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DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

«STUDY GUIDE ON GYNECOLOGY»

(for undergraduate students)

Field of education: **140000 -Healthcare**

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This textbook serves as an essential resource for medical students, residents, and practicing healthcare professionals specializing in gynecology. It covers a wide range of topics, including female reproductive anatomy, physiology, common gynecological disorders, diagnostic techniques, and treatment options. The book integrates evidence-based practices with clinical insights, featuring case studies, illustrations, and the latest research findings. Each chapter includes review questions to reinforce learning and facilitate understanding. With its clear organization and comprehensive content, this guide aims to enhance the reader's knowledge and skills in providing quality care to women.

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Introduction

The textbook on gynecology is an indispensable tool for anyone who is interested in women's health and seeks to develop their knowledge in this field. This textbook on gynecology was created to help students and young doctors understand the complex issues of women's health. Decree of the President of the Republic of Uzbekistan dated January 28, 2022 No.UP–60 "On the Development Strategy of New Uzbekistan for 2022-2026" defines the tasks of improving the system of providing high-tech medical care to women of reproductive age, pregnant women and children, equipping perinatal centers with necessary medical equipment and equipment, and staffing them with qualified personnel.

We have collected for you the most up-to-date information about gynecological diseases, methods of diagnosis and treatment, as well as about the prevention and maintenance of reproductive health. Together we will go through all the stages of a woman's life - from adolescence to menopause, get acquainted with the peculiarities of pregnancy and childbirth, as well as discuss important issues of contraception and sexual health.

The proposed training manual includes topics on the normal menstrual cycle, its regulation, functional disorders of the mechanisms of regulation; research methods used in gynecological practice and ectopic pregnancy. The material is presented in a concise form, using modern data.

We hope that this textbook will become a reliable source of knowledge for everyone who is interested in gynecology and seeks to improve their skills in this field.

Chapter No. 1 The normal menstrual cycle and its regulation

Menstrual cycle – this is a rhythmically repetitive biological process that prepares a woman's body for pregnancy.

Menstruation – these are monthly, cyclical uterine bleeding. The first menstruation (menarche) appears more often at the age of 12-13 (+/- 1,5-2 year). Menstruation stops more often at 45-50 years of age.

The menstrual cycle is conditionally determined from the first day of the previous one to the first day of the next menstruation.

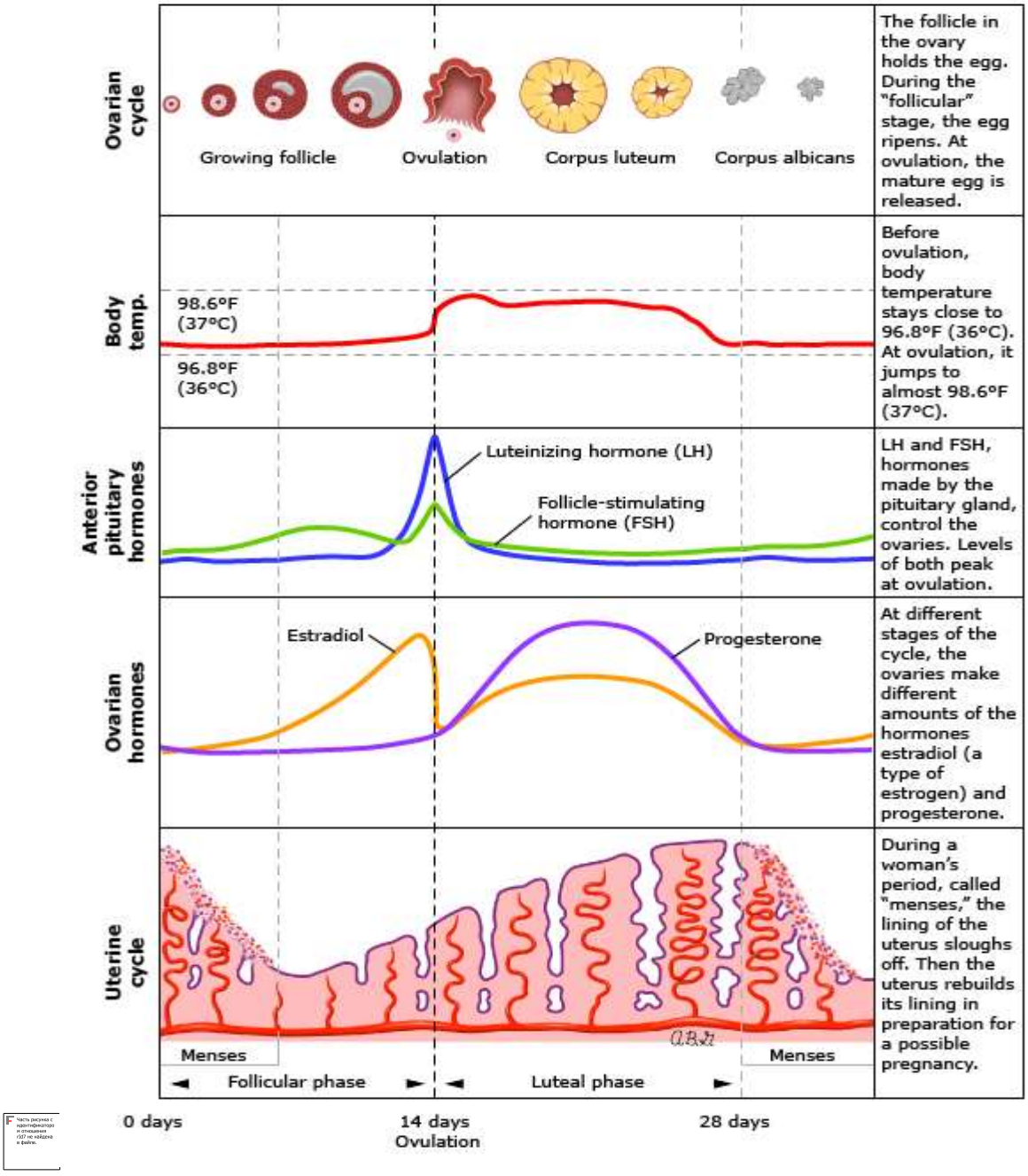


Figure 1.1. Menstrual cycle

The physiological menstrual cycle is characterized by:

