ORIGINAL PAPERS

THE BASIC METHODS OF DIAGNOSIS, TREATMENT AND REHABILITATION OF WOMEN'S REPRODUCTIVE FUNCTION IN POLYCYSTIC OVARY SYNDROME

ABSTRACT

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INTRODUCTION

In this article are highlighted infertility problems in patients with PCOS and advance of diagnostic, therapeutic and preventive measures in patients with PCOS. The article discusses the results of retrospective and prospective analysis of 31 case histories of patients with polycystic ovary syndrome. In accordance with the purpose and objectives of the study conducted a prospective analysis of n = 9, and a retrospective analysis of medical history n = 22 patients with PCOS (2010-2014) at the age of 19-41 years, the control group consisted of 15 women without the disease. Patients with PCOS are distributed depending on the age group, BMI, Postponed disease and outcomes of previous pregnancies that marks the relationship of infertility in patients with PCOS with these characteristics. The diagnosis of PCOS is set based on 3 criteria of Rotterdam Consensus Conference, including menstrual dysfunction, signs of hyperandrogenism and echographic signs of polycystic ovary. Women with PCOS and with obesity II and III degrees the treatment was not performed. The remaining 87% of the women (27) were treated. As an exodus of pregnancy in PCOS with obesity is much worse than in non-obese PCOS, as a treatment was assigned diet and exercise. The use of Dexamethasone with Clomiphene is more effective in stimulating ovulation therefore both drugs were used together, as well as Didrogesteron. Out of 87% (27), 67.7% became pregnant (23). This shows that the conducted complex methods of diagnosis and treatment of patients with PCOS allow restoring reproductive function in patients with infertility in PCOS.

METHODS

Retrospective and prospective analysis of 31 patients' medical history with PCOS; clinical, laboratory, biochemical, hormonal, instrumental and statistical. In 2 groups were conducted research and observations and evaluated their results, made conclusions.

RESULTS

Polycystic ovary syndrome in the majority of cases, 48.3% accounts for reproductive age from 19 to 25 years. Disturbances of menstrual and generative functions occurred in all patients (100%), with PCOS. In the analysis of postponed diseases is noteworthy the high frequency of childhood infections (48.3%), of the surveyed population. Moreover the largest number mainly of neuroinfections (measles, anginas, mumps, rubella), accounted for the critical periods of the formation and development of the reproductive system (from 6 to 17 years). Among the patients with PCOS a normal BMI diagnosed in 9 (29.0%). In 10 (32.2%), investigated found excess body weight, BMI. The remaining 12 of 31 (38.7%), patients with PCOS revealed obesity. Almost in all the examined were found an increase of ovaries due to hyperechogenic stroma (93.5%) in average of 17.7 ± 0.9 and 0.7 ± 15.01 cm3 and the presence of a plurality of peripherally located cystic inclusions (29%). Out of 87% (27), who were treated became pregnant 67.7% (23).

CONCLUSION

Thus, PCOS diagnosis was made by virtue of 3 criteria of the Rotterdam Conference. In conclusion, it should be noted that integrated methods of diagnosis and treatment of patients with PCOS could successfully recover reproductive function in patients with infertility.

KEYWORDS

Stein-Leventhal Syndrome, Hyperandrogenism, Menstrual cycle, Anovulation

INTRODUCTION

Polycystic ovary syndrome (PCOS), also known as Stein-Leventhal syndrome, is multiple endocrine syndrome accompanied by dysfunction of ovaries (chronic anovulation, hypersecretion of androgens and estrogens), pancreas (hypersecretion of insulin), adrenal cortex (hypersecretion of adrenal androgens), hypothalamus and pituitary gland [1-5, 8].

The frequency of occurrence of the PCOS develops among women of reproductive age ranges from 5 to 10%, PCOS develops during menarche or shortly thereafter. May occur in: 1) 73-75% - with anovulatory infertility; 2) 68-85% - with hirsutism; 3) 12,1-22% - in women with incomplete miscarriage [6, 7].

Objective: Reduction of frequency of reproductive loss and infertility by improving the diagnostic, therapeutic and preventive measures in patients with PCOS.

