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# RISK FACTORS FOR THE DEVELOPMENT OF ENDOMETRIAL HYPERPLASIA WITH ABNORMAL UTERINE BLEEDING IN WOMEN OF REPRODUCTIVE AGE

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# ФАКТОРЫ РИСКА РАЗВИТИЯ ГИПЕРПЛАЗИИ ЭНДОМЕТРИЯ С АНОМАЛЬНЫМИ МАТОЧНЫМИ КРОВОТЕЧЕНИЯМИ У ЖЕНЩИН РЕПРОДУКТИВНОГО ВОЗРАСТА

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# RISK FACTORS FOR THE DEVELOPMENT OF ENDOMETRIAL HYPERPLASIA WITH ABNORMAL UTERINE BLEEDING IN WOMEN OF REPRODUCTIVE AGE

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***Цель:*** *выявление факторов риска развития аномальных маточных кровотечений, обусловленных гиперплазией эндометрия на основе анализа клинико-анамнестических данных у женщин репродуктивного возраста.* ***Материал и методы:*** *на базе гинекологического отделения Ташкентской медицинской академии обследованы 90 женщин репродуктивного возраста. Контрольную группу составили 30 женщин, обратившихся по вопросам планирования беременности и прегравидарного консультирования. Основную группу составили 60 женщин с аномальными маточными кровотечениями, обусловленными гиперплазией эндометрия. Диагноз гиперплазии эндометрия был подтвержден гистологически биопсией эндометрия во время гистероскопии. Все пациентки дали информированное согласие на участие в исследовании.* ***Результаты:*** *риск развития гиперплазии эндометрия увеличивается с возрастом, у женщин с избыточной массой тела, заболеваниями желудочно-кишечного тракта, нерегулярным менструальным циклом в анамнезе, первичным бесплодием, генитальным эндометриозом, хроническим эндометритом, медицинскими абортами в анамнезе, а также среди женщин, состоящих в незарегистрированном браке.* ***Выводы:*** *дальнейшие исследования должны быть направлены на персонифицированный подход к лечению женщин с гиперплазией эндометрия с учетом факторов риска ее развития и профилактики рецидивов.*

***Ключевые слова:*** *аномальные маточные кровотечения, репродуктивный возраст, гиперплазия эндометрия, факторы риска развития, нарушения менструального цикла.*

***Maqsad:*** *reproduktiv yoshdagi ayollarda klinik va anamnestik ma'lumotlarni tahlil qilish asosida endometriyal giperplaziyadan kelib chiqqan anormal bachadon qon ketishining rivojlanishi uchun xavf omillarini aniqlash.* ***Material va usullar:*** *Toshkent tibbiyot akademiyasi ginekologiya bo'limida 90 nafar reproduktiv yoshdagi ayollar ko'rikdan o'tkazildi. Nazorat guruhi homiladorlikni rejalashtirish va homiladorlikdan oldin maslahat olish uchun murojaat qilgan 30 nafar ayoldan iborat edi. Asosiy guruh endometriyal giperplaziyadan kelib chiqqan anormal uterin qon ketishi bo'lgan 60 nafar ayoldan iborat edi. Endometriyal giperplaziya tashxisi histeroskopiya paytida endometriyal biopsiya bilan gistologik jihatdan tasdiqlangan. Barcha bemorlar tadqiqotda ishtirok etish uchun xabardor qilingan rozilik berdilar.* ***Natijalar:*** *Ortiqcha tana vazni, oshqozon-ichak kasalliklari, tartibsiz hayz tsikli, birlamchi bepushtlik, genital endometrioz, surunkali endometrit, tibbiy abortlar tarixi va ro'yxatdan o'tmagan nikohda bo'lgan ayollarda endometrium giperplaziyasining rivojlanish xavfi yoshga qarab ortadi.* ***Xulosa:*** *Keyingi tadqiqotlar endometrium giperplaziyasi bo'lgan ayollarni davolashda uning rivojlanishi va relapslarning oldini olish uchun xavf omillarini hisobga olgan holda shaxsiylashtirilgan yondashuvga qaratilgan bo'lishi kerak.*

***Kalit so'zlar:*** *anormal bachadon qon ketishi, reproduktiv yosh, endometriyal giperplaziya, rivojlanish uchun xavf omillari, hayz davrining buzilishi.*

In the modern world, approximately 50% of women of reproductive age experience abnormal uterine bleeding (AUB) at least once in their lifetime, and only 25% of them seek medical assistance. AUB rarely poses a threat to a woman's life. However, recurrent bleeding can lead to chronic iron deficiency anemia, which may result in reduced social and professional activity, disruptions in sexual activity, and the development of persistent psychosomatic disorders [3].