1. 1. Two-phase.
2. 2. Lasting at least 22 and no more than 35 days (in 60% of women – 28-32 days). A menstrual cycle lasting less than 22 days is called anteponating, and more than 35 days is called postponing.
3. 3. Constant cycling.
4. 4. The duration of menstruation is 2-7 days.
5. 5. Menstrual blood loss of 50-150 ml.
6. The absence of painful manifestations and disorders of the general condition of the body.

Regulation of the menstrual cycle.

There are 5 links involved in the regulation of the menstrual cycle:

- the cerebral cortex.
- The hypothalamus.
- The pituitary gland.
- ovaries.
- the uterus.

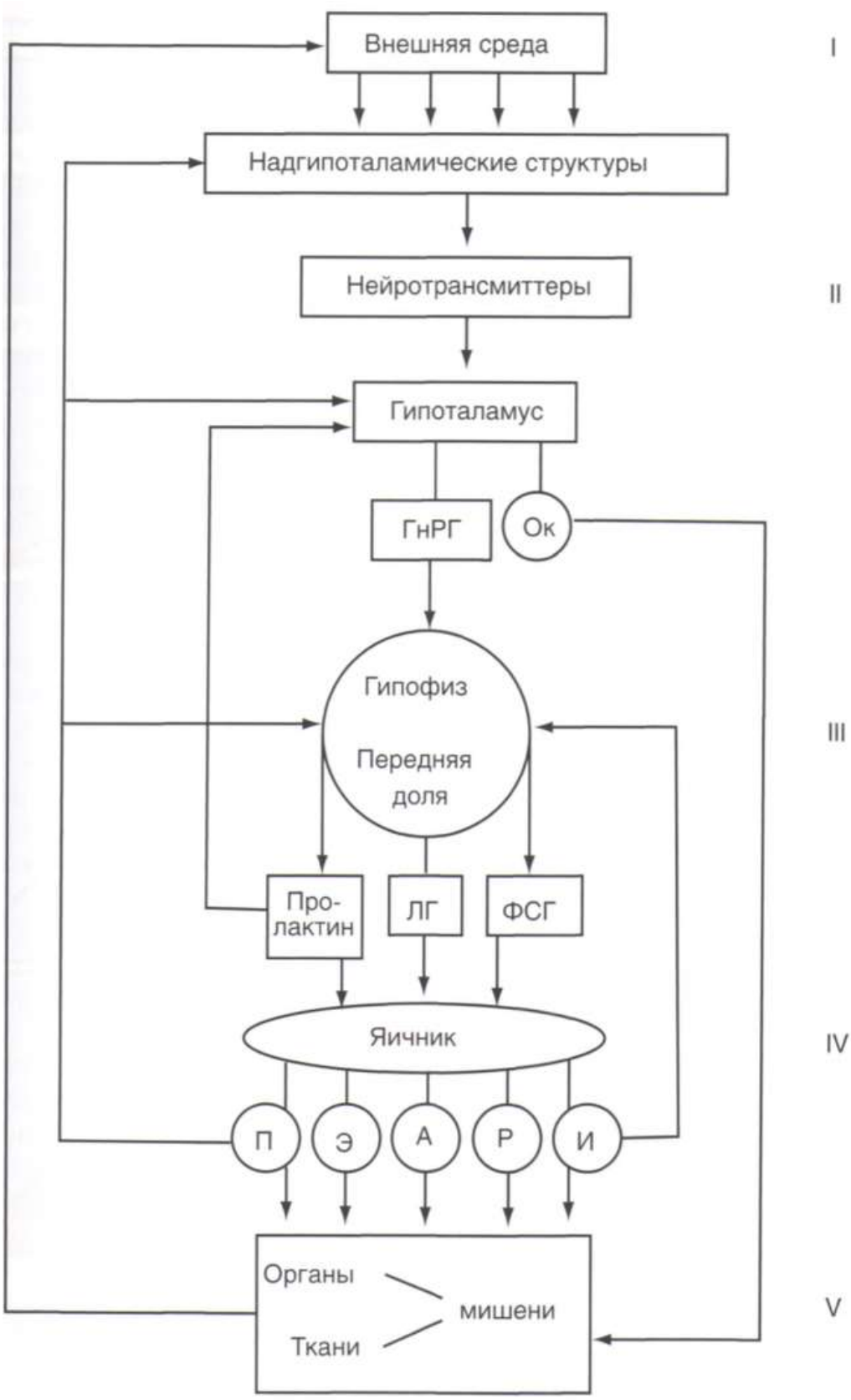
I.Extrahypothalamic cerebral structures perceive an impulse from the external environment and interoreceptors and transmit them using neurotransmitters (a system of nerve impulse transmitters) to the neurosecretory nuclei of the hypothalamus.

