



**Dudnichenko N.A., Pirozhenko Yu. S., Kolisnyk A. I., Fesenko E.A.**  
**CLINICAL DIAGNOSTIC PECULIARITIES OF ENDOMETRIAL HYPERPLASIA  
ACCOMPANIED BY HYSTEROMYOMA**

**Kharkiv National Medical University, Kharkiv, Ukraine**  
**Department of obstetrics, gynecology and pediatric gynecology**  
**Scientific supervisor: professor Tuchkina I. A.**

**Introduction.** Hysteromyoma has traditionally been viewed as a benign tumor of female genitalia, accompanied, as well as proliferative processes in the endometrium, by a number of endocrine and metabolic changes, with a peak in its incidence occurring in perimenopausal age. Endometrial hyperplasia (EH) accompanied by hysteromyoma in women is associated with an increase in the frequency of dysfunctional uterine bleeding. A combination of such factors as endometrial hyperplasia and hysteromyoma increases the risk of endometrial cancer twofold. Thus, combination of EH with hysteromyoma is a common pathology of female reproductive system. The study of myometrial comorbidity is of interest not only in terms of identifying possible common pathogenic factors, but also in terms of objective cancer risk criteria identification in patients with overlapping myometrial disorder.

**Aim.** To identify clinical and diagnostic peculiarities of endometrial hyperplasia associated with hysteromyoma.

**Materials and methods.** Thirty female patients with EH aged from 35 to 45 were admitted to Kharkiv Maternity Hospital No.1. The main (1<sup>st</sup>) group involved 15 patients with EH accompanied by hysteromyoma. Second (comparison) group included 15 women with EH but without hysteromyoma. In order to diagnose hyperplasia and hysteromyoma the women were administered complete clinical examination, taking medical history, pelvic examination, ultrasound examination of pelvic organs using ultrasound device Medison 6000CMT (South Korea). All the patients filled in questionnaire forms. Statistical processing of the results was performed using software Microsoft Exel, Statistika 6.0.

**Results.** The main manifestations of EH accompanied by hysteromyoma included acyclic uterine bleeding (60%), heavy menstruation (38%), prolonged menstruation (41.4%), severe dysmenorrhea (26.3%). Women with EH but without hysteromyoma in history developed such major clinical manifestations as ovarian-menstrual cycle disruption (24.8%), acyclic uterine bleeding (20.7%). Histological examination of endometrial scrapings in women with EH accompanied by hysteromyoma showed the presence of atypical cells in 1.3%, while examination of endometrial scrapings in women with EH but without hysteromyoma did not detect atypical cells.

**Conclusions.** The study suggests mutual aggravated impact of EH and hysteromyoma. Clinical symptoms are more severe in patients with endometrial hyperplasia accompanied by hysteromyoma.

**Dynnik O.O.**

**THE ROLE OF SEX STEROID-BINDING GLOBULIN IN ABNORMAL UTERINE  
BLEEDING AT PUBERTY**

**Kharkiv National Medical University, Kharkiv, Ukraine,**  
**Department of obstetrics and gynecology N1**

**Introduction.** The course of puberty in girls is a predictor of the organism physical readiness to the realization of reproductive function in the future. Menstrual disorders are



one of clinical manifestations of the pathology at puberty, and the most common form of the reproductive system dysfunction in puberty is abnormal uterine bleeding (AUB).

**The aim** of our study was estimation of the peculiarities in the content of steroid hormones and sex steroid-binding globulin (SSBG) in patients with AUB and different body weight in the period of puberty.

**Materials and methods.** A complex clinical and laboratory investigation was carried out in 142 adolescent girls with AUB, aged 11-17 years. The patients were divided into three groups basing on the body mass index (BMI). The first group comprised 72 patients with BMI physiological parameters, group 2 included 54 patients with overweight, and 30 patients with underweight formed the third group. Total levels of blood serum T, E<sub>2</sub>, insulin (IRI) and SSBG were measured in all the patients. HOMA-IR and free androgen (FA) indices were estimated in the study.

**Results.** It has been revealed that the average level of SSBG in gr. I and gr. III patients does not differ from this in the control group, and it is significantly lower in the patients from gr. II than in the adolescents of the other two groups and the control findings. Most frequent normative SSBG changes have been registered in the patients of gr. III (63.6 %), and less frequent they have been revealed in the patients of the second group (36.8%;  $p_{1,2} < 0.02$ ). A significantly lower level of SSBG has been established also in the patients of the latter group (50 %;  $p_{1,2} < 0.04$ ). There are references in the literature that hyperglycemia has an impact on the SSBG level. It decreases in the presence of insulin resistance (IR) or hyperinsulinemia. Having performed the analysis in each of the groups separately, we have not revealed any relationships of SSBG with the level of the immunoreactive insulin and IR. Its dependence only on the BMI has been registered in our study. Taking into consideration that the main effect in the organism is produced by free androgen fractions, we have calculated the FA index. Its significant increase has been observed in the patients of gr. II. Androgenic dermatopathy manifestations (hypertrichosis, hirsutism, seborrhea oleosa, acnae vulgaris and striae) are also more frequent in the patients of this group. It should be noted that the proportion of patients with androgen-related dermatopathy (ARD) grows with an increase in the FA index in the patients of the first and second groups. Various manifestations of ARD were 14.1% at the reference values of the FAI, they increased convincingly (up to 47.7%) when the index values were above 75 percentile, and reached 51.6% with the FAI values above 90 percentile. The most pronounced increase in the proportion of patients with ARD against a rise in the FA index occurred in adolescents with overweight ( $p < 0,001$ ). Such a regularity has not been registered at the body weight deficiency. With an increase in the FAI, the number of patients with various ARD manifestations decreased significantly, and when FAI value exceeded 75 percentile, ARD has not been recorded at all. The degree of ARD does not always correlate with the degree of androgen excess. Particularly high sensitive to androgens is pilose-sebaceous cover of the skin, where under the influence of the 5-alpha reductase T is transformed into dehydrotestosterone. Some disorders, related with specific receptors, involved in androgen stimulation of hair follicles, take place in patients with body weight deficiency. Thus, hormonal background in the patients with AUB is dependent to a considerable extent on the BMI, against which the uterine bleeding is formed.

