

## FEATURES OF REPRODUCTIVE HEALTH OF WOMEN USING CONTRACEPTION

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**Abstract:** It is established, that significant influence on progress endogen to an intoxication activation of process perekis renders oxidations lipid, leading to damage and death of cells. Confirming of it is accumulation in blood of intermediate products intensive protealiz with molecular weight 1000 – 2000 dalton , activation of processes perekis oxidation lipid , as well as is reflected in increase of a by-product lipid peroxidation–malonovodialdegita at a contingent of women investigated by us. The inadequate conclusion from an organism endogen toxins and complexes leads to secondary immune insufficiency, being thus, the reason for progress of an anemia.

**Key words:** anemia, gynecology, intoxication activation, perekis oxidation lipid.

In recent years, demographic issues in our republic have become one of the main national priorities. In the conditions of the current demographic situation in the country, it is of great importance to create optimal conditions for motherhood and preserve the health of a female mother. An important factor in reducing women's reproductive potential is unwanted pregnancy and its artificial termination [1,2, 3,4, 5]. Termination of pregnancy, as a method of birth control, is absolutely unacceptable for a number of reasons, including not only moral, ethical and religious, but also purely medical: serious complications often occur (genital inflammatory processes, neurohumoral disorders, infertility, etc.) [6,7, 8,12,14,16].

It is generally recognized that the use of effective contraceptives reduces maternal morbidity and mortality, primarily by reducing the number of unwanted pregnancies and births [9,10,11,13]. In this regard, contraception is of paramount importance for the preservation of a woman's general and reproductive health. The most effective means of combating unwanted pregnancy should undoubtedly be recognized as IUD [15,17,18,19]. However, when using an IUD, adverse reactions and complications develop in the form of expulsions, the development of inflammatory phenomena, menstrual cycle disorders, manifested by hyperpolymenorrhea, menometroragia, which are observed in 11-24% of women with IUD and can lead to anemia. It is known that such side effects of IUD as hyperpolymenorrhea in the form of prolonged and copious menstruation leads to an aggravation of iron deficiency or its manifestation in the form of IDA [22,23]. Therefore, the detection of iron metabolism disorders in the initial stages will make it possible to predict the manifestation of iron deficiency in women even before the possible onset of pregnancy at the family planning stage in order to correct it in a timely manner [24,25,26,27].

Recently, diseases whose development and progression are associated with chronic inflammation have been classified as autoimmune diseases. The term "autoimmunity" means a violation of tolerance to its own antigens, leading to the development of an immune response against normal tissues. In general, diseases with an autoimmune component of pathogenesis include more than 60 nosological forms that have an extraordinary variety of clinical manifestations and laboratory disorders. This significantly complicates early diagnosis, and, consequently, adequate therapy. Moreover, the chronic inflammatory process significantly increases the risk of developing cardiovascular pathology, as well as osteoporosis, infectious complications [20, 21].

There are several theories of the occurrence of infection on the background of IUD. In the area of contact of the contraceptive with the endometrium, there is an increase in vascular permeability and infiltration by polymorphonuclear leukocytes – the so-called aseptic inflammation, the body's reaction to the introduction of a foreign body. Similar changes, as mentioned above, are characteristic of inert and copper-containing drugs, but were not noted when the LNG - IUD was administered due to the specific effect of progestogens on the endometrium.

With the introduction of an IUD, the body's resistance to infection decreases. Conditionally pathogenic microorganisms from the lower parts of the genital tract penetrate into the uterine cavity and turn into pathogenic. Germs that cause STIs can also get there. In more than 50% of cases, the cause of VZOM is Chlamidatrachomatis, Neisseriagonorrhoeae. In one of the few studies where the diagnosis was confirmed by laparoscopy, Chlamida trachomatis was detected in 43% of cases, Neisseria gonorrhoeae – in 17%, Mycoplas mahominis – in 13% of cases [28,29,30 ]. A large multicenter study showed the association of VZOMT with STIs in 65% of cases [31,32,33].

Some researchers believe that bacteria multiplying on the surface of the cervix can move along the antennae of the IUD into its cavity. In the 1970s, there were reports of a connection between septic abortions and maternal mortality with the use of IUDs during pregnancy. The filaments of five IUDs were examined visually and using an electron microscope: Lippes loops, Saf-T-Coil, Dalkon Shield, Cu-7 and Copper. One silt and two strands of each contraceptive, except Dalkon Shield, were a monostructure of plastic. Dalkon Shield threads are bundles of monofilaments freely located inside a plastic thread.

Such filaments could well be a conductor of pathogenic microorganisms from the vagina into the uterine cavity and contribute to an increase in the risk of VZOMT, especially in the event of pregnancy, Invitro has proven that the gaps between microfilaments are a favorable environment for the reproduction of pathogenic microorganisms. Most of the works devoted to the study of the risk of IUD when using IUDs with and without antennae did not reveal differences in the frequency of occurrence of such diseases, even when confirming the diagnosis by laparoscopic method [1,2].