Neurotransmitters include: dopamine, norepinephrine, serotonin, indole and a new class of morphine–like opioid neuropeptides - endorphins, enkephalins, donorphins.

II.The hypothalamus plays the role of a trigger mechanism. The nuclei of the hypothalamus produce pituitary hormones (releasing hormones) - liberins.

The releasing hormone of the luteinizing hormone of the pituitary gland (RG LH, lyuliberin) has been isolated, synthesized and described. LH RG and its synthetic analogues have the ability to stimulate the release of both LH and FSH by the pituitary gland. For hypothalamic gonadotropic liberins, a single name RG LH has been adopted.

Releasing hormones enter the anterior pituitary gland through a special vascular (portal) circulatory system.


Внешняя среда
I
Надгипоталамические структуры
Нейротрансмиттеры
II
Гипоталамус
ГнРГ
Ок
Гипофиз
Передняя доля
III
Про-лактин
ЛГ
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V

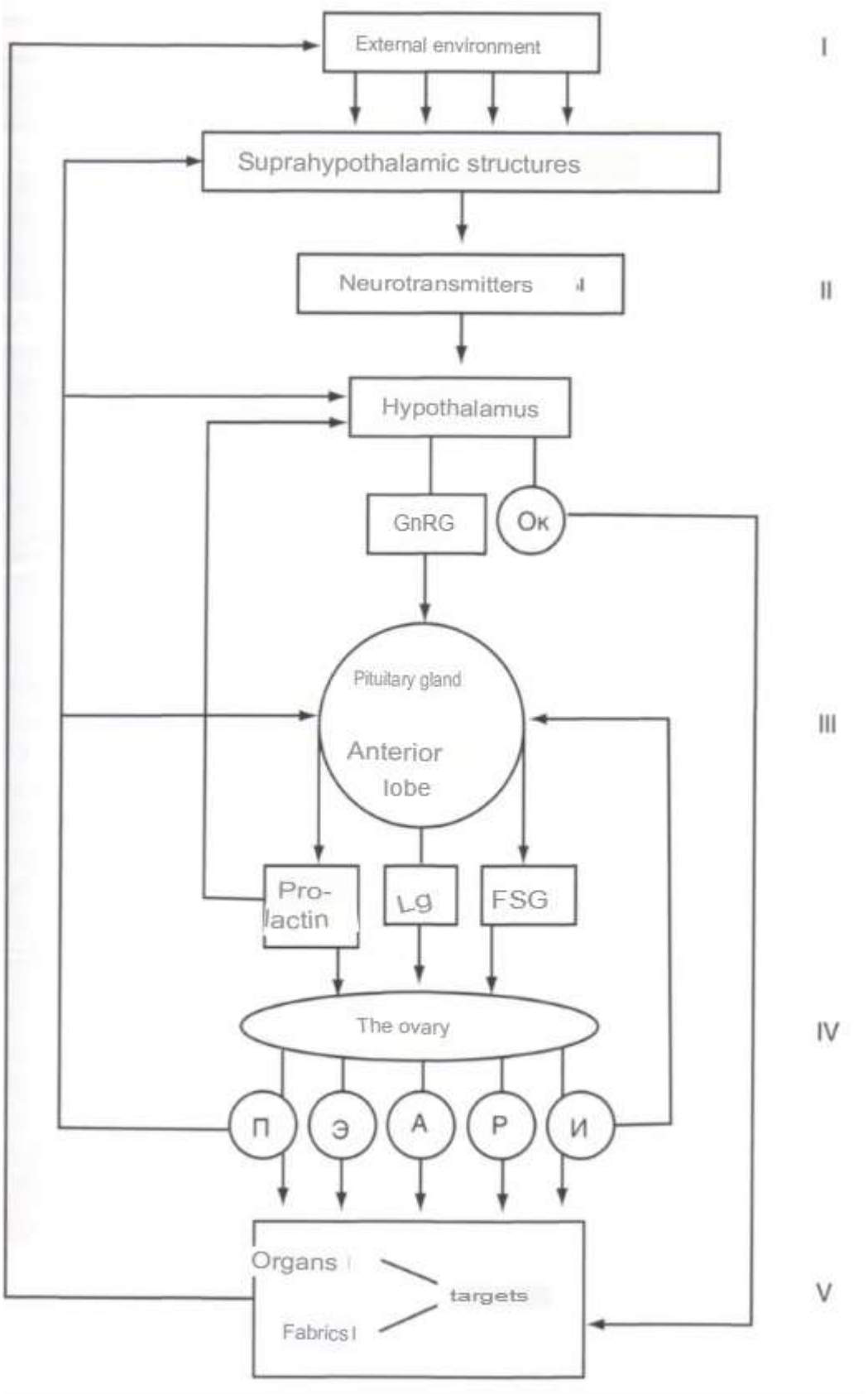

Figure 1.2. Functional structure of the reproductive system: neurotransmitters–dopamine, norepinephrine, serotonin; opioid peptides;β–endorphins, enkephalin; Ok–oxytocin; P–progesterone; E–estrogens; A–androgens; P–relaxin; I–inhibin; I – V – levels of regulation of the reproductive system.

III.The pituitary gland is the third level of regulation.

Pituitary gland consists of ***adenohypophysis*** (anterior lobe) and ***neurohypophysis*** (posterior lobe).

Adenohypophysis secretes tropic hormones:

Gonadotropins:

- LH is a luteinizing hormone
- FSH is a follicle – stimulating hormone
- PRL - prolactin

Tropic hormones

- STG – somatotropin
- ACTH – corticotropin
- TTG is thyrotropin.