AUB is often an indication for intrauterine interventions involving endometrial curettage, which in itself is a trauma to the endometrium and a risk factor for the development and/or progression of uterine fibroids, adenomyosis, endometrial hyperplasia (EH), chronic endometritis, "thin endometrium" with the formation of Asherman's syndrome, and, as a result, a decrease or loss of reproductive function [7]. Hospitalization for AUB not only entails financial expenses but also causes emotional discomfort for women [8]. AUB is defined as uterine bleeding that is abnormal in volume, regularity, and/or duration. At present, AUB should be classified according to the recommendations of the International Federation of Gynecology and Obstetrics (FIGO PALM-COEIN, 2018) [1]. It is known that AUB in women of reproductive age is most often associated with proliferative disorders such as adenomyosis, uterine fibroids, and endometrial hyperplasia (EH). In this study, the authors focused specifically on EH as one of the most common causes of AUB in women of reproductive age [6].

From a pathogenetic perspective, EH is the result of prolonged exposure to excessive estrogen levels, which,

unlike progesterone, stimulates the growth of endometrial cells [4]. Factors predisposing to the development and recurrence of EH include early menarche, conditions accompanied by anovulation (such as polycystic ovary syndrome), estrogen-producing ovarian tumors, infertility, a burdensome premorbid background — obesity, type 2 diabetes mellitus, arterial hypertension, Lynch syndrome, the perimenopausal period, late menopause, tamoxifen therapy, the use of exogenous estrogens, and short courses of progestogens without long-term relapse prevention therapy (such as a levonorgestrel-releasing intrauterine system) [3].

**Purpose of the study**

Identification of risk factors for the development of abnormal uterine bleeding caused by endometrial hyperplasia based on the analysis of clinical and anamnestic data in women of reproductive age.

**Material and methods**

A total of 90 women of reproductive age were examined at the gynecological department of the Tashkent Medical Academy. The control group consisted of 30 women seeking pregnancy planning and preconception counseling. The main group included 60 women with AUB caused by EH. The diagnosis of EH was confirmed histologically by endometrial biopsy during hysteroscopy. All patients provided informed consent to participate in the study. Exclusion criteria were as follows: adenomyosis of stages III-IV, uterine fibroids of types 0, I, II according to the 2011 FIGO classification, myomatous nodes of medium and large size, acute inflammatory pelvic diseases, EH with atypia, and pregnancy. The clinical documentation of women in both groups included a history of the present illness and its symptoms (cycle duration, intensity of bleeding, presence of clots, intermenstrual bleeding), menstrual history, the use of medications that could potentially provoke AUB, reproductive function characteristics, the use of various contraceptive methods, data on gynecological and extragenital diseases, previous surgeries on the abdominal and pelvic organs, history of sexually transmitted infections, and socio-economic factors. The examination included a general physical exam, measurement of height and weight with calculation of body mass index (BMI), assessment of somatic health with consultation from a therapist, and, if necessary, a neurologist, ophthalmologist, or endocrinologist.

**Results**

In all studied groups, the patients were of reproductive age, under 45 years old [2]. The average age of patients in the main group corresponded to late reproductive age, while the control group statistically included more women of active reproductive age. This finding is consistent with current data, as the prevalence of EH increases with age [5]. Given the increasing prevalence of obesity and its strong association with EH, BMI was determined for all patients. The average height in both the main and control groups was 1.65 (1.62; 1.70) m, while the average body weight was 70.5 (61.0; 81.50) kg and 65.0 (59.5; 75.0) kg, respectively. The BMI was 25.6 (21.7; 29.4) kg/m$^2$ in the main group and 23.5 (22.0; 26.5) kg/m$^2$ in the control group. Analysis of social status revealed that significantly more women with unsettled family lives (living in an unregistered marriage or divorced) were found in the main group compared to the control group – 32 (53.33%) out of 60 in the main group versus 6 (20%) out of 30 in the control group. Higher education was observed in 32 (53.33%) women in the main group, which was often associated with higher emotional stress compared to the control group, where 6 (20%) out of 30 had higher education, with most having secondary or vocational education. The age at menarche did not differ significantly between the groups – 13.0 (12.0; 140) years in the main group and 13.0 (13.0; 14.0) years in the control group.

