INFERTILITY CAUSED BY OVULATION DISORDERS. EXAMINATION, CLINICAL FEATURES, TREATMENT

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Abstract. *Infertility is a disorder of the male or female reproductive system, defined as the inability to achieve pregnancy after regular unprotected intercourse for 12 months or more. Infertility may be caused by a condition of the male or female reproductive system or by unexplained factors.*

Key words: *hyperprolactinemia, amenorrhea, endometrium, menstruation, oligomenorrhea, hyperthyroidism.*

БЕСПЛОДИЕ, ВЫЗВАННОЕ НАРУШЕНИЯМИ ОВУЛЯЦИИ. ОБСЛЕДОВАНИЕ, КЛИНИЧЕСКИЕ ПРИЗНАКИ, ЛЕЧЕНИЕ

Аннотация. *Бесплодие — это расстройство мужской или женской репродуктивной системы, определяемое как неспособность достичь беременности после регулярной незащищенной половой жизни в течение 12 месяцев и более. Бесплодие может быть вызвано состоянием мужской или женской репродуктивной системы или необъяснимыми факторами.*

Ключевые слова: *гиперпролактинемия, аменорея, эндометрий, менструация, олигоменорея, гипертиреоз.*

Endocrine infertility is infertility caused by ovulation disorders:

1. Anovulation. Chronic anovulation may be a consequence of dysfunction of the hypothalamic-pituitary system (disruption of the rhythm and amount of secretion of gonadotropins and gonadotropic hormones of the pituitary gland). developed as a result of neuroinfection, intoxication, psychoemotional stress, cerebral trauma, etc. Anovulation is also a symptom of endocrine diseases, namely polycystic ovaries, dysfunction of the adrenal cortex, hyperprolactinemia. Postpartum obesity, hypo- and hyperthyroidism. Itsenko-Cushing's disease, nervous and mental illnesses.

In addition to infertility, chronic anovulation may manifest itself in menstrual cycle disorders - dysfunctional uterine bleeding, amenorrhea, oligomenorrhea.

The diagnosis of anovulation is based on functional diagnostic tests: monophasic basal temperature, monotonous karyopyknotic index (usually fluctuating within the limits characteristic of the beginning of the first phase of the cycle), absence of the "pupil" symptom,

tension of the cervical mucus 2-6 cm, laparoscopy is used for diagnostic purposes, which evaluates the appearance of the ovaries, the absence of ovulatory stigma and corpora lutea, and identifies non-endocrine causes of infertility - adhesions, the presence of endometrioid ectopia in the small pelvis.

Additional chromopertubation - the introduction of a dye (indigo carmine, methylene blue) through the external cervical os - allows you to establish obstruction of the fallopian tubes or the localization of their obstruction. 2. Luteinization of an unovulated follicle. It is believed that stress plays a role in the development of this pathology. Hyperprolactinemia and ovarian inflammation.

The diagnosis is very difficult, since functional diagnostic tests and the content of hormones in the blood and urine do not differ from those during the ovulatory cycle. Ultrasound examination and measurement of follicle diameters reveal a slow gradual decrease in the size of the preovulatory follicle (while ovulation is characterized by the disappearance of the dominant follicle). Laparoscopy performed on the 13th-15th day of the cycle reveals a hemorrhagic corpus luteum without ovulatory stigma.

3. Insufficiency of the luteal phase of the cycle (hypofunction of the corpus luteum) - accompanied by a decrease in progesterone synthesis. The causes of infertility with luteal phase deficiency may be: incomplete secretory transformations of the endometrium, preventing implantation of the fertilized egg; decreased peristaltic activity of the fallopian tubes due to progesterone deficiency.

Luteal phase deficiency may be observed as a physiological phenomenon after menarche, childbirth, abortions during several menstrual cycles. The causes of luteal phase deficiency may be adrenal hyperandrogenism, hyperprolactinemia, inflammatory diseases of the uterus and appendages, hypothyroidism. In addition to infertility, with luteal phase deficiency, scanty bloody discharge is observed on the 4th-7th day before the next menstruation. The diagnosis of luteal phase insufficiency is established based on the shortening of the hyperthermic phase of basal temperature to 4-8 days with a temperature difference in the first and second phases of the cycle of less than 0.4 ° C; a decrease in the content of pregnanediol in the urine below 3 mg / day, progesterone in the blood below 15 nmol / l on the 4th day of increasing basal temperature; an incomplete secretion phase in the endometrium 2-3 days before menstruation.