Follicle stimulating hormone stimulates the growth, development and maturation of the follicle in the ovary. With the help of luteinizing hormone, the follicle begins to function – to synthesize estrogens, without LH, ovulation and the formation of a corpus luteum do not occur. Prolactin together with LH stimulates the synthesis of progesterone by the corpus luteum, its main biological role is the growth and development of mammary glands and the regulation of lactation. The peak of FSH is observed on the seventh day of the menstrual cycle and the ovulatory peak of LH is by the fourteenth day.

IV.The ovary performs two functions:

1) ***generative*** (follicle maturation and ovulation).

2) ***endocrine*** (synthesis of steroid hormones – estrogens and progesterone).

Both ovaries contain up to 500 million primordial follicles at birth. By the beginning of adolescence, due to atresia, their number is halved. During the entire reproductive period of a woman's life, only about 400 follicles mature.

The ovarian cycle consists of two phases:

Phase 1 – follicular

Phase 2 – luteal

The follicular phase begins after the end of menstruation and ends with ovulation.

The luteal phase begins after ovulation and ends with the onset of menstruation.

From the seventh day of the menstrual cycle, several follicles begin to grow in the ovary at the same time. From the seventh day, one of the follicles is ahead of the rest in development, reaches a diameter of 20-28 mm by the time of ovulation, has a more pronounced capillary network and is called dominant. The dominant follicle contains an egg, its cavity is filled with follicular fluid. By the time of ovulation, the volume of follicular fluid increases 100 times, the content of estradiol (E2) increases sharply in it, the rise in the level of which stimulates the release of LH by the pituitary gland. The follicle develops in the first phase of the menstrual cycle, which lasts until the 14th day, and then there is a rupture of the mature follicle - ovulation.

During ovulation, follicular fluid pours out through the formed hole and carries out an oocyte surrounded by cells of the radiant corona. An unfertilized egg dies after 12-24 hours. After its release into the follicle cavity, the forming capillaries quickly grow, granulosa cells undergo luteinization – a yellow body is formed, the cells of which synthesize progesterone. In the absence of pregnancy, the yellow body transforms into a whitish body. The stage of functioning of the whitish body is 10-12 days, and then there is a reverse development, regression.

Granulose follicle cells produce estrogens:

- Estrone (E1)
- Estradiol (E2)
- Estriol (E3)

The yellow body produces progesterone:

Progesterone prepares the endometrium and uterus for implantation of a fertilized egg and the development of pregnancy, and the mammary glands for lactation; suppresses the excitability of the myometrium. Progesterone has an anabolic effect and causes an increase in rectal temperature in the second phase of the menstrual cycle.

Androgens are synthesized in the ovary:

- androstenedione (a precursor of testosterone) in an amount of 15 mg /day.
- dehydroepiandrosterone
- dehydroepiandrosterone sulfate

In granulose follicle cells, the protein hormone inhibin is formed, which inhibits the release of FSH by the pituitary gland, and locally acting protein substances – oxytocin and relaxin. Oxytocin in the ovary contributes to the regression of the corpus luteum. Prostaglandins are also formed in the ovary, which are involved in ovulation.

V.The uterus is a target organ for ovarian hormones.

There are 4 phases in the uterine cycle:

1. The desquamation phase

2.Regeneration phase

3. The proliferation phase

4. The secretion phase

The proliferation phase begins with the regeneration of the functional layer of the endometrium and ends by the 14th day of the 28-day menstrual cycle with the full development of the endometrium. It is caused by the influence of FSH and ovarian estrogens.

The secretion phase lasts from the middle of the menstrual cycle until the beginning of the next menstruation. If pregnancy does not occur in this menstrual cycle, then the yellow body undergoes reverse development, which leads to a drop in the level of estrogens and progesterone. Hemorrhages occur in the endometrium; necrosis and rejection of the functional layer occur, i.e. menstruation occurs ***(desquamation phase).***

Cyclic processes under the influence of sex hormones occur in other target organs, which include tubes, vagina, external genitalia, mammary glands, hair follicles, skin, bones, adipose tissue. The cells of these organs and tissues contain receptors for sex hormones.

Chapter No. 2 Menstrual cycle disorders.

2.1. Amenorrhea.

Amenorrhea - is the absence of menstruation for 6 months or more in women aged 16-45 years.

