



CLINICAL, LABORATORY AND INSTRUMENTAL METHODS FOR DIAGNOSTICS OF POLYCYSTIC OVARIAN SYNDROME

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Annotation

Polycystic ovary syndrome is a socially significant endocrine disease that leads to infertility, depression in young women and reduces their quality of life. Over many years of studying polycystic ovary syndrome, various methods for its diagnosis and treatment have been developed. Despite this, polycystic ovary syndrome still occupies a leading position among the causes of endocrine infertility. Therefore, this pathology remains relevant and predetermines the need for further study and improvement of diagnostic and treatment methods. This article discusses the diagnostic criteria for polycystic ovary syndrome in women of childbearing age.

Keywords: polycystic ovary syndrome, diagnostic criteria, infertility, hyperandrogenism, anovulation, ultrasound changes.

Relevance

Polycystic ovary syndrome is a polyetiological heterogeneous disease characterized by menstrual irregularities, chronic anovulation, hyperandrogenism, an increase in size and a change in the morphological structure of the ovaries [1, 3, 8, 22]. Due to the high prevalence, this pathology is still considered relevant in gynecological endocrinology [2, 4, 10, 21].

Diagnosis of polycystic ovary syndrome can be established in the presence of two of these three manifestations: the absence of ovulation, hyperandrogenism, the presence





of polycystic disease (multifollicular ovaries) with an increase in ovarian volume according to ultrasound [5, 7, 19].

Violations of menstrual function are presented in the form of oligomenorrhea or primary (secondary) amenorrhea, which may alternate with metrorrhagia. Along with the violation of the menstrual cycle, the pathology of the reproductive system is a constant symptom of this endocrine disorder, mainly primary infertility in 71-98% [6, 16, 17].

Clinical and biochemical signs of hyperandrogenism include: normal or slightly elevated levels of testosterone, estradiol and 17-hydroxyprogesterone; normal or reduced levels of steroid-binding globulins; increased index of free testosterone; in the absence of the corpus luteum, progesterone corresponds to the early follicular phase; symptoms of hyperandrogenism: hirsutism, acne, seborrhea, alopecia and others; primary or secondary infertility of anovulatory genesis [12, 14].

Often, hormonal disorders in polycystic ovary syndrome are accompanied by impaired insulin function (insulin resistance) and its excessive production. This leads to the fact that polycystic ovary syndrome is accompanied by a complex of symptoms, which is called metabolic syndrome and is manifested by obesity, arterial hypertension, high cholesterol and impaired glucose uptake. In the absence of appropriate treatment, type 2 diabetes mellitus and coronary heart disease develop over time, which is the main cause of death along with oncological diseases [3, 4, 10]. As a rule, examination of a woman begins with an ultrasound examination of the pelvic organs. The presence of polycystic ovaries is one of the criteria for polycystic ovary syndrome, but not one symptom is required to make a diagnosis, but two.

Ultrasound changes in polycystic ovary syndrome include:

- detection of 8-12 follicles and more, having a diameter of 2-10 mm;
- increase in ovarian volume > 9-10 cm³;
- detection of an enlarged ovarian stroma, which occupies more than 25% of the volume of the ovaries [7, 12, 13].

There are two types of polycystic ovaries on ultrasound [2, 11]. In type I, a diffuse arrangement of follicles is observed, and in type II, a peripheral arrangement of follicles in relation to the stroma.

Ultrasound is a non-invasive method. Invasive methods include laparoscopic and morphological signs of polycystic ovary syndrome.

Laparoscopic signs of polycystic ovary syndrome include: ovarian enlargement is mostly bilateral; smooth, shiny, dense or thickened membrane of the ovaries; pronounced vascular pattern on the surface of the ovarian membrane; multiple



subcapsular cysts that are translucent through the membrane and are clearly visible on the cut [8, 9].

The pathomorphological signs of polycystic ovary syndrome include: an increase in the number of primordial, maturing and cystic-atretic follicles by 2-5 times; absence of yellow and white bodies; sclerosis and thickening of capillaries [11, 20].

In conclusion, we can say that the diagnosis of polycystic ovary syndrome can be made as accurately as possible on the basis of the criteria described above, which subsequently will largely determine the effectiveness of therapy, especially in patients with menstrual irregularities and infertility.

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