Research problems: 1) Define the specific gravity and clinical symptoms in patients with PCOS, taking into account the state of reproductive function. 2) The diagnostic symptoms of patients with PCOS. 3) Substantiate the efficiency of medical actions on restoration of reproductive function in patients with PCOS.

METHODS

The total number of women with PCOS n = 31. In accordance with the objective and research problems was conducted a prospective analysis of n = 9, and a retrospective analysis of medical history of n = 22 patients with PCOS (2010-2014), aged between 19 - 41 years (average age 28.3 ± 0.5 years), observed in an outpatient basis in the City Polyclinic №19, female consultation or hospitalised in the gynaecology department of emergency care hospital for the period from 2013-2014. The control group consisted of 15 women with intact generative function, kept menstrual rhythm, without a weighed down family history and health status, that is not different from population norms. The average age of women in the control group was 26,6 ± 1,5 years.

Methods: clinical, laboratory, biochemical, hormonal, instrumental and statistical. In 2 groups were conducted research and observations and evaluated their results, made conclusions [9-15].

PCOS diagnosis was determined by virtue of 3 criteria for the Rotterdam Consensus Conference on PCOS (2004): 1. Menstrual irregularities by type of oligo- or amenorrhea, anovulation; 2. Hyperandrogenism clinical and / or hormonal (hirsutism, acne, increased in blood levels of LH, testosterone, increase the ratio of LH / FSH more than 2.5); 3. Echographic signs of polycystic ovaries (increase of ovaries due to hyperechogenic stroma, presence of atretic 2-8mm diameter follicles at the periphery of the ovary) [5, 16, 18].

Examination of women conducted by a specially developed questionnaire, that included information on education, social status, working and living conditions, character of labour activity, feeding habits, family history, postponed and the accompanying somatic and gynaecological diseases [17, 18].

Particular attention was paid to the course features of puberty, formation of the menstrual cycle, the character of menstrual disturbances and generative functions, duration of infertility, peculiarities of rehabilitation therapy and clinical symptoms of metabolic disorders. On clinical examination was carried out general and gynaecologic examination, palpation of the mammary glands, on the testimony - mammography, taken into account character and degree of an obesity, the presence of hypertension [6, 8, 10, 19].

Body Mass Index (BMI): All patients were assessed anthropometric parameters:: body mass index (BMI), which is calculated as the ratio of body weight (in kg) to body length (in metr²). 1) Normal for women of reproductive age will be considered BMI equal to 18.5 - 24.9 kg / metr² BMI. 2) Equal to 25-29.9 kg / metr² characterises an overweight. 3) 30 kg / metr² and more - the risk of developing obesity and metabolic disorders [18-20].

RESULTS

The Figure 1 shows that PCOS in most cases 48.3% accounts for reproductive age from 19 to 25 years.

As it is seen from the Table 1 disturbances of menstrual and generative functions occurred in all patients (100%) with PCOS.

In the analysis of postponed diseases is noteworthy the high frequency of childhood infections (48.3%), of the surveyed population. Moreover the largest number mainly of neuroinfections (measles, anginas, mumps, rubella), accounted for the critical periods of the formation and development of the reproductive system (from 6 to 17 years).

Among the patients with PCOS a normal BMI diagnosed in 9 (29.0%). In 10 (32.2%), investigated found excess body weight, BMI. The remaining 12 of 31 (38.7%), patients with PCOS revealed obesity. According to the degree of obesity surveyed were divided as follows: With 1st degree was 25.8% (8), 2nd degree was 9.6% (3) and with 3rd degree obesity were 1 (3.2%) women with PCOS. According to the WHO classification (1996), patients with obesity of I-II degree have a moderate risk of metabolic complications, with III degree of obesity - a high risk of metabolic complications.