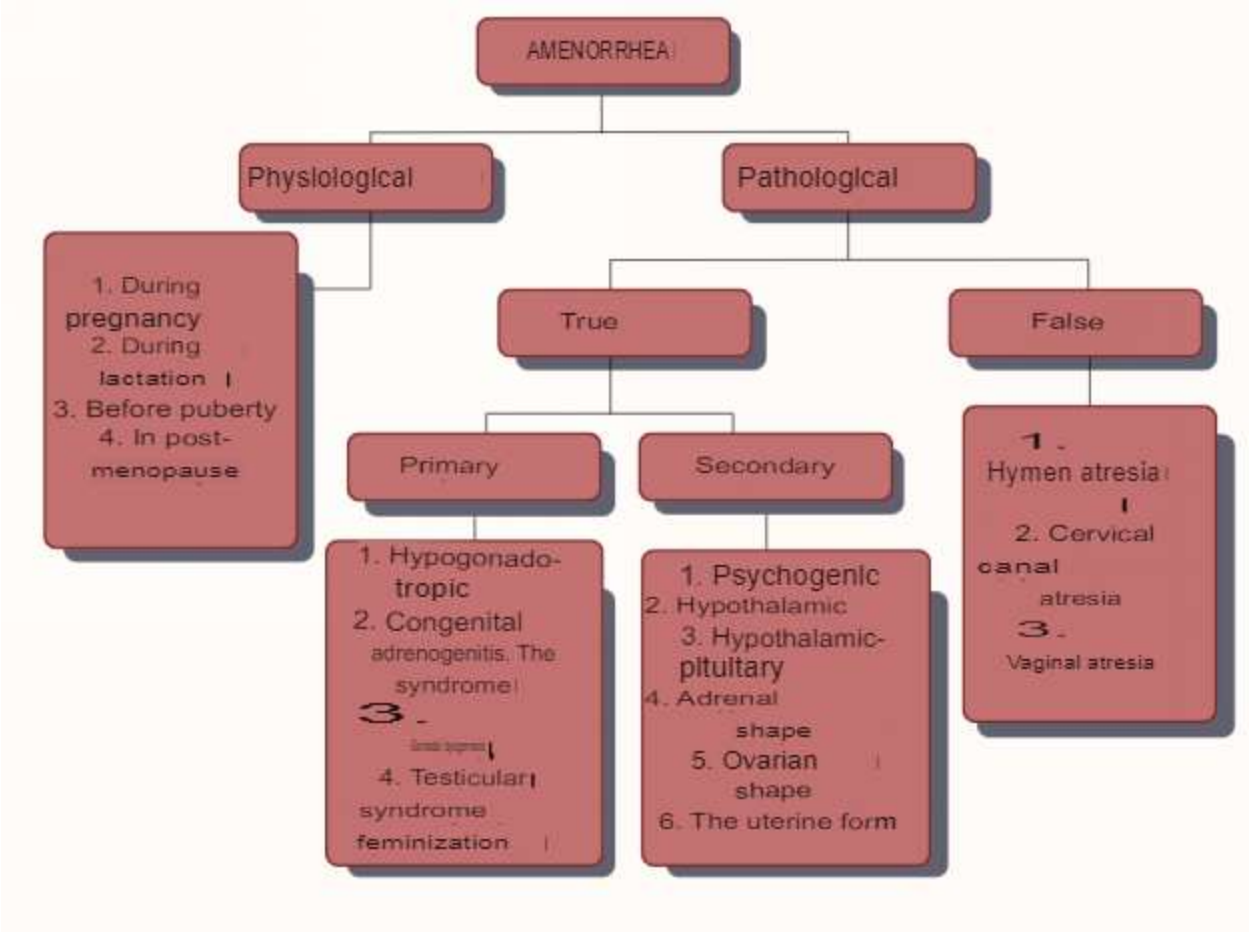

Figure 2.1. Amenorrhea

Physiological amenorrhea:

- during pregnancy
- during lactation
- before puberty
- postmenopausal

Pathological amenorrhea is a symptom of many genital and extragenital diseases.

True amenorrhea, in which menstruation and cyclic processes in the body are absent.

False amenorrhea (cryptomenorrhea) – absence of external manifestations, i.e. menstrual bleeding (in the presence of cyclic processes in the body): this

happens with atresia of the hymen, cervical canal, vagina and other malformations of the female reproductive system.

True Amenorrhea

Primary amenorrhea: — this is the absence of menstruation in a girl aged 16 years and older (she has never had menstruation).

Primary amenorrhea

1. hypogonadotropic amenorrhea.

Clinic:

- Patients have eunuchoid signs of physique
- Hypoplasia of the mammary glands with fatty replacement of glandular tissue
- The size of the uterus and ovaries correspond to the age of 2-7 years

Treatment: hormone therapy with gonadotropins and cyclic therapy with combined oral contraceptives for 3-4 months.

2. Primary amenorrhea on the background of virilization symptoms is a congenital adrenogenital syndrome (CAS). In this syndrome, there are genetically determined disorders of androgen synthesis in the adrenal cortex.
3. Primary amenorrhea with a normal phenotype may be caused by malformations of the uterus, vagina – testicular feminization syndrome.

Testicular feminization syndrome is a rare pathology (1 case per 12,000- 15,000 newborns). It is one of the monogenic mutations – a change in one gene leads to the congenital absence of the enzyme 5α–reductase, which converts testosterone into a more active dehydrotestosterone.

- The karyotype in patients is 46 xy.
- At birth , the female type of structure of the external genitalia is noted
- The vagina is short, blind
- Gonads in 1/3 of patients are located in the abdominal cavity, in 1/3 – in the inguinal canals, and in the rest – in the thickness of the labia. Sometimes there is a congenital inguinal
- Hernia, which contains a testicle.
- The phenotype of adult patients is female.

The mammary glands are well developed. The nipples are underdeveloped, the periarticular fields are weakly expressed. Sexual and axillary hair loss was not detected.

Treatment: surgical (removal of defective testicles) at the age of 16-18 years after the completion of growth and development of secondary sexual characteristics.

Gonadal dysgenesis (a genetically determined malformation of the ovaries)

Due to the quantitative and qualitative defect of the sex chromosomes, the normal development of ovarian tissue does not occur and connective tissue strands form in place of the ovaries, and this causes a sharp deficiency of sex hormones.

Gonadal dysgenesis has 3 clinical forms:

1. Shereshevsky-Turner syndrome

2. The "pure" form of gonadal dysgenesis

3. Mixed form of gonadal dysgenesis

Shereshevsky-Turner syndrome

- Karyotype 45 x;
- 45 x/ 46 y;
- 45 x/ 47 xxx.

