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## **OPTIMIZATION BY THE METHOD OF PCOS DIAGNOSIS IN WOMEN WITH CHRONIC IODINE DEFICIENCY**

**Resume:** Polycystic ovary syndrome is one of the most common endocrinopathies in women of reproductive age. The incidence of PCOS is about 30% among patients of gynecologists-endocrinologists, and in the structure of endocrine infertility it reaches 75%. Up to 95% of cases of hirsutism in women are associated with polycystic ovary syndrome. Diagnostic methods are extensive and are not limited only to the reproductive sphere. The article presents the main diagnostic methods and treatment strategies for patients with PCOS.

**Key words:** polycystic ovary syndrome, infertility, ovaries, iodine deficiency, ovulation.

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## **ОПТИМИЗАЦИЯ МЕТОДОМ ДИАГНОСТИКИ СПКЯ У ЖЕНЩИН С ХРОНИЧЕСКОМ ЙОДОДЕФИЦИТОМ**

**Резюме:** Синдром поликистозных яичников является одной из самых частых эндокринопатий у женщин репродуктивного возраста. Частота СПКЯ составляет около 30% среди пациенток гинекологов-эндокринологов, а в структуре эндокринного бесплодия достигает 75%. До 95% случаев гирсутизма у женщин связано с синдромом поликистозных яичников. Методы диагностики обширны и не ограничиваются только

репродуктивной сферой. В статье представлены основные методы диагностики и стратегия лечения пациентов с СПКЯ.

**Ключевые слова:** синдром поликистозных яичников, бесплодие, яичники, йододефицит, овуляция.

**Relevance.** In recent years, the concept has been put forward, which has received universal approval, that the clinical manifestations of polycystic ovary syndrome (PCOS) should be treated as a syndrome, not as a disease, and the most common name "polycystic ovary syndrome" should be retained. The peculiarity of this syndrome is the large variability of clinical manifestations and laboratory data [4,6,11].

Among patients with endocrine infertility, PCOS occurs in 30-40% of cases.

The frequency of restoration of regular ovulatory cycles in the treatment of PCOS reaches 80-90%, but the restoration of fertility in this disease is a big problem due to the relatively low effectiveness of both conservative and modern endoscopic methods of treatment, not exceeding according to E.M. Vikhlyayeva (1980), T.G. Gadiati (2000) and other authors, 50%-60%. Moreover, even the use of assisted reproductive technologies in patients with PCOS is less effective than in other forms of infertility[2,5,8,10].

The unresolved problem of infertility against the background of PCOS prompted the study of the morphofunctional state of the endometrium in this disease, which plays an important role in the processes of implantation and pregnancy development [1,3,7,9].

**The purpose of the study.** Optimization of therapy of patients with polycystic ovary syndrome with different clinical phenotypes.

**Materials and methods of research.** On the basis of the Regional Perinatal Center of Andijan (OPC) for the period from 2019-2021, a comprehensive examination of 100 patients who first applied for infertility

against the background of PCOS, who made up the I (main) group, was conducted.

Group II (comparison) consisted of 150 patients with PCOS treated for infertility in the period from 1998 to 2000, on the basis of whose medical histories a retrospective analysis of the effectiveness of various therapies was carried out.

**The results of the study.** The presence of clinical, metabolic and ultrasound differences in women with PCOS with different body weight makes it advisable to distinguish two clinical and pathogenetic variants of this syndrome: with obesity (65.25%) and type II polycystic ovaries with peripheral follicle arrangement (71.35%) and without obesity (34.75%) with type I polycystic ovaries with diffuse arrangement of follicles (65.57%).

Characteristic hormonal disorders in both phenotypes of PCOS are: not only elevated levels of free testosterone (82.89%), levels of luteinizing hormone (64.37%), LH/FSH index  $>2$  (50.36%), dehydroepiandrosterone sulfate (24.51%) in the blood serum of patients, reduced somatotrophic hormone (48.22%) and sexsteroid-binding globulin (77.97%), as well as elevated levels of androstenedione (57.64%) and reduced glycodelin (78.95%).

In PCOS with obesity, hyperinsulinemia occurs 2 times more often (74.01%) than in non-obese patients (48.78%); impaired glucose tolerance in 43.01% of obese women; hyper-peptidemia - in 44.74% of patients with visceral obesity and in 23.07% of patients with gluteofemoral obesity and only with a BMI of more than 30 kg/m is a marker of the severity of metabolic disorders.

Disorders of the blood lipid spectrum (hypercholesterolemia, hypoalphalipoproteidemia and hypertriglyceridemia), detected in 86.84% of patients with visceral obesity and 74.36% with gluteofemoral obesity, as well as in 51.22% with normal body weight, indicate an increase in the atherogenic potential of blood in patients with PCOS.

A high risk (40-80%) of coronary heart disease was detected only in patients with polycystic ovary syndrome and obesity (9.11%).

In patients with PCOS and obesity: visceral and gluteofemoral, higher levels of leptin were observed (respectively:  $52.76 \pm 3.21$  and  $42.40 \pm 2.87$  ng/ml) than in patients with PCOS without obesity ( $14.99 \pm 0.49$  ng/ml). The value of the leptin/BMI index  $>0.7$ , accompanied by a decrease in fertility function, was significantly higher in the group of obese patients ( $1.65 \pm 0.11$ ), compared with the group of patients with PCOS without obesity ( $0.68 \pm 0.06$ ), ( $p < 0.001$ ).

Therapy with metformin and pioglitazone leads to an improvement in metabolic and normalization of hormonal disorders in PCOS: a significant decrease in the levels of immunoreactive insulin, C-peptide, insulin resistance indexes, leptin, atherogenicity coefficient, free testosterone and an increase in glycodelin levels by 20.8-56.5%, depending on the listed indicators and phenotype of patients with PCOS.

Restoration of the regular menstrual cycle against the background of metformin and pioglitazone therapy was noted in 78.95% and 94.73% of obese patients; ovulatory cycle - in 21.05% of patients with visceral obesity; in 35% and 42.10% of women - with gluteofemoral obesity, respectively; pregnancy onset in 15.79% and 21.05% of patients - with visceral obesity and in 25% - with gluteofemoral obesity.

**Conclusion.** Based on the study of hormonal and metabolic disorders, proposals for the optimization of conservative methods of treatment of patients with PCOS, including the improvement of methodological approaches to the examination of patients and the principles of their therapy, are substantiated and formulated.

The expediency of including in the complex of hormonal examination of patients with PCOS to determine the content of somatotrophic hormone, free testosterone, androstenedione and glycodelin in the blood serum is shown.

The necessity of assessing the secretion of insulin, C-peptide, glucose tolerance and lipid parameters of blood serum for the early detection of insulin resistance, hyperinsulinemia and dyslipoproteidemia not only in patients with PCOS and obesity, but also with normal body weight is substantiated. The detection of these disorders, which form the basis of the metabolic syndrome, indicates a high probability of developing type 2 diabetes mellitus (DM) and coronary heart disease.

A differentiated approach to the management of patients with PCOS is proposed. The high efficiency of adequate reduction of hyperinsulinemia in obese patients for the correction of hormonal and metabolic disorders has been shown.

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