Thus, the microorganisms that cause the development of ascending infection of the endometrium and fallopian tubes can be divided into two main groups: endogenous and exogenous. All of the above points to the need for a deeper study of the use of IUD in Uzbekistan and its assessment in the development of menorrhagia, which is the most common cause of iron deficiency anemia.

**The purpose of the study:** to determine the relationship between the period of wearing intrauterine devices and iron deficiency in women to justify timely prevention and treatment.

**Material and methods of research.** 150 women of reproductive age using copper-containing IUDs for 3 years were examined. The control group consisted of 20 women without IUD.

Circulating immune complexes (CEC) were determined by precipitation in a 3.75% solution of polyethylene glycols (molecular weight 6000). The content of medium-mass molecules (MSM) in serum was determined by N.I. Gabreelyan and V.I. Lipatova (1989) at wavelengths of 254 nm (MSM 254). The state of POL was judged by the content in the blood serum of a secondary product of lipid peroxidation – malonovodialdehyde (MDA), (L.I. Andreeva and co-authors 1988). The content of haptoglobin in blood serum was determined using HUMAN kits on a CobasEmira analyzer.

**Results and discussion:** A study of medium-weight molecules (MSM) with toxic properties showed that after 6 and, especially, 12 months of wearing an IUD, the studied indicator exceeded the initial values by 16% and 43%, respectively, in group I of women. In the second group of women, against the background of wearing an IUD, there was also an increase in the level of medium-weight molecules, respectively, by 29% after 6 months, by 46% after 12 months, and by 57% after 2 years when compared with baseline data. A similar dynamics was observed in the third group of women, where after 3 years of wearing MSM in the blood exceeded the initial values by 75%. This indicates the accumulation in the blood of intermediates of intensive proteolysis with a molecular weight of 1000 – 2000 daltons, as well as other organic compounds, such as fragments of nucleic acids.

It was found that activation of the lipid peroxidation process has a significant effect on the development of endogenous intoxication, which leads to cell damage and death. The state of POL was judged by the content in the blood serum of a secondary product of lipid peroxidation – malonovodialdehyde (MDA).

As can be seen from the presented results of the study, the level of MDA in women during the wearing of the IUD increased: in the first group to values of  $3.46 + 0.29$  mmol/l versus  $1.33 + 0.08$  mmol/l, in the second group of women after 2 years, it was, on average, equal to  $3.51 + 0.16$  mmol/l, which is 2.7 three times higher than the initial values, and in the third group of women, the MDA value exceeded the initial level by 2.8 times.

Consequently, during the wearing of the IUD, the activation of the processes of POL is observed, which leads to damage and cell death, which is reflected in an

increase in the secondary product of lipid peroxidation – malonovodialdehyde. The appearance of endogenous pathogens in the intravascular bed of the internal environment as a result of cell destruction contributes to the formation of antigen – antibody complexes that are subject to removal.

Using 3.75% solutions of polyethylene glycol, we deposited circulating antigen–antibody immune complexes and determined their concentration in the blood. On average, the CEC values in healthy women were  $41.8 \pm 3.24$  conl.units. When wearing an IUD in women, a significant increase in the CEC level was noted in the blood after 2 years, where it amounted to  $55.6 \pm 4.01$  units, versus  $40.1 \pm 1.24$  units, which was 39% higher than the initial values. After 3 years, the studied indicator exceeded the initial indicator by 55%.

Endogenous pathogens that accumulate in the body of women when wearing an IUD for more than two years are the initiators of inflammation, activating the synthesis of primary inflammatory mediators by macrophages. Primary mediators, in turn, trigger the active synthesis of acute phase proteins by hepatocytes, i.e. secondary inflammatory mediators, which include haptoglobin. Haptoglobin is a protein of the acute phase of inflammation, designed to bind free hemoglobin formed during increased spontaneous hemolysis of erythrocytes by endogenous pathogens.

As can be seen from the presented results of the study, the content of haptoglobin in the blood of women of the first group significantly decreases within 1 year and amounted to  $53.1 \pm 4.12$  mg /dl versus  $150.3 \pm 8.17$  mg/dl, which is 3 times lower than the initial values. In the second group of women, haptoglobin levels in the blood also tended to decrease, and by the end of the second year of wearing, the average was  $59.5 \pm 3.14$  mg / dl, which is 2.4 times lower than the initial values. Wearing an IUD for 3 years was also accompanied by a 2.5-fold decrease in the level of haptoglobin in the blood.

Consequently, low values of haptoglobin studied by the immunochemical method indicate an increase in the formation of the haptoglobin – hemoglobin complex and, apparently, due to increased spontaneous hemolysis of erythrocytes by an endogenous pathogen.