Sexual chromatin is not detected or sharply reduced. The level of gonadotropins in the blood is significantly lowered and the content of ovarian hormones is reduced.

Clinic

- Patients have low birth weight
- Wing - shaped folds on the neck
- Malformations of the heart, large vessels, kidneys
- Lag in growth
- Multiple disorders of the skeletal structure
- Osteoporosis
- Low - set ears
- High upper sky
- Low hairline on the neck
- Valgus installation of knee and elbow joints
- Syndactyly and others.
- Secondary sexual characteristics do not appear.

A "true" form of gonadal dysgenesis

It is characterized by a female phenotype, normal or high growth in the absence or underdevelopment of mammary glands, scant secondary hair loss. The external and internal genitalia are underdeveloped.

Karyotype 46xx or 46xx, sexual chromatin is negative. In place of the gonads are connective tissue strands.

In **the mixed form** of gonadal dysgenesis, there are no somatic abnormalities; signs of virilization are noted. In place of the ovaries, a connective tissue cord is found on the one hand, and a dysgenetic testicle on the other. The karyotype is most often 45x/ 46u or mosaicism, sexual chromatin is negative.

Treatment: From the age of 13-14, estrogen treatment is started continuously until the mammary glands increase and a menstrual-like reaction appears. Then combined oral contraceptives are prescribed for a long time and continue at reproductive age.

In case of a mixed form of gonadal dysgenesis, surgical treatment (removal of gonads) is performed in order to avoid the development of malignant tumors.

Secondary amenorrhea.

1. **Psychogenic amenorrhea** (stress amenorrhea) is associated with disorders at the level of the cerebral cortex.

Under the influence of the stress release of high doses of ACTH, endorphins, neurotransmitters, the formation and release of gonadoliberins and gonadotropins decrease and even block.

Clinic:

Amenorrhea

Asthenoneurotic, asthenodepressive, asthenoipochondriac syndromes

Treatment:

- Antidepressants
- Neuroleptics
- Vitamins of group B, A, E
- Homeopathic medicines.

2.**Hypothalamic amenorrhea**

1. Amenorrhea on the background of weight loss appears in girls and women who use a protein-poor diet

2. Amenorrhea in anorexia nervosa occurs in young women, adolescent girls with unstable nervous systems, after severe mental conflicts.

Treatment: psychotherapy, high-calorie nutrition, cyclic hormone therapy.

3.Amenorrhea during false pregnancy is the appearance of pregnancy symptoms in women who really want to have children.

Treatment: psychotherapy, sedatives. The menstrual cycle recovers on its own after 1-3 months.

Hypothalamic-pituitary amenorrhea

1. **Hyperprolactinemia** is an increase in the formation of prolactin by the pituitary gland with an increase in its level in the blood.

There are:

Physiological hyperprolactinemia (pregnancy, lactation)

Pathological hyperprolactinemia:

a) functional

b) organic

Functional hyperprolactinemia:

- In case of functional disorders in the system of regulation of prolactin synthesis
- With hypothyroidism
- With long-term drug therapy with psychotropic drugs, neuroleptics, hormones, combined oral contraceptives
- Under stress
- In some forms of hyperandrogenism
- After prolonged lactation
- After abortions

Clinic:

1. Secondary amenorrhea
2. Spontaneous galactorrhea
3. Infertility
4. Decreased libido
5. There is moderate uterine hypoplasia and sometimes breast enlargement.

Hyperprolactinemia of an organic nature is caused by prolactinoma (prolactin secreting tumor of the pituitary gland).

At the same time, amenorrhea-galactorrhea and infertility are noted.

The clinic distinguishes the following syndromes:

1. Amenorrhea-galactorrhea associated with pregnancy and childbirth (Chiari-Frommel syndrome)

2. Idiopathic amenorrhea-galactorrhea (Argonza del Castillo syndrome)

3.Amenorrhea-galactorrhea of tumor origin (Forbes-Albright syndrome)

Treatment:

- For large pituitary adenomas – surgical treatment
- Parlodel (bromocriptine) and dostinex are used for the treatment of functional hyperprolactinemia and pituitary prolactin.
- In cases of hypothyroidism, treatment is carried out with thyroid hormones.

2. Hypogonadotropic amenorrhea is a congenital insufficiency of the hypothalamic-pituitary system (15-20% of patients).

Characteristic:

Low levels of gonadotropins and estradiol in the blood are detected.

Normal levels of prolactin, testosterone, and cortisol in the blood are noted.

Treatment:

-combined oral contraceptives to restore a menstrual-like reaction

3. Postpartum hypopituitarism (Sheehan syndrome).

4. Amenorrhea in acromegaly and gigantism is caused by hyperproduction of somatotropin.

If the disease occurred before puberty, gigantism develops; after graduation, acromegaly.

Treatment:

- Hormone therapy with high doses of estrogens that stop excessive growth
- To restore the menstrual cycle, the appointment of combined oral contraceptives for 3-4 months
- is indicated.

5.Amenorrhea in Itsenko-Cushing's disease is associated with excessive production of corticotropin (with basophilic pituitary adenoma, skull injury, encephalitis)

Characteristic:

Obesity with fat deposition in the face area (moon-shaped face of purplish-red color), neck, upper half of the trunk and abdomen, disproportionately thin limbs.

Treatment: To normalize menstrual function, combined estrogen-progestogenic drugs such as oral contraceptives are prescribed in a 21-day regimen for 4-5 months

6.**The adrenal form of amenorrhea.**

1. Post-pubertal adrenogenital syndrome.

2. Virilizing tumor of the adrenal glands.

7.Ovarian form of amenorrhea:

1. Ovarian exhaustion syndrome (or premature menopause, premature menopause). Occurs in a woman younger than 38 years old.

