



CLINICAL AND DIAGNOSTIC ASPECTS OF REPRODUCTIVE FUNCTION DISTURBANCES IN WOMEN WITH INFERTILITY ON THE BACKGROUND OF HYPOTHYROIDISM

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SUMMARY

The state of the reproductive system was studied in women with infertility on the background of hypothyroidism and the most common violations of the reproductive function were identified. It has been established that a decrease in thyroid function affects the development of dyshormonal changes in the reproductive system by reducing the levels of ovarian steroids.

KEYWORDS : *infertility, reproductive system, hypothyroidism*

RELEVANCE

The problem of diagnosing and treating infertility in marriage remains one of the most complex and urgent tasks of modern reproductive medicine, and the difficult demographic situation in Uzbekistan dictates the need to improve and search for new methods for detecting and correcting reproductive dysfunctions [2,5]. It is known that the frequency of female infertility is 30%, male - 30%, combination - 30%, and unknown origin - 10%. At the same time, the structure of infertility in Uzbekistan is as follows: 79.4% - female, 20.6% - male [3,6]. In recent years, an increase in the frequency of thyroid pathology in the population has been recorded, and the problem of disorders of the pathology of the reproductive system in combination with thyroid disorders is becoming more and more urgent. When screening women with dyshormonal disorders in the reproductive system, thyroid pathology was found in 63.68% of patients [1,4].

PURPOSE OF THE STUDY

To assess the functional, clinical and clinical and biochemical changes in the reproductive system in women with infertility, patients with hypothyroidism.

MATERIALS AND METHODS

According to the goal, a clinical and laboratory examination of 73 women of childbearing age, registered at the Railway Station of Andijan, was carried out, among which 22 were diagnosed with primary infertility and concomitant subclinical hypothyroidism (Group 1), 18 infertile women with L-T4 compensated hypothyroidism, (Group 2) and 33 healthy women (Group 3). The reproductive function of the patients was studied by conventional methods for diagnosing gynecological pathology: the collection of an obstetric and gynecological anamnesis, the establishment of a thyroid disease, clinical and laboratory methods, hormonal and instrumental examinations. In order to study the hormonal status of the body of women, the levels of progesterone (PG), estradiol (E2), prolactin (PrL), follicle-stimulating (FSH) and luteinizing (LH) hormones in the blood were determined. To assess the functional state of the thyroid gland, the level of free thyroxine (vT₄) and thyroid stimulating hormone (TSH) was determined by chemiluminescence using standard test systems [+].



Table 1.
Distribution of women by duration of infertility in marriage

Duration of infertility, years	1 group		2 group	
	Abs .	%	Abs .	%
1	2	9.1	4	22.2
2-3	10	45.5	9	40.9
4-5	4	18.2	2	11.1
6-7	3	13.6	2	11.1
8-9	1	4.5	1	5.6
More than 10	2	9.1	0	0
Average duration, years	4, 3 ± 2,3		3.1 ± 1.5	

As can be seen from Table 1, the average duration of infertility in the group of women with subclinical hypothyroidism 4.3 ± 2.3 years did not significantly differ ($p > 0.05$) from the duration of infertility in the group of women with clinical hypothyroidism 3.1 ± 1.5 years, although it was almost 1 year more than the group of women with clinical manifestations (group 1). In our opinion, the lengthening of the duration of infertility in women with subclinical hypothyroidism indicates that the factor of moderate thyroid hormone deficiency and its influence on the development of infertility are underestimated. At the time of the examination, the majority of women had a history of infertility for more than 2 years, 20 (90.9%) - in the first group, and 14 (77.8%) - in the second group of subjects, which, in accordance with current standards, indicates the ineffectiveness of the examination and treatment for infertility.