This is confirmed by the fact that, during the wearing of the IUD, the accumulation of intermediates of intensive proteolysis in the blood, activation of the processes of SEX, leading to damage and death of cells, which are reflected in an increase in low-weatheraldehyde, is noted. Inadequate removal of endogenous toxins and complexes from the body leads to secondary immune insufficiency, while being the cause of anemia. One of the indicators of increased destruction of hemolytic anemia is low values of haptoglobin. Such changes are more pronounced by 2-3 years of using the IUD, which dictates the need to comply with precautionary measures and carry out rehabilitation measures.

Thus, based on the data obtained, the following conclusions can be drawn:

1. The use of copper-containing IUDs exacerbates latent iron deficiency in women of fertile age and its manifest form.

2. One of the causes of anemia with prolonged wearing of IUD (more than two years) It is a hemolytic situation that has arisen due to endogenous intoxication, as evidenced by a decrease in the content of haptoglobin (2.5 times), an increase in the level of low-sodium aldehyde (2.8 times) and circulating immune complexes (by 55%).

3. In women of reproductive age with a latent form of iron deficiency, after 1.5–2 years of wearing the T-Si-380 IUD, removal of the intrauterine spiral is necessary for therapeutic measures, due to an increase in the level of low-sodium aldehyde and circulating immune complexes, as well as a decrease in haptoglobin in the blood serum.

#### Литература:

1. Farcuhar C.M. Hysterectomy rates in United States 1990 – 1997 // *Obstet. Gynecol.* – 2022. – N 99. – P.229-234.
2. Hampton N.R.E., Rees M.C.P. et al. // *Hum. Reprod.* – 2015. – V.20. – N. 9. –P. 2653-2660.

#### Литература:

1. Backman T., Rauramo I. et al. // *Obstet. Gynecol.* – 2005. – V. 106. – N.4. – P. 813-817.
2. Hampton N.R.E., Rees M.C.P. et al. // *Hum. Reprod.* – 2005. – V.20. – N. 9. –P. 2653-2660.
3. Mukhayohon Tukhtasinovna Khamdamova, Munira Murotovna Baratova. Modern concepts on the etiopatogenesis of background and precancer diseases of the cervix. *ScienceAsia* 48 (2022): 31-38 doi: 10.2306/ scienceasia1488-1295.2022.SE009
4. Khamdamova M. T. The state of local immunity in background diseases of the cervix // *Eurasian journal of medical and natural sciences Innovative Academy Research Support Center. Volume 3 Issue 1, January 2023 ISSN 2181-287X -P.171-*
5. Khamdamova M. T., Mansurova D.O Genital endometriosis: choice of therapy // *Eurasian journal of medical and natural sciences Innovative Academy Research Support Center. Volume 3 Issue 1, January 2023 ISSN 2181-287X P.182-187.*
6. Khamdamova M. T., Norova K.M. Ovarian endometriosis: new aspects of treatment // *International Journal of Medical Sciences And Clinical Research (ISSN – 2771-2265) volume 03 ISSUE 01 -P.07-13.6.*
7. Khamdamova M. T. Echographic features variability in the size and shape of the uterus and ovaries in women of the second period of adulthood using various contraceptives // *Asian Journal of Multidimensional Research - 2020. – N9 (5). - P.259-263.*
8. Khamdamova M. T., Rabiev S. N. Anatomical and clinical correlations of fetal development assessment in women with different body types and height // *ScienceAsia* 48 (2022): 23-29 doi: 10.2306/ scienceasia1488-1295.2022.SE008.

9. Khamdamova M. T. Somatometric characteristics of women of the first and second period of adulthood using different contraceptives with different body types // The American Journal of Medical Sciences and Pharmaceutical Research - 2020. – N8 (2).- P.69-76.

10. Khamdamova M.T., Barotova M.M. Modern concepts about diseases of the cervix // Biology and Integrative Medicine . ISSN 2181-8827 2022. №1 январь–феврал (54). С.70-77.

11. Khamdamova M. T. Age and individual variability of the shape and size of the uterus according to morphological and ultrasound studies // Problems of biology and medicine. 2020, №1 (116).-P.283-286.

12. Khamdamova M. T. Age echographic characteristics of the uterus and ovaries in women of the first and second period of middle age // Biology and integrative medicine. ISSN 2181-8827 2020. №2 - March-April (42).-P.75-86.

13. Khamdamova M. T. Anthropometric characteristics of the physical status of women in the first and second period of middle age // New day in medicine. 2020. - № 1 (29).- P.98-100.

14. Khamdamova M. T. Age echographic characteristics of the uterus and ovaries in women of the first and second period of middle age // Biology and integrative medicine . – Bukhara. 2020. №2 (42) - P.75-86.