Treatment: cyclic hormone therapy, oral contraceptives with low estrogen content.

2.Resistant ovarian syndrome

Clinic

Secondary amenorrhea

Infertility

Treatment: cyclic hormone therapy with estrogen-progestogenic drugs such as oral contraceptives with an estrogen content of no more than 0.03 mg. Prescribe 1/2 or 1/4 tablets per day – for a long time.

8.**Uterine form of amenorrhea**

As a result of a pathological process in the endometrium.

Ascherman syndrome – the presence of intrauterine synechiae

Treatment

- surgical (destruction of synechiae by curettage under the control of hysteroscopy),
- Cyclic hormone therapy,
- Homeopathic medicines.

False amenorrhea.

Cryptomenorrhea – is the absence of menstrual blood outflow in the presence of cyclic processes in the body.

The causes are malformations of the female reproductive system

- Atresia of the hymen
- Atresia of the cervical canal
- Vaginal atresia

The treatment of these defects is surgical.

2.2. Hypomenstrual syndrome.

Hypomenstrual syndrome is called a violation of the menstrual cycle, which is expressed by a weakening of menstruation. There are the following types of hypomenstrual syndrome:

–**hypomenorrhea** (decrease in the amount of menstrual blood to 25 ml or less);

–**oligomenorrhea** (the duration of menstruation is reduced to two or less days);

–**opsomenorrhea**, or bradimenorrhea (delayed menstruation with an extended interval of 5-8 weeks)

–**spaniomenorrhea** (extremely rare menstruation - 2-4 times a year).

The most common combination of various forms of hypomenstrual syndrome is: hypo- and oligomenorrhea; hypo- and opsomenorrhea, etc. Often, the hypomenstrual syndrome precedes amenorrhea.

There are primary hypomenstrual syndrome (if menstruation was weakened from the very beginning), and secondary (developed after previously normal menstruation).

The factors leading to the weakening of menstruation are unfavorable living conditions that worsen the general condition of the body, infantilism, impaired function of the endocrine glands, acute and chronic infectious diseases, intoxication and other factors that lead to hypofunction of the ovaries, and decreased secretion of sex hormones causes insufficient blood circulation of the uterus and the inferiority of cyclic transformations of the endometrium.

The cause of meager (hypomenorrhea) and short (opomenorrhea) menstruations is insufficient local receptivity; hypoplasia of the genital organs, especially if it is accompanied by ovarian insufficiency; endometrial inferiority, developing after inflammatory processes (for example, tuberculosis) or after surgical interventions

that reduce the area of the endometrium (defundation of the uterus) or destroy it (excessive curettage).

The cause of rare, delayed menstruation (opso- or bradymenorrhea) is a violation of the correlation in the central nervous system - pituitary gland - ovaries, the mechanism of which has not been sufficiently clarified. The lengthening of the follicular phase can be caused by the successive maturation of several follicles one after the other, which, before reaching ovulation, atreze until, finally, ovulation occurs in one of the following follicles.

Primary hypomenstrual syndrome is observed in abnormalities of the development of the reproductive apparatus associated with insufficient sexual differentiation, virilization phenomena, genital hypoplasia, infantilism, asthenia, etc.

Secondary hypomenstrual syndrome develops more often as a result of impaired function of the endocrine glands, infectious and long-term debilitating diseases, diseases of the cardiovascular system and hematopoietic organs, inflammatory diseases of the reproductive apparatus, as well as after injury to the uterus (excessive curettage) or ovaries. Hypomenstrual syndrome is often observed during puberty, as well as in the menopausal and menopausal periods.

With poor menstruation (hypomenorrhea), menstrual bleeding has the character of "traces" or drops of blood. The menstrual cycle can be normal, two-phase, often with a well-defined luteal phase. However, hypomenorrhea is often accompanied by oligomenorrhea (menstruation duration is less than 1-2 days).

Hypo- and oligomenorrhea often precedes amenorrhea.

Opsomenorrhea is usually expressed in the following forms:

1. A two-phase menstrual cycle with an elongated follicular and normal luteal phases. The phases of follicle maturation and ovulation are slowed down, which is the reason for the slowing down of FSH secretion. Ovulation occurs between the 17th and 30th days.

2. Two-phase menstrual cycle with elongated follicular and shortened luteal phases. Ovulation is late, the yellow body is defective, with pronounced luteal insufficiency, glandular cystic hyperplasia is noted in the endometrium.

3. A two-phase menstrual cycle with normal follicular and elongated luteal phases. This form of cycle disruption is rare.

The **diagnosis** of hypomenstrual syndrome is based on a thorough clinical study, laboratory data and the results of a functional study. Depending on the severity of the disease, treatment may include general restorative measures and physiotherapy

procedures that enhance blood supply to the pelvic organs, the use of hormonal and immunostimulating drugs.

2.3. Delayed functional and sexual development in girls and young women.

Delayed sexual development (SPD) is a condition when all secondary sexual characteristics are absent or clearly underdeveloped, and there is no menstruation at the age of 15-16. It is usually a consequence of a violation of the correct relationship between the various links regulating the process of puberty. In this case, there may be underdevelopment or absence of all the main secondary sexual characteristics (breast development, pubic and armpit hairiness, menstruation) or only the absence of menarche.