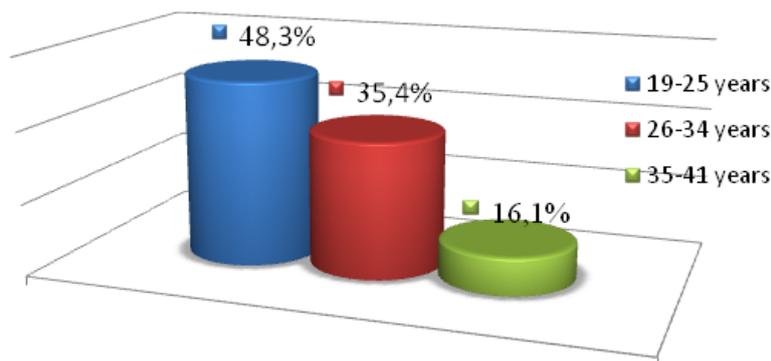According to the literature in 40-70% of women

Fig. 1. Distribution of patients with PCOS and infertility by the age composition

№	The character of menstrual function	Patients with PCOS n=31		Control group n=15	
		Absolute number	%	Absolute number	%
1	Timely menarche	15	48.3	14	93.3
2	Late menarche (over 14 years)	16	51.6	1	6.6
3	Menstrual irregularities	31	100	0	0
4	Oligomenorrhea	19	61.2	-	-
5	Amenorrhea	7	22.5	-	-
6	Acyclic uterine bleeding	1	3.2	-	-
7	Dysmenorrhea, premenstrual syndrome	14	45.1	1	6.6

Table 1. Features of the menstrual function in women with PCOS and infertility

with PCOS observed an excess body weight. Among women of the control group an excess body weight is not revealed and the average BMI was 24.8 ± 1,8 kg / m2. In women with normal (29%), excess body weight (32.2%) and I degree of obesity (25.8%) blood glucose level within normal limits. The results of oral glucose test: Fasting (5.0 + 0.3), after an hour (7.2 ± 0.6) After 2 hours (4.8 + 0.2). In women with II and III obesity degree (12.8%) observed hyperglycaemia, hyperinsulinemia, insulin resistance and type 2 diabetes. Currently are consulted and be treated by an endocrinologist

Almost in all the examined were found an increase of ovaries due to hyperechogenic stroma (93.5%) in average of 17,7 ± 0.9 and 0.7 ± 15,01 cm3 and the presence of a plurality of peripherally located cystic i

inclusions (29%).

DISCUSSION AND CONCLUSION

Preparing for Pregnancy: Pregnancy outcomes in PCOS with obesity is much worse than in non-obese PCOS. With I degree obesity composed 25.8%, II degree 9.6% and III degree of obesity was 3.2%.

1. Preparation of pregnancy started with weight loss by means of diet and exercise. Physical activities lead to a decrease in insulin resistance, even without weight loss. It is necessary to dietary compliance. It is necessary to exclude from the diet fast carbohydrates (sugar, sweets, cakes, biscuits, jam, honey, sweet drinks, and very sweet fruits). At the same time, the total daily diet should contain at least 1,000 calories (protein, fat, slow ugdevody). Patients with obesity

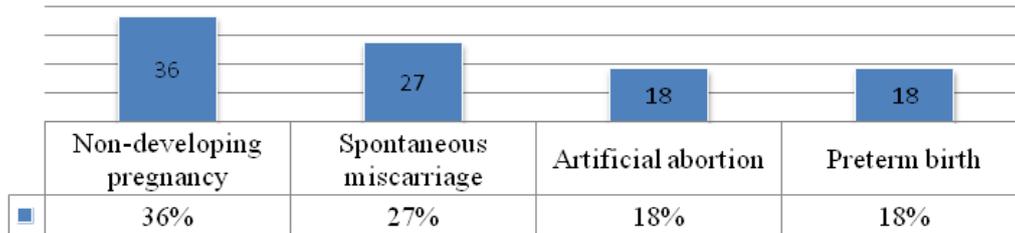|	Non-developing pregnancy	Spontaneous miscarriage	Artificial abortion	Preterm birth
	36	27	18	18
■	36%	27%	18%	18%

