IRON DEFICIENCY ANEMIA IN GYNECOLOGY: YESTERDAY AND TODAY

Akramova D.E., Khakimboeva K.A.

Bukhara Medical University named after Abu Ali Ibn Sina. Uzbekistan.

Resume. 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–malonovadialdegita 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.

Keywords: perekis oxidation lipid, protealiz, malonovadialdegit, anemia.

Despite their high efficiency, intrauterine contraceptives (IUCs) 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), [4,8,10,11,13]. In the Republic of Uzbekistan, about 46% of women of reproductive age use IUDs [1,14]. According to F.M. Ayupova et al. [1] When wearing an IUD, the duration and volume of acyclic bleeding increases 1.6 times, and moderate IDA develops.

Among the possible causes of the development of IDA, which occurs in 12-24% of women with ICH [12], are the processes of local action of the implant on the endometrial mucosa [5,9]. Under these conditions, a transformation of erythroid growth tension in the hematopoietic organs may occur, which leads to decompensation of erythropoiesis, changes in the structural and functional state of

the vascular endothelium, erythrocyte membranes, disruption of microrheological blood, which hypoxia phenomena complicates the process of wearing an IUD [1,13] . It can be assumed that in the mechanisms of development of IDA when wearing an IUD, oxidative stress leading to changes in the qualitative state of the peripheral erythron unit is of great importance, since changes in the structure of the membrane and metabolism of peripheral blood erythrocytes, as a rule, precede changes in the quantitative indicators of red blood. At the same time, locally maintained oxidative stress triggers the process of intensifying lipid peroxidation, generating activity of oxygen species that can damage the integrity of cellular structures, microcirculation disorders, hypoxia, intoxication disorders and immune conflict.

In the second half of the last century, a serious revision of the role of women in society and the family took place. Not only the woman's lifestyle has changed, but also her reproductive history. A woman of the 21st century is socially active, involved in business and politics. This leads to a delay in the implementation of the generative function, and therefore to the need for long-term use of various methods of contraception. Therefore, the answer to the question of what a modern woman wants is clear – reliable and safe contraception.

The most popular method of pregnancy protection in our country is intrauterine contraception (IUC). Adherence to IUD is mainly due to the convenience of the method and a negative attitude towards taking hormonal drugs.

However, when using an IUD, adverse reactions and complications develop in the form of expulsion, the development of inflammatory phenomena, menstrual irregularities, manifested by hyperpolymenorrhea, menometrorrhagia, which are observed in 11-24% of women with IUD and can lead to anemia [1,17,18].

It is known that side effects of IUDs, such as hyperpolymenorrhea in the form of prolonged and heavy menstruation, lead to worsening iron deficiency or its

manifestation in the form of IDA [4,15,16]. Therefore, identifying 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 stage of family planning with the aim of timely correction.

Recently, diseases whose development and progression are associated with chronic inflammation have been classified as autoimmune diseases. The term "autoimmunity" refers to a violation of tolerance to self-antigens, leading to the development of an immune response against normal tissues. All of the above indicates the need for a more in-depth study of the use of IUDs in Uzbekistan and its assessment in the development of menorrhagia, which is the most common cause of iron deficiency anemia.

Purpose of the study: to establish the most significant factors that determine the nature of the course, predicting outcomes depending on the timing of the process of wearing the IUD, their transformation in the process of inflammation and the formation of iron deficiency anemia.

Material and research methods. 50 women of reproductive age using copper-containing IUDs for 3 years were examined. The control group consisted of 20 women without ICH. Circulating immune complexes (CIC) were determined by precipitation in a 3.75% solution of polyethylene glycols (molecular weight 6000). The content of average mass molecules (MSM) in serum was determined according to N.I. Gabreelyan and V.I. Lipatova (1989) at wavelengths of 254 nm (MSM 254). The state of lipid peroxidation (LPO) was judged by the content in the blood serum of a secondary product of lipid peroxidation - malondialdehyde (MDA), (L.I. Andreeva et al. 1988).

Results and discussion: The study of average mass molecules (MWM) 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% of the first year of wearing, respectively. Starting from the second year of wearing an IUD, there was also an increase in the level of molecules of average weight after 6 months by 29%, after 12 months - by 46%, after 2 years - by 57% when compared with the initial data. After 3 years of carrying MSM in the blood, it exceeded the initial values by 75%. This indicates the accumulation in the blood of intermediate products of intense proteolysis with a molecular weight of 1000 - 2000 daltons, as well as other organic compounds, such as fragments of nucleic acids. It has been established that the activation of the process of lipid peroxidation has a significant impact on the development of endogenous intoxication, which leads to cell damage and death. The state of lipid peroxidation was assessed by the content of the secondary product of lipid peroxidation – malondialdehyde – in the blood serum.

As can be seen from the presented results of the study, the level of MDA in women during the first year of wearing an IUD increased to values of 3.46 + 0.29 μmol/l versus 1.33 + 0.08 μmol/l; after 2 years it, on average, , was equal to 3.51+0.16 μmol/l, which is 2.7 times higher than the initial values, and in the third year of wearing the MDA value exceeded the initial level by 2.8 times. Consequently, while wearing an IUD, activation of lipid peroxidation processes is observed, which leads to damage and cell death, which is reflected in an increase in the secondary product of lipid peroxidation - malondialdehyde. 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, which must be removed.

Using 3.75% polyethylene glycol solutions, we precipitated circulating antigen-antibody immune complexes and determined their concentration in the blood. On average, the CEC value in healthy women was 41.8 + 3.24 conventional

units. During the first year of wearing an IUD in women, a significant increase in the level of CEC was noted in the blood after 2 years, where it was 55.6 + 4.01 conventional units, versus 40.1 + 1.24 conventional units, which is 39% was higher than the original values. After 3 years, the studied indicator exceeded the initial indicator by 55%.

Endogenous pathogens that accumulate in the body of women who wear an IUD for more than two years are initiators of inflammation, activating the synthesis of primary inflammatory mediators by macrophages.

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

1. When wearing an IUD for more than two years, it leads to the development of a hemolytic situation, as evidenced by an increase in the level of malondialdehyde (2.8 times) and circulating immune complexes (by 55%).

2. Due to an increase in the level of malondialdehyde and circulating immune complexes in women of reproductive age with a latent form of iron deficiency, after 1.5–2 years of wearing the T-Cu-380 IUD, removal of the intrauterine device is necessary for therapeutic measures.

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