, using contraception

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Annotation. Researches at 450 women with intrauterous contraception are conducted. The interrelation between carrying terms of intrauterous contraceptives and iron deficiency is studied. Application intrauterous contraceptives depending on terms of their carrying led to various degrees of iron deficiency. It demands dynamic control over indicators of red blood and carrying out of preventive treatment of an anaemia at women.

Keywords: Intrauterine device, hemoglobin , erythrocytes , thrombocytes, reticulocytes .

Preserving a woman's health and ensuring safe motherhood are among the main tasks of modern medicine. One of the main links of the Concept of Safe Motherhood is family planning. Regulating the birth rate, preserving women's health, reducing maternal and perinatal mortality, gynecological morbidity, and preventing complications associated with abortions are largely determined by the effectiveness of the use of modern contraceptives. Thanks to the introduction of modern methods of contraception, a solution to demographic problems has been achieved in many countries. In addition, by planning the desired pregnancy, every woman is able to maintain her reproductive health [1, 5,8, 15,19].

Issues of contraception are considered not as a means of birth control, but mainly as a means of combating abortion. Despite all the improvements in technology for terminating unwanted pregnancies, it is unacceptable to regulate family size through abortion and their number in our country should be reduced to a minimum [1,2,13,18,20].

The second most important aspect of the use of contraceptives is ensuring a 2-3 year interval between births. WHO studies have shown that children born less than 2 years apart are born low birth weight and more susceptible to infections. This interval between births is necessary to restore the resources of the mother's body used for bearing, giving birth and nursing the previous child. In addition, modern trends in the reproductive behavior of young families are the relatively rapid achievement of the desired number of children. Following this, in the next 10-15 years of the reproductive period, the main problem of a woman becomes protection from unwanted pregnancy [2,5,6,16].

Despite the fact that humanity has been developing contraceptives for more than one millennium, the "ideal" one - 100% effective, absolutely harmless, devoid of side effects and universal - has not yet been created. Therefore, the leading principles of contraception remain: individual selection and periodic change of methods used. The most effective, being the result of the latest ongoing scientific developments and most widely used by the population, are hormonal pills and intrauterine devices [3,4,10, 11,14].

IUDs, despite their high efficiency, are often accompanied by the occurrence of metabolic disorders, which can have a negative impact on the state of the hemostatic system and be one of the important factors in the development of iron deficiency anemia (IDA) [3,4,12,17].

According to Saidkariev B.K. [10], when wearing an IUD, the duration and volume of acyclic bleeding increases 1.6 times, and moderate IDA develops.

An increase in the volume of menstrual bleeding is considered a natural reaction to the insertion of an IUD and does not require treatment. But in cases where the amount of blood lost or the duration of menstrual bleeding increases, it has to be classified as menorrhagia, which is the most common cause of IDA [7,9,18]. All of the above indicates the need for a more in-depth study of the use of IUDs and its assessment in the development of IDA. Despite the widespread use of IUDs, the incidence of IDA in women wearing copper-containing IUDs and ways to prevent this pathology in Uzbekistan have not been studied.

In this regard, the purpose of this study was to determine the relationship between the duration of wearing intrauterine devices and iron deficiency in women to justify timely prevention and treatment.

Material and methods of research: 450 women of reproductive age using copper-containing IUDs for 3 years were examined. The control group consisted of 40 women without an IUD.

The IUD was inserted according to Muthal - Rathore A. [2004], who recommends that copper-containing T-shaped IUDs (Cu T380A) be inserted no later than 48 hours after birth, taking into account the absence of infection and inflammation in the birth canal.

The study of the morphological composition of peripheral blood included determination of the amount of hemoglobin, erythrocytes, leukocytes, platelets and calculation of the leukocyte formula using generally accepted methods.

Results of the study and their discussion: Initially, in 24 (16.0%) women of group 1, hematological parameters remained within standard values, the remaining 126 (84.0%) had a mild degree of anemia, as the hemoglobin content, the number of red blood cells and the color index were slightly below standard values, against the background of a slight increase in the content of reticulocytes.

By the end of the 6th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, in 21 (14.0%) of the examined women, hematological parameters remained within standard values, while the rest had a mild degree of anemia. The hemoglobin content significantly decreased by 1.2 and 1.1 times relative to the normative values and the initial value, against the background of only a trend toward a decrease in the erythrocyte content.

The initial platelet data significantly increased in relation to the parameters of the control group ($P < 0.05$), but after 6 and 12 months their number significantly decreased, not only in relation to the initial data ($P < 0.05$), but also in relation to indicators of the control group ($P < 0.02$).

The same trend continued at the end of the 1st year of wearing the IUD. At the same time, in only 9 (6.0%) women the hematological parameters remained within the normative values, which is 2.7 and 2.3 times less than in the initial values of the 6th month of examination. The rest (94.0%) of the examined patients had a mild degree of anemia, which was more than the initial level. The hemoglobin content decreased by 1.2 ($P < 0.01$) times, the reticulocyte content increased by 1.2 ($P < 0.05$) times, relative to standard values.