Fig 2. The outcomes of previous pregnancies in women with PCOS and secondary infertility (in anamnesis 11 pregnancies)
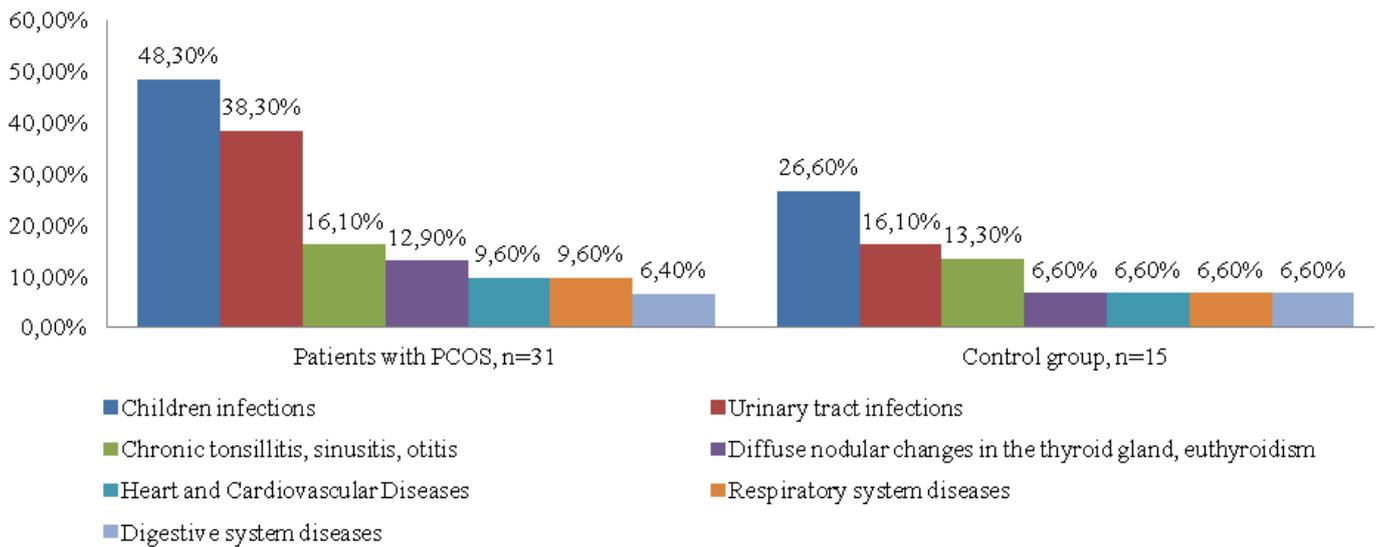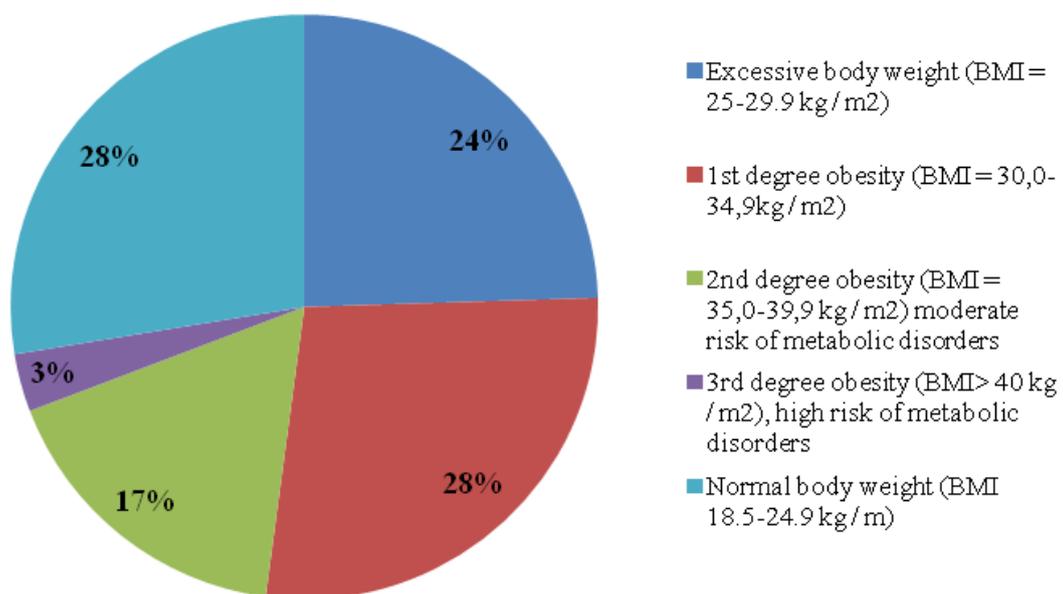
Fig 3. Postponed diseases in women with PCOS

