

## DISORDER OF THE MENSTRUAL CYCLE - CAUSES, SYMPTOMS, CLASSIFICATION, TREATMENT METHODS

Rakhimova Madina Mannonovna

Department of Physiology, Samarkand State Medical University Trainee assistant

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**Abstract.** *The rhythmic repetitive processes in the female body associated with hormones and accompanied by menstrual bleeding are called the menstrual cycle. During the menstrual cycle, changes occur in a woman's body aimed at providing the necessary conditions for the beginning of pregnancy and its completion. The formation of the menstrual function depends on the period of puberty (adolescence). Usually, menarche (first menstruation) is observed at the age of 11-14 years, after which the regularity of the menstrual cycle is established for 1 to 1.5 years.*

**Keywords:** *normal menstrual cycle, causes of menstrual disorders, types of menstrual disorders, treatment of menstrual disorders, complications, prevention.*

### NORMAL MENSTRUAL CYCLE

The duration of the menstrual cycle is calculated from the first day of the current menstruation (menstruation) to the first day of the next menstruation. According to individual physiology, the menstrual cycle normally lasts from 21 to 30-35 days, usually 28 days. Loss of menstrual function occurs during menopause — between 45-50 years of age.

The regulation of the menstrual cycle occurs under the influence of a complex neurohumoral mechanism, which is carried out by the cerebral cortex, pituitary gland, hypothalamus, ovaries and is carried out with the benefit of the vagina, uterus and mammary glands.

The gonadotropic hormones FSH, LH and LTH secreted by the hypothalamus-pituitary system cause changes in the ovaries, which is called the ovarian cycle and includes the following steps:

Follicular phase — the process of follicle maturation;

Ovulation phase — the rupture of a mature follicle and the release of an egg cell;

Progesterone (lutein) phase is the process of corpus luteum development.

Normal menstrual cycle

At the end of the menstrual cycle, if the egg is not fertilized, the corpus luteum regresses. Ovarian sex hormones (estrogens, progestogens) cause a change in tone, blood supply, excitability, dynamic processes in the mucous membrane of the uterus, that is, a uterine cycle consisting of two stages:

The proliferation phase is the recovery of the functional layer of the endometrium, healing of the damaged surface and its further development. This stage occurs simultaneously with the development process of the follicle.

Secretion phase — softening, thickening and rejection (desquamation) of the functional layer of the uterine mucosa. The rejection of the functional layer is manifested by menstruation. In terms of time, this stage corresponds to the development and death of the corpus luteum in the ovary.

Thus, the menstrual cycle is usually divided into two phases: the follicular and luteal phases of the ovarian cycle and the corresponding proliferative and secretory phases of the uterine cycle.

As a rule, the above-mentioned cyclical processes are repeated again and again at certain time intervals during the entire fertile age of a woman.

#### CAUSES OF DISRUPTION OF THE MENSTRUAL CYCLE

Disruption of the menstrual cycle is not a disease, but a sign of internal organ dysfunction.

The causes of menstrual dysfunction can be different, in particular:

Gynecological diseases (myoma and cancer of the uterus, inflammation of the uterus and appendages);

Severe extragenital diseases (blood diseases, endocrine system, liver, central nervous system diseases, heart defects);

Infections;

Hypovitaminosis;

Sudden change of residence;

Traumatic damage to the uterus (in instrumental manipulations - abortion, etc.);

Insomnia;

Stress and mental trauma.

Cycle disruption can also be triggered by other members and systems, such as:

Lose a lot of weight in a short period of time;

diabetes mellitus;

Hypertension;

Pathologies of the thyroid gland;

Obesity;

Adrenal gland disorders;

Taking certain types of drugs.

#### TYPES OF MENSTRUAL DISORDER

Menstrual cycle disorders can be manifested by changes in the rhythm and intensity of menstruation, for example, lengthening or shortening of the period between them, increasing or decreasing the amount of secreted blood, changing the menstrual rhythm. Disruption of the menstrual cycle occurs in the following form:

Amenorrhea - absence of menstruation for more than 6 months;

Hypermenstrual syndrome:

hypermenorrhea - excessive menstrual blood;

polymenorrhea — menstruation for more than 7 days;

Proyomenorrhoea — frequent menstruation with an interval of less than 21 days.