Consequently, the IUD leads to a risk of anemia, the severity of which increases as the wearing of the IUD lengthens.

In the examined women of group 2, initially in 27 (18.0%) women, hematological parameters remained within the normative values, the rest (82.0%) had a mild degree of anemia, since the hemoglobin content, the number of red blood cells and the color index were slightly lower than the norm values, against the background of a slight increase in the content of reticulocytes. By the end of the 6th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, in 21 (14.0%) of the examined women, hematological parameters remained within standard values, while the rest had a mild degree of anemia. The hemoglobin content significantly decreased by 1.2 ($P < 0.001$) times, against the background of an increase in the number of reticulocytes by 1.2 times ($P < 0.05$), relative to standard values. During this period, we also noted a significant decrease in the number of platelets by 1.1 times.

The same trend continued at the end of the 1st year of wearing the IUD. At the same time, in only 9 (6.0%) women, hematological parameters remained within the normative values, which is 3.0 and 2.3 times less common than in the initial and 6th month of examination. The rest (94.0%) of the examined patients had a mild degree of anemia, which was more than the initial level. The hemoglobin content decreased by 1.2 ($P < 0.01$) times, the reticulocyte content increased by 1.23 ($P < 0.001$) times, relative to standard values.

By the end of the 18th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, in 9 (6.0%) of the examined women, hematological parameters remained within standard values, the rest had mild (89.3%, $n=134$) and moderate (4.7%, $n=7$) anemia. The hemoglobin content significantly decreased by 1.2 ($P < 0.01$) times relative to the normative values, against the background of only a trend toward a decrease in the erythrocyte content. The content of reticulocytes increased 1.2 ($P < 0.05$) times relative to the values of practically healthy women, and also tended to increase relative to the initial level.

By the end of the 2nd year of wearing the IUD, in 9 (6.0%) women, hematological parameters remained within normative values, in 132 (88.0%), IDA was mild and in 9 (6.0%) it was moderate. The hemoglobin content decreased by 1.2 ($P<0.05$) and 1.1 times ($P<0.05$), the reticulocyte content increased by 1.3 ($P<0.01$) and 1.2 ($P<0.05$). 05) times, relative to standard values and initial indicators.

Consequently, in women of group 2, long-term wearing of an IUD increases the risk of developing hypochromic anemia. Its severity increases as the wearing of the IUD lengthens.

In the examined women of group 3, initially 27 (18.0%) hematological parameters remained within normal values, the rest (82.0%) had a mild degree of anemia, since the hemoglobin content, the number of red blood cells and the color index were slightly lower than the normative values, against the background of a slight increase in the content of reticulocytes.

Correlation analysis between hemoglobin level indicators and erythrocyte content in women of this group showed the presence of a weak, negative correlative relationship ($\rho=-0.3$).

This is apparently due to the fact that the body is an open system and close coupling is undesirable for the mobile regulation of various metabolic processes. However, even the presence of a weak negative connection indicates the presence of a certain relationship between reticulocytes and hemoglobin levels. This may be due to the presence of mild anemia in this group of women.

By the end of the 6th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, in 9 (6.0%) of the examined women, hematological parameters remained within normal limits, while the rest (94.0%) had a mild degree of anemia. The hemoglobin content significantly decreased by 1.2 ($P<0.05$) times, against the background of an increase in the number of reticulocytes by 1.2 times ($P<0.05$), relative to the norm.

Analysis of the correlation between the level of hemoglobin and the content of reticulocytes in women of this group by the end of the 6th month of wearing an IUD showed the preservation of an average, negative correlation ($\rho = -0.5$). This is associated with a more pronounced decrease in hemoglobin levels and, accordingly, an increase in the number of reticulocytes.

The same trend continued at the end of the 1st year of wearing the IUD. At the same time, only 9 (6.0%) women had hematological parameters within the normative values. The rest (94.0%) of the examined patients had a mild degree of anemia, which was more than the initial level. The hemoglobin content decreased by 1.2 ($P<0.05$) times, the reticulocyte content increased by 1.2 ($P<0.05$) times, relative to standard values.

Just as in previous periods, during this period we identified weak, negative correlations between the level of hemoglobin and the content of reticulocytes ($\rho = -0.4$), i.e. we can say that by the end of the first year of wearing an IUD, despite the presence of a mild degree of anemia, there are weak correlative connections, indicating the possibility of switching regulatory mechanisms in maintaining homeostasis.

By the end of the 18th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, in 6 (4.0%) of the examined women, hematological parameters remained within standard values, the rest had mild (92.0%) and moderate (4.0%) anemia. The hemoglobin content decreased significantly by 1.2 ($P<0.05$) and 1.1 ($P<0.05$) times, the number of reticulocytes increased by 1.2 and 1.1 times, respectively, to the values of the control group and initial indicators, indicating about developing IDA.