Fig 4. The distribution of patients with PCOS according to the degree of obesity
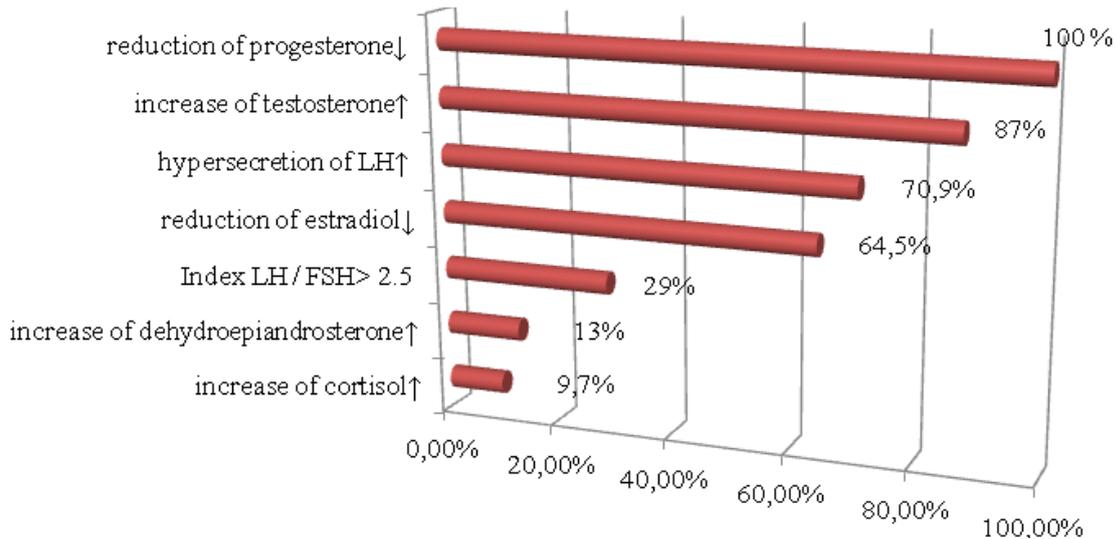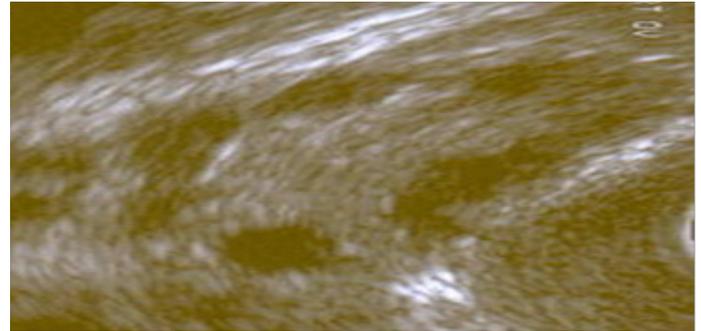
Fig 5. The results of hormonal studies

Fig 6. Ultrasound - Polycystic ovaries

2. Recommended aerobic exercise 2 - 3 times a week, at least 45 minutes.

3. Dydrogesterone from the 16th to 25th day of the cycle, 10 mg 2 times per day for three months.

4. According to the authors Raisova and Sidelnikov, the use ofdexamethasone with clomiphene more effective in stimulating ovulation than clomiphene at a single appointment, therefore was assigned Dexamethasone 0.125 mg for 2 weeks under the supervision of DHEA in the blood, 17-ketosteroids

5. The next step of preparation for pregnancy was an ovulation stimulation with clomiphene at 50 mg 1 time per day from the 5th to 9th day cycle.

The high efficiency of modern hormonal agents leads to the restoration of reproductive function and pregnancy in female patients with hyperandrogenism. However, no less important step is the preservation of pregnancy with the birth of a viable and healthy baby. Women with PCOS and with obesity II and III degrees the treatment was not performed. The remaining 87% of the women (27) were treated.

Thus, PCOS diagnosis was made by virtue of 3 criteria of the Rotterdam Conference. In conclusion, it should be noted that integrated methods of diagnosis and treatment of patients with PCOS could successfully recover reproductive function in patients with infertility.

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