In 9 women (49.9%) from group 1 (subclinical form of hypothyroidism) and 15 women (83.3%) from group 2 (with clinical hypothyroidism), biphasic cycles with luteal phase deficiency (LFP) and a duration of less than 10 days were detected, which indicates a more than twofold prevalence of NLF in women with infertility against the background of clinical hypothyroidism. Anovulation with monophasic basal temperature was observed in 13 women (59.9%) of the 1st group (subclinical forms of hypothyroidism) and 3 (16.6%) of the 2nd group (with clinical hypothyroidism). This fact indicates the predominance of anovulation in women with infertility on the background of subclinical hypothyroidism. It is possible that the predominance of anovulatory cycles in women with subclinical manifestations of hypothyroidism compared with the group of patients who received hormone replacement therapy is due to the absence of compensatory effects of thyroid hormones in the first group, as happened in the group of patients with clinical hypothyroidism, whose patients received L-thyroxine.

When conducting an ultrasound examination of the pelvic organs, it was found that an increase in the size of the uterus associated with the presence of leiomyomas in the group of infertile women with subclinical hypothyroidism occurred in one woman (4.5%), and in the group with clinical hypothyroidism - in 3 women (16.6%). On the other hand, a decrease in the size (hypoplasia) of the uterus was observed in 5 women of group 1 (22.7%) and 3 women of group 2 (16.6%). When analyzing and comparing the values of the length, width and thickness of the uterus and ovaries, no significant differences were found between these indicators both in the comparison groups and in the control group. The analysis of the thickness of the uterine mucosa deserves special attention (Table 2).

Table 2.
Ultrasonographic parameters in women with infertility due to hypothyroidism

Indicators	1 group n=22	2nd group n=18
M- exo I phase, mm	4.8±0.7	5.1±0.8
M- exo II phase, mm	11.3±0.8	12.8±0.5

According to these data, it was found that the thickness of the M-echo in the comparison groups was significantly lower than that of the control group both in the I and II phases of the cycle, which is obviously associated with a decrease in estrogen exposure in the I, phase of the cycle and insufficient proestrong stimulation in the secretory phase of the uterine cycle. The gonadotropic function of the pituitary gland in the examined women was assessed by the content of LH, FSH and prolactin in the blood. Taking into account the regulatory effect of TRH not only on TSH, but also on prolakin production [6], its content in the comparison groups



was studied and it was found that hyperprolactinemia accompanied 3 women (31.8%) from group 1 and 4 women (22.2%) from the 2nd comparison group, while in the control group, an increased level of prolactin in the blood was not found.

The level of LH in group 1 was 7.1 ± 2.1 IU/L, in group 2 - 11.7 IU/L, which corresponded to physiological parameters (normal - 2.3-15 IU/L). When studying FSH concentrations, it was found that in group 1 this indicator was reduced and amounted to 2.3 ± 0.4 mIU / ml. In the 2nd group, the FSH level corresponded to the standard values - 5.04 ± 1.8 mIU / ml (the norm is 2.8-11.3 mIU / ml). Accordingly, in the group of women with subclinical hypothyroidism, the level of FSH was significantly lower than in the comparison groups and in the control group, which explains the above disorders in the functional ability of the ovary.

As a result of studies of hormonal function, it was concluded that insufficient thyroid function, reduced levels of thyroid hormones also negatively affect the state of ovarian steroidogenesis. At the same time, in women with subclinical hypothyroidism, a significant decrease in estradiol (E2) to 92.5 ± 33.9 pmol / l was observed, against 145 ± 28.5 pmol / l in the comparison group and 280 ± 85 pmol / l in the group. to control. The decrease in progesterone levels (Pg) 1.84 ± 0.8 nmol / l for the first group was significant only in relation to the control group 3.08 ± 1.05 nmol / l. The tested parameters in the group of women with L-T4 compensated hypothyroidism did not differ significantly from those in the control group.

FINDINGS

1. In the presence of subclinical hypothyroidism in women of reproductive age with infertility, functional changes in the reproductive system are most often observed, accompanied by impaired ovulatory function of the ovaries, insufficient development of the uterus and endometrium, an increase in prolactin levels and reduced levels of pituitary hormones LH and FSH and, accordingly, ovarian steroids E2 and Pg. 2. Adequate compensation of L-T4 replacement therapy, clinical forms of hypothyroidism reduces the severity of dyshormonal disorders of the reproductive system in women with infertility, but does not eliminate them.

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