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# ACTUAL PRIORITIES OF MODERN SCIENCE, EDUCATION AND PRACTICE

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# PREVALENCE OF CLINICAL VARIANTS OF POLYCYSTIC OVARY SYNDROME

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Hyperandrogenism (HA) is the most common endocrinopathy in women, caused by excessive production of androgens by the ovaries and / or adrenal glands or increased local tissue sensitivity to circulating androgens. Frequent and characteristic manifestations of HA include dermatopathy (acne, alopecia, seborrhea, and hirsutism) and polycystic ovary syndrome (PCOS). Clinical manifestations of hyperandrogenism are acne, hirsutism (enhanced hair growth in women of the male type - in androgen-dependent areas), seborrhea, androgenetic alopecia (male pattern baldness), virilization (roughening of the voice, malnutrition of the mammary glands, android body structure). In addition, HA can be manifested by disorders of a woman's reproductive function, such as ovulation disorders, infertility and miscarriage. According to the literature, signs of HA are observed in 10-20% of women [4].

PCOS is the most common endocrine condition affecting between 8 and 13% of women of reproductive age [1, 2, 5]. PCOS occurs in women of all ages, from puberty to menopause, involving almost all systems of the body [8]. The set of complaints in patients with PCOS is usually standard and is represented by three conditional groups, with which they usually go to the doctor: enhanced hair growth in women of the male type (hirsutism), increased oiliness and peeling of the skin (seborrhea), rashes on the face, back (acne); menstrual disorders, namely infrequent menstruation (oligomenorrhea), prolonged absence of menstruation (amenorrhea), intermenstrual blood secretions from the genital tract (abnormal uterine bleeding); infertility. Considering the nature of the complaints, the doctors of the first contact with patients suffering from PCOS, first of all, are obstetrician-gynecologists and dermatologists, and the so-called latent manifestations of pathology expand the range of specialists. Women with PCOS have different features, including psychological, reproductive and metabolic [1, 7].

In 2018, the International evidence-based guideline for the assessment and management of polycystic ovary syndrome was published, which is the result of the work of 37 organizations from 71 countries of the world [3]. There are 4 phenotypes of PCOS (clinical variants): phenotype A (classical), which is characterized by chronic anovulation, hyperandrogenism, polycystic ovary transformation (according to ultrasound); phenotype B (incomplete classical or anovulatory): hyperandrogenism and oligoanovulation (without ultrasound signs of polycystic ovarian morphology); phenotype C (ovulatory): hyperandrogenism and polycystic ovarian morphology (according to ultrasound) on the background of regular ovulatory cycles; phenotype D (non-androgenic): chronic anovulation and polycystic ovarian transformation (according to ultrasound) without clinical / biochemical hyperandrogenism [4].

**The purpose of the research:** on the basis of comprehensive clinical and laboratory examination and ultrasound investigation to establish the prevalence of clinical variants of polycystic ovary syndrome.

**Materials and methods**

The main group of the research included 34 patients who complained of menstrual irregularities and / or dermatopathies by recommendation of a dermatologist. The control group is represented by 30 women without gynecological and somatic pathology.

The severity and distribution of hirsutism were determined by a modified Ferriman-Gallwey scale. To assess the severity of acne, women are consulted by a dermatologist. Body mass index (BMI) was determined, which was calculated by the formula (BMI = body weight / height$^2$ (kg / m$^2$). According to the WHO, overweight was considered at a BMI of 25,0 kg / m$^2$, and obesity – from 30,0 kg / m$^2$. In order to establish the diagnostic criteria that characterize PCOS, a comprehensive clinical and laboratory examination and ultrasound in the dynamics. Quantitative assessment of the concentration of hormones in blood plasma was performed by enzyme-linked immunosorbent assay to determine the level of cortisol – C (μg / DL), thyroid-stimulating hormone – TSH (μIU / ml), prolactin – Pr (ng / ml), free testosterone – Tf (pg / ml) and its index (%), androstenedione – An (ng / ml), dehydroepiandrosterone sulfate – DHEA-S (μg / dl) and 17-α-OH-progesterone –

17-OHP (ng / ml), sex hormone binding globulin – SHBG (nmol /l). The research was performed on the third-fifth day of the menstrual cycle. Criteria for the diagnosis of PCOS are the presence of at least 2 of the 3 criteria [4].

Each woman was interviewed about the feasibility of additional research methods and consent was obtained. Variation-statistical processing of results was carried out using licensed standard packages of applications of multidimensional statistical analysis «STATISTICA 13».

**The results obtained**

The average age of women in the main group was 26,4 ± 0,9 years and 29,1 ± 0,9 years in the control group (p> 0,05). The age of women in the study groups ranged from 18 to 35 years. According to the gynecological anamnesis, 73,5 % of women indicated menstrual cycle irregularities and 52,9 % - infertility. Clinical manifestations of menstrual dysfunction included, in particular, oligo-/amenorrhea - infrequent or prolonged absence of menstruation. According to the ultrasound examination, 94,1 % of patients had ultrasound signs - polycystic ovarian morphology according to the criteria for the diagnosis of PCOS. The vast majority of women in the main group - 88,2 %, have anovulation - absence of ovulatory cycles. Dermatopathies, such as acne and hirsutism, in our research were recorded in 47,1 % and 41,2 % cases, respectively, and in every third woman were combined. According to laboratory examination, it was found that among women of the main group androstenedione levels were increased by more than half - in 19 (55,9 %). However, according to the assessment of the level of Tf and its index, an increase of these indicators was found only in 2 (5,9 %) and 5 (14,7 %) women, respectively. It should be noted that 62,5 % of women with acne had elevated androgen levels. Analyzing the frequency of phenotypes (clinical variants) of PCOS, it was found (Pic. 3) that phenotype A (classical) occurred in 32,4 %. Phenotype B (incomplete classical) was diagnosed in 14,7 %, and phenotype C (ovulatory) in only 8,8 %. The most often, namely in 15 (44,1 %) women with PCOS, the phenotype D (non-androgenic) was established.

**Conclusions**

The results of the conducted research indicate that among the clinical variants of polycystic ovary syndrome, the most commonly was diagnosed non-androgenic phenotype (phenotype D), the frequency of which was 44,1%. Classical (phenotype A) and incomplete classical (phenotype B) were established in 32,4% and 14,7%, respectively, and only 8,8% of women with polycystic ovary syndrome were diagnosed with phenotype C (ovulatory).

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