However, starting from the 2nd year of wearing the IUD, the mobility of the regulatory systems noticeably deteriorates. Thus, the correlation between hemoglobin level indicators and the number of red blood cells becomes stronger, since we identified an average, but more pronounced negative correlation ($\rho=-0.6$).

By the end of the 2nd year of wearing the IUD, no women with normal hematological parameters were identified; 149 (99.3%) had mild IDA and 1 patient (0.7%) had moderate severity. The hemoglobin content decreased by 1.3 ($P<0.01$) and 1.2 ($P<0.05$) times, the reticulocyte content increased by 1.3 ($P<0.01$) and 1.1 ($P<0.05$). 05) times, relative to standard values and initial indicators. At the same time, we identified an average, negative correlation between the level of hemoglobin and the content of erythrocytes ($\rho = -0.5$), due to a more pronounced increase in the content of reticulocytes, against the background of a significant decrease in the level of hemoglobin. This is confirmed by the development of mild anemia in all examined women.

By the end of the 30th month of wearing the IUD, hematological parameters in this group of women were characterized by a noticeable decrease. Thus, no women with normal hematological parameters were

identified; 144 (96.0%) had mild anemia, and 6 (4.0%) had moderate anemia. The hemoglobin content significantly decreased by 1.3 ($P<0.01$) and 1.2 ($P<0.05$) times, the number of reticulocytes increased by 1.3 ($P<0.01$) and 1.1 times, respectively control group and initial indicators, indicating developing IDA. By this time, we identified a significant decrease in the number of platelets by 1.2 ($P<0.05$) and 1.2 ($P<0.05$) times, respectively. As the duration of wearing an IUD lengthens, the correlations become more pronounced. The negative correlation increases even more, becoming strong and amounting to $\rho=-0.7$. The presence of closer correlations between these indicators significantly reduces the controllability of regulatory systems and reduces the compensatory capabilities of the body, which is confirmed by the development of moderate anemia in some women.

By the end of the 3rd year of wearing the IUD, women with normal hematological parameters were also not identified; 93 (62.0%) patients had mild IDA and 57 (38.0%) patients had moderate severity. The hemoglobin content decreased by 1.4 ($P<0.001$) and 1.2 ($P<0.05$) times, the reticulocyte content increased by 1.3 ($P<0.01$) and 1.1 ($P<0.05$) times, relative to the norm and initial data. A more pronounced decrease in hemoglobin level against the background of an increase in the number of reticulocytes led to the formation of a strong, negative correlative connection between them ($\rho = -0.8$). This is confirmed by the more frequent detection of women with moderate anemia, indicating a decrease in the body's adaptive capabilities in maintaining hematopoiesis.

Consequently, in women of group 3, long-term wearing of an IUD significantly increases the risk of developing hypochromic anemia. Its severity increases as the wearing of the IUD lengthens, especially towards the end of the 3rd year of wearing.

The next stage of research was to study the morphological state of peripheral blood erythrocytes during the dynamics of wearing an IUD. The results obtained showed that in the control group, in almost all women without an IUD, the morphology of erythrocytes was not impaired, and they were characterized as erythrocytes with normal morphology (normochromia and normocytosis).

In women of the main group, a decrease in the density of erythrocyte staining was noted - in 5.3% ($n = 8$), 17.3% ($n = 26$) and 19.3% ($n = 29$) cases, respectively, according to groups, anisocytosis (according to groups in 2.7% - $n=4$; 14.0% - $n=21$ and 15.3% - $n=23$ cases), the predominance of microcytosis - respectively in groups in 1.3% ($n=2$), 10.7% ($n=16$) and 14.0% ($n=21$) cases as the time of wearing the IUD lengthened.

If in the early stages of wearing an IUD (up to 1 year - group 1), normochromia and normocytosis were mainly detected, then later, in the later stages of wearing an IUD (2-3 years - groups 2 and 3), the detection of morphologically altered red blood cells increased by an order of magnitude ($P<0.001$) and were detected in the form of anisocytosis, microcytosis, severe hypochromia, echinocytes and stomocytes.

Conclusions:

1. Prolonged wearing of an IUD in women of reproductive age leads to the risk of developing anemia, especially after 2-3 years, which is associated with an increase in the duration of monthly blood loss, its volume and forces women to abandon this type of contraception.

2. The morphological state of peripheral blood erythrocytes during the dynamics of wearing an IUD was characterized by a decrease in the color density of erythrocytes, anisocytosis, and microcytosis. If in the early stages of wearing an IUD (up to 1 year) normochromia and normocytosis were mainly detected, then later, in the later stages of wearing an IUD (2-3 years), the detection of morphologically altered red blood cells increased by an order of magnitude and were detected in the form of anisocytosis, microcytosis, severe hypochromia.

3. Women of fertile age with deviations in normative hematological blood parameters should be prescribed preventive weekly intake of iron supplements up to 120 mg per day for 2-4 months.

4. With an increase in the studied parameters, resolve the issue of intrauterine contraception with mandatory monitoring of hematological parameters and latent iron deficiency every 6 months.

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