Hypomenstrual syndrome:

hypomenorrhea - lack of menstrual blood;

oligomenorrhea — shortening of the menstrual period (no more than 1-2 days);

opsomenorrhoea — menstruation with very long intervals of 35 days or more.

Algomenorrhea — painful menstruation;

Dysmenorrhea - menstruation accompanied by general disorders (headache, loss of appetite, nausea, vomiting);

Algodysmenorrhea - menstruation accompanied by local pains and worsening of the general condition;

Anovulatory (one-phase) uterine bleeding, which occurs as a result of a violation of neuroendocrine regulation, characterized by the absence of ovulation and corpus luteum.

In a monophasic menstrual cycle, menstrual dysfunction may be caused by follicle persistence (follicle maturation without ovulation and development of a follicular cyst) or atresia (degeneration, turning into a cavity) of an immature follicle.

In gynecology, the method of measuring the morning rectal (basal) temperature is routinely used to determine the biphasic menstrual cycle.

In a biphasic menstrual cycle, the temperature in the rectum is lower than 37 °C in the follicular phase, and higher than 37 °C in the luteal phase, and decreases 1-2 days before the onset of menstruation.

In the anovulatory (one-phase) cycle, the temperature curve differs with slight changes with readings less than 37 °C. Basal temperature measurement is a physiological method of contraception. In addition, characteristic changes are observed in the cytological image of smears taken from the vagina at different times during the two-stage menstrual cycle: "filament", "pupil" symptoms, etc.

Mentorrhagia, that is, acyclic uterine bleeding that is not related to the menstrual cycle, often accompanies the damage of the female reproductive system by tumors. Women who experience menstrual disorders should definitely consult a gynecologist to determine the cause of the disorder.

Often, subsequent menstrual disorders can be associated with the location and differentiation of the fetal sex organs during fetal development. Chemicals, medicinal substances, radiation agents, infectious diseases of the mother can serve as negative factors that cause insufficient development of ovaries in girls. Therefore, the prevention of menstrual dysfunction begins with the antenatal (inside the womb) period of the fetus. Proper nutrition and healthy lifestyle, monitoring women's health can help prevent menstrual disorders.

#### TREATMENT OF MENSTRUAL CYCLE DISORDER

Treatment of menstrual disorders should be aimed at eliminating the causes of the disease: Infectious and inflammatory processes are treated with special pills and physiotherapeutic procedures.

Hormonal therapy is prescribed in initial hormonal disorders.

In the presence of tumors, surgical intervention may be required.

Physical education, rational nutrition, and vitamins help to support a weakened body.

Long-term and full rest is necessary for intense stress and hard work. Less walking is required, but you don't need to be bedridden either. Some physical activity is still necessary.

No additional measures will be applied in the case of disruption caused by climate change. As the body adapts to new conditions, the problem will disappear by itself.

It should be noted that if the menstrual cycle breaks after the age of 45, this may signal the beginning of the climactic period.

#### COMPLICATIONS

This disorder should not be taken as a minor problem. Below is a short list of reasons why you should see a doctor:

An irregular cycle can be accompanied by severe anovulation, which eventually leads to infertility;

Frequent menstrual bleeding has serious consequences — from constant fatigue to complete loss of working capacity;

Late detection of the primary disease causes it to develop and cause serious damage to health.

If the following cases are observed, it is impossible to postpone a visit to the doctor:

If the cycle disorder is regular, that is, every time it comes late or early for 5-7 days;

If menarche is not observed in girls even at the age of 15;

Menstruation reminiscent of bleeding. Normally, one menstruation should not bleed more than 250 ml. More than that is a sign of hormonal imbalance and requires drug therapy.

If the cycle is not established even after 1-2 years after the start of menstruation;

If there are pains during ovulation. This condition poses a risk of rupture of the ovaries, but can be easily corrected with drugs selected by the doctor.

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