No statistically significant differences were found in the duration of the menstrual cycle or menstrual bleeding between the main and control groups. The menstrual cycle length in the main group was 28.0 (27.0; 30.0) days, and menstrual duration was 5.0 (5.0; 6.0) days; in the control group, it was 28.0 (27.0; 30.0) days and 5.0 (4.0; 6.0) days, respectively. However, significant differences were noted in the menstrual rhythm between women with EH and those in the control group. AUB in the form of delayed menstruation was observed in 20 (33,33%) out of 60 women in the main group, compared to only 2 (6,66%) out of 30 in the control group. In women with EH, a high, statistically significant level of infertility was observed – 15 (25.0%) out of 60 women—compared to the control group, where 3 (10%) out of 30 women had infertility. Secondary infertility was found with the same frequency in both groups. Medical abortions occurred more frequently in the main group – 27 (45%) out of 60 women – compared to the control group, where 8 (26,66%) out of 30 women had a medical abortion. When analyzing gynecological diseases, women in the main group had a statistically significantly higher incidence of genital endometriosis (confirmed by laparoscopy), uterine leiomyoma, and chronic endometritis (confirmed by morphological examination) compared to the control group. Among the somatic diseases, gastrointestinal diseases (chronic gastritis, chronic gastroduodenitis, peptic ulcer disease, and cholelithiasis) were statistically more common in the main group than in the control group. No statistically significant differences were found between the groups regarding other extragenital pathologies. Both groups had a similar frequency of previous pelvic surgeries: in the control group, 17 (56,66%) out of 30 women had undergone surgery, and in the main group, 35 (58.35%) out of 60 women ($p>0.05$). The surgeries included cesarean section, myomectomy, ovarian surgeries, and tubectomy. Statistical analysis of clinical and anamnestical data revealed the following risk factors for the development of EH with AUB in women of reproductive age: age over 35 years, unregistered marriage, overweight, gastrointestinal diseases, an irregular menstrual cycle in the history, primary infertility, uterine fibroids, EH, chronic endometritis, and medical abortions in the history. Analysis of the complaints from the examined patients showed that in women with EH, AUB manifested as heavy menstrual bleeding in 37 (61,66%) out of 60 women and painful menstruation in 27 (45%) out of 60 women.

**Conclusion**

1. It was established that the risk of developing EH increases with age, excess body weight, gastrointestinal diseases, an irregular menstrual cycle in the history, primary infertility, genital endometriosis, chronic endometritis, medical abortions in the history, and among women in unregistered marriages.

2. For modifiable risk factors of EH, educational work should be conducted among women in the risk group, focusing on lifestyle changes, abortion prevention, and individualized contraceptive methods. Studying the risk factors for EH in women of reproductive age will enable primary and secondary prevention of the disease and help preserve reproductive function. Further research should focus on a personalized approach to the treatment of women with EH, considering the risk factors for its development and preventing recurrences.

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***Objective:*** *To identify risk factors for abnormal uterine bleeding caused by endometrial hyperplasia based on the analysis of clinical and anamnestic data in women of reproductive age.* ***Material and methods:*** *90 women of reproductive age were examined at the gynecological department of the Tashkent Medical Academy. The control group consisted of 30 women who sought pregnancy planning and pre-pregnancy counseling. The main group consisted of 60 women with abnormal uterine bleeding caused by endometrial hyperplasia. The diagnosis of endometrial hyperplasia was confirmed histologically by endometrial biopsy during hysteroscopy. All patients gave informed consent to participate in the study.* ***Results:*** *The risk of endometrial hyperplasia increases with age, in women with excess body weight, gastrointestinal diseases, irregular menstrual cycle in history, primary infertility, genital endometriosis, chronic endometritis, medical abortion in history, as well as among women in unregistered marriages.* ***Conclusions:*** *Further research should be aimed at a personalized approach to the treatment of women with endometrial hyperplasia taking into account the risk factors for its development and prevention of relapses.*

***Key words:*** *abnormal uterine bleeding, reproductive age, endometrial hyperplasia, risk factors of development of infertility, menstrual cycle disorders.*