15. Khamdamov I.B. Evaluation of the efficiency of an improved approach in the treatment of anterior abdominal wall hernias in women of fertile age // American Journal of Medicine and Medical Sciences, 2022.-№ 12(5).- P. 584-588.

16. Khamdamov I.B., Khamdamov A.B. Classification and properties of mesh explants for hernioplasty of hernial defects of the anterior abdominal wall (review) // Biology and integrative medicine. ISSN 2181-8827 2021. №5 – март-апрель (52). С.12-22.

17. Khamdamov I.B., Khamdamov A.B. Endovideosurgical hernioplasty in women of fertile age // New day in medicine. 2021. №6 (38/1). P.25-27.

18. Хамдамова М.Т. Ультразвуковые особенности трехмерной эхографии в оценке состояния эндометрия и полости матки у женщин первого периода среднего возраста применяющие внутриматочные контрацептивные средства // Биология в табиёт муаммолари. - Самарканд, 2020. - №2 (118). - С.127-131.

19. Khamdamova M. T. Ultrasound assessment of changes in the endometrium of the uterus in women of the first and second period of middle age when using intrauterine and oral contraceptives // Биомедицина ва амалиёт журнали. – Ташкент, 2020. - №2. - 8 часть. - С.79-85.

20. Khamdamova M. T., Barotova M.M. Clinical aspects of the use of laser photodynamic therapy in cervical pathology // American Journal of Medicine and Medical Sciences 2021, 11(4): 353-355 DOI: 10.5923/j.ajmms.20211104.19

21. Хамдамова М.Т. Индивидуальная изменчивость матки и яичников у женщин применяющие и не использующие различные виды контрацептивные средства // New day in medicine. - 2020. - № 3 (31). - С. 519-526. (14. 00.02; №22).

22. Khamdamova M. T., Urinova Sh.A. Innovative method of teaching students of the department of gynecology // New day in medicine. 2022 №2(40), march, april , P.432-435.

23. M. T. Khamdamova, S.N. Rabiev. Somatometric characteristics of pregnant women with different body types. Europe's Journal of Psychology 2021, Vol. 17(3), 215-220 <https://doi.org/10.5998/ejop.5473>

24. M.T. Khamdamova, S.N. Rabiev. Anatomical and clinical correlations of fetal development assessment in women with different body types and height. ScienceAsia 48 (2022): 23-29 doi: 10.2306/scienceasia1488-1295.2022.SE008

25. Хамдамов И.Б. Клиническая оценка эффективности традиционного подхода лечения грыж передней брюшной стенки у женщин фертильного возраста // Вестник врача. –Самарканд 2022. № 2.2 (104).-С.65-70.

26. Khamdamov I.B., Khamdamov A.B. Differentiated approach to the choice of hernioplasty method in women of fertile age (Clinical and experimental study) // Тиббиётда янги кун. – Бухоро, 2021.-№ 6 (38/1).-С. 112-114.

27. Хамдамов И.Б. Experimental determination of the extensibility of the anterior abdominal wall tissues at different times of pregnancy using various approaches to hernioplasty// Academicia: An International Multidisciplinary Research Journal Vol. 12, Issue 04, April 2022 SJIF 2022 = 8.252 P.193-201 (Scopus).

28. Хамдамов И.Б. Совершенствование тактических подходов в лечении грыж передней брюшной стенки у женщин фертильного возраста // Тиббиётда янги кун. Бухоро, 2022.-№10(48)- С. 338-342.

29. Хамдамов И.Б. Морфофункциональные особенности брюшного пресса у женщин репродуктивного возраста // Тиббиётда янги кун. Бухоро, 2022.-№3(41)- С. 223-227.

30. Khamdamov I.B., Khamdamov A.B. Classification and properties of mesh explants for hernioplasty of hernial defects of the anterior abdominal wall (review) // Биология и интегративная медицина. 2021. №5 (52) С.12-22.

31. Khamdamov I.B., Khamdamov A.B. A differentiated approach to the choice of diagnostics and prevention of complications of prosthetic plasty in women of fertile age // Биология и интегративная медицина. 2022. №1– Январь-февраль (54) - С.15-30.

32. Khamdamov I.B. Results of morphological studies (Experimental studies ) // “Oriental renaissance: innovative, educational, natural and social sciences (oriens)” volume 2 | 2022 P.513-516.

33. Хамдамов И.Б. Экспериментальные модели в хирургии грыж // models and methods for increasing the efficiency of innovative research: a collection scientific works of the International scientific conference (11 April, 2022) - Berlin:2022. ISSUE 10 – 226 p 220-226.

34. Хамдамов И.Б. Экспериментальное определение растяжимости тканей передней брюшной стенки в разные сроки беременности при использовании

различных подходов к герниопластике // Биология и интегративная медицина.  
2022. №3– май -июн (56) -С.103-121.