**Conclusions.** 1. The level of SSDG in patients with AUB at puberty depends on the body weight, against which the bleeding is being formed. A reliable decrease in this globulin has been registered in patients with overweight. 2. Despite the fact that the level of total



testosterone in most of our patients remains within the reference range, the FAI index corresponds with normative parameters in half of the cases. In a third of the patients from gr. I and in half of the patients from gr. II its values exceed the norm and are associated with androgen dermopathy. Almost in a third of patients of the third group, on the contrary, the FAI value is reduced.

**Fedkovich L. A., Epshtein M. M., Piloyan A. Zh., Sheyko A. I.**

**STRUCTURAL ABNORMALITY OF FEMALE GENITALIA (CASE REPORT)**

**Kharkiv National Medical University, Kharkiv, Ukraine**

**Department of obstetrics, gynecology and pediatric gynecology**

**Scientific supervisor: professor Tuchkina I.A.**

**Material and methods.** A 13-year-old patient D. was admitted to Kharkiv Regional Children Clinical Hospital No. 1 presenting with menstrual cycle disorder in the form of bleeding lasting from May 2014.

**Results.** History of the disease: the disorder has been bothering her since May 2014, when the first signs of menstrual disorder appeared. From 23/05/14 to 27/05/14 she underwent in-patient treatment for juvenile uterine bleeding. Examination revealed absence of the right kidney. On 06.06.14 she was found to have discharge with blood clots following which there was a "dry period" from 01.07 to 02.07.14 and from 03.07 to 08.07.14 she developed profuse discharge with blood clots. On 26.06.14 she underwent examination at Alchevsk Children Hospital. Diagnosis: Malformations of internal genitalia. Dimetria. Endometrial polyp of the right uterus. Aplasia of the right kidney. She was referred to in-patient department for complete examination. On 08.12.14 she was admitted to Kharkiv Regional Children Clinical Hospital No. 1 for diagnosis specification. Life history: according to information provided by the patient, she has not had tuberculosis, infectious hepatitis, sexually transmitted diseases, traumas, surgical operations, gynecological diseases. Her past history includes chicken pox, ARVI. Menstrual function: menarche at 12; regular, moderate, painless menstruation lasting for 5 days, in 25 days. Somatic status: general condition is relatively satisfactory. Skin and visible mucosa are of normal color, clean. Her tongue is moist, clean. Lungs: vesicular breathing. Heart: clear, rhythmic tones. Pulse is 70 beats/min, blood pressure is 110/70 mmHg. The abdomen is soft, painless on palpation. The liver and spleen are not enlarged. St.genitalis: slightly atypical structure of the external genitalia. Labia majora are hypoplastic. Labia minora are significantly hypertrophic, resembling wing-shaped scrotal tissue. Clitoris is hypoplastic, located atypically high. Vulva is funnel-shaped. Hymen is ring-shaped and intact. On rectoabdominal examination: uterus is enlarged, irregular and painless. Right adnexa are not detectable, with lower pole of soft elastic mass highly detectable on the left (described at ultrasound examination as hematosalpinx).

Clinical examination: clinical blood essay: erythrocytes -  $4,7 \times 10^{12}$  g/l, hemoglobin - 138 g/l, hematocrit - 41%, platelets - 250 thousand, leukocytes -  $9,5 \times 10^9$ , eosinophils - 1%, basophils - 1%, stabs - 1% segmented - 65%, lymphocytes - 27%, monocytes - 5%, ESR- 3mm/h. Coagulogram: prothrombin time - 14.3 sec., fibrinogen - 2.8 g/l, thrombin time - 16.3 sec., ethanol test - negative. Hormonal profile: testosterone - 0.057 ng/ml (1.4-0.9), FSH - 5.56 ng/ml, LH - 6.44 ng/ml, prolactin - 18.43 ng/ml, estradiol - 16.56 ng/ml, progesterone 0.371 ng/ml, cortisol - 509.7 nmol/l. Ultrasound examination of kidneys:



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Suppression of sex hormone-binding globulin (SHBG) and increased estrogen production may lead to reduced gonadotropin secretion in the obese men [114, 124–126]. In fact, obese men have decreased total and bioavailable testosterone levels [59, 124, 125, 127–130] and reduced inhibin-B concentrations [124, 126, 131] and diminished LH pulse amplitude [59]. Prepubertal levels of SHBG are approximately equal in boys and girls. At puberty, levels decline in both sexes but the decline is greater in males (Pinkney et al., 2014). The difference between genders is likely due to differences in androgen levels as androgens are known to suppress SHBG levels (Garces et al., 2010).