All the numerous variants of endocrine disorders leading to ovulation disorders can be conditionally combined into separate clinical groups, which are characterized by a corresponding symptom complex:

- Group I - hypothalamic-pituitary insufficiency (pathological conditions defined as genital underdevelopment);

- Group II - hypothalamic-pituitary dysfunction (patients with menstrual cycle disorders);

- Group III - ovarian insufficiency;

- Group IV – congenital or acquired disorders of the reproductive system;

- Group V – hyperprolactinemia in the presence of a tumor in the hypothalamic-pituitary region;

- Group VI – hyperprolactinemia without damage to the hypothalamic-pituitary region;

- Group VII – amenorrhea against the background of a tumor in the hypothalamic-pituitary region.

Treatment of endocrine infertility is carried out in women under 35 years of age in the absence of somatic diseases that are contraindications to pregnancy and childbirth. In the presence of endocrine diseases, therapy for the specified etiology is necessary. A common method of anovulation is ovulation stimulation. The following regimens are used:

1) Clomiphene (clomiphenicitrate, clostilbegid) – 50-150 mg from the 5th to the 9th day from the onset of menstruation or from the onset of a menstrual reaction induced by drugs. For this purpose, oral contraceptives such as non-ovalone, bisecurin, etc. are used, 1 tablet per day for 7-10 days; 2) Clomiphene in the same dose and at the same time in combination with chorionic gonadotropin, which which is administered after the dominant follicle reaches preovulatory dimensions (at least 18 mm in diameter) at a dose of 4500-3000 IU;

3) Tamoxifen (zitosonium), which has antiestrogenic activity, can be used. The drug is prescribed from the 5th to the 9th day of the cycle at a dose of 10-20 mg per day;

4) Pergonal (human menopausal gonadotropin) from the 5th day of the induced menstrual reaction at a dose of 150 IU daily under the control of ultrasound measurement of the follicle diameter.

Synthetic analogs of gonadotropic releasing hormones of the hypothalamus can be used, stimulating the release of luteinizing gonadotropin by the pituitary gland and indirectly ovulation in the ovary. The drug is administered intravenously at hourly intervals in the so-called pulsating mode, simulating the secretion of gonadotropin-releasing hormone by the hypothalamus. In case of infertility caused by insufficiency of the luteal phase of the cycle, pathogenetic treatment of diseases that caused this ovarian dysfunction is carried out. Hormonal replacement therapy is also carried out with corpus luteum drugs or norsteroids that have a gestagenic effect. Progesterone is used at 1 ml of 1% solution intramuscularly from the 18th-20th day of the cycle for 6-8 days; 17-hydroxyprogesterone capronate at 1 ml of 12.5% solution on the 17th or 20th day of the cycle; norcolut, which is prescribed from the 16th to the 26th day of the cycle at a dose of 5 mg per day.

It is recommended to use human chorionic gonadotropin, which stimulates hormonal secretion of the corpus luteum (1000-1500 U intramuscularly on the 2nd, 4th, 6th day of increase in basal temperature). Duration of therapy is 3-4 menstrual cycles.

In case of infertility caused by luteinization of an unovulated follicle, ovulation stimulation is recommended.

It should be remembered that if the dose of drugs stimulating ovulation is incorrectly selected, a complication may occur - ovarian hyperstimulation syndrome.

The prognosis for restoration of reproductive function with correct determination of the cause of endocrine infertility and timely adequate therapy is favorable. If a woman has diseases or dysfunctions of the endocrine glands, treatment should begin with therapy for the indicated endocrine diseases. Usually, normalization of the function of the endocrine glands leads to restoration of the ovulatory menstrual cycle. Only in cases of ongoing anovulation or luteal phase insufficiency is ovulation stimulation and therapy, as discussed above, recommended. In cases where infertility is associated with dysfunction of the hypothalamic-pituitary system, therapy is ineffective. If pregnancy occurs after treatment, women must be monitored from the early stages, since these pregnant women constitute a high-risk group for miscarriage in the first trimester of pregnancy.

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