Classification of ZPR by levels of damage to the links of the reproductive system:

a) sexual underdevelopment of central origin:

1) hypothalamic - associated with damage to the hypothalamus of a tumor or inflammatory nature.

a. with sexual underdevelopment without obesity, girls are more likely to lag behind in growth and have other somatic disorders, often there are symptoms characteristic of a brain tumor (hemiplegia, fundus changes, visual disturbances). Sexual underdevelopment is accompanied by the absence or sharp decrease of gonadotropins, 17-ketosteroids and estrogens. Treatment can be effective if the cause is eliminated in a timely manner.

b. with sexual underdevelopment accompanied by obesity, characteristic somatic development is characteristic (sufficient body length with large limbs, developed muscles, wide pelvis, skin without hair and other developmental defects) in the absence of mental retardation (Pehrants-Babinsky-Frolich syndrome).

2) pituitary - accompanied or caused by a deficiency of gonadotropins. There is hypoplasia of the mammary glands and often a complete absence of menstruation (if menstrual-like bleeding occurs, then they have an anovulatory character). With temporary pituitary eunuchoidism (anorexia nervosa), secondary sexual characteristics and general somatic development may already be expressed if the gonadotropic function of the pituitary gland ceases during puberty. At the same time, there is no menstruation, the hair in the pubic and axillary areas partially falls out, and a sharp weight loss occurs. This condition often develops in conflict situations.

Targeted therapy that eliminates causal factors can lead to improvement.

b) idiopathic ZPR caused by severe diseases - may be due to constitutional or hereditary causes, as well as various diseases that negatively affect the condition of

the entire body. If the secondary sexual characteristics of a girl do not appear before the age of 13-15, she should be carefully examined (anthropometric studies, determination of the content of ovarian and adrenal hormones in the blood, bone development, study of the condition of other organs and systems). If other forms of sexual underdevelopment are not detected and certain changes from the endocrine glands or other organs are not found, treatment with chorial gonadotropin or sex steroid hormones is performed. Along with this, general restorative therapy is indicated, and most importantly, the elimination of the factors that caused this pathology.

c) sexual underdevelopment of peripheral genesis (ovarian) - the absence of sexual development of ovarian genesis is due to the destruction of the ovaries or, more often, various forms of gonadal dysgenesis

Gonadal forms of delayed sexual development are, as a rule, a consequence of gonadal dysginesia due to a congenital defect of the sex chromosomes, while a typical form of gonadal dysginesia (Shereshevsky-Turner syndrome), a pure form of gonadal dysginesia (Swyer syndrome) and a mixed form are distinguished.

Chapter No. 3. Abnormal uterine bleeding.

At the base of the primary and secondary menstrual cycle disorders, the main role belongs to hypothalamic factors, according to the scheme: puberty is the process of formation of the rhythm of lyuliberin secretion from its complete absence (in premenarch), followed by a gradual increase in the frequency and amplitude of impulses until the rhythm of an adult woman is established. In the initial stage, the level of RG-GT secretion is insufficient for the onset of menarche, then for ovulation, and later for the formation of a full-fledged corpus luteum.

Secondary forms of menstrual cycle disorders in women, occurring according to the type of insufficiency of the corpus luteum, anovulation, oligomenorrhea, amenorrhea, are considered as stages of a pathological process, the manifestations of which depend on the secretion of lyuliberin. Estradiol and progesterone play a leading role in maintaining the rhythm of GT secretion.

Thus, the synthesis of **gonadotropins (GT)** is controlled by hypothalamic GnRH and peripheral ovarian steroids by the mechanism of positive and negative feedback. An example of a negative feedback is an increased release of FSH at the beginning of the menstrual cycle in response to a decrease in estradiol levels. Under the influence of FSH, follicle growth and maturation occurs: proliferation of granulosa cells; synthesis of LH receptors on the surface of granulosa cells; synthesis of aromatases involved in the metabolism of androgens into estrogens; promotion of ovulation together with LH. Under the influence of LH, androgen synthesis occurs in follicle tech cells; estradiol synthesis in granulosa cells of the dominant follicle; ovulation stimulation; progesterone synthesis in luteinized granulosa cells.

Ovulation occurs when the maximum level of **estradiol** is reached in the preovulatory follicle, which, by a positive feedback mechanism, stimulates the preovulatory release of LH and FSH by the pituitary gland. Ovulation occurs 10-12 hours after the peak of LH or 24-36 hours after the peak of estradiol. After ovulation, granulosa cells undergo luteinization to form a corpus luteum, under the influence of LH secreting progesterone.

The structural formation of the **corpus luteum** is completed by the 7th day after ovulation, during this period there is a continuous increase in the concentration of sex hormones in the blood.

After ovulation in the II phase of the cycle, the concentration of progesterone in the blood increases by 10 times compared to the basal level (4-5 days of the menstrual cycle). To diagnose reproductive function disorders, the concentration of hormones in the blood is determined in phase II of the cycle: progesterone and estradiol, the combined action of these hormones ensures the preparation of the endometrium for implantation of blastocysts; sex steroid-binding globulins (PSG), the synthesis of which occurs in the liver under the influence of insulin, testosterone and estradiol.

Albumins are involved in the binding of sex steroids. The immunological method of studying blood hormones is based on the determination of active forms of steroid hormones that are not related to proteins.

Abnormalities of menstrual function are the most common form of disorders of the reproductive system.

Abnormal uterine bleeding (AUB) is commonly referred to as any bloody uterine discharge outside of menstruation or pathological menstrual bleeding (more than 7-8 days in duration, more than 80 ml in volume of blood loss during the entire period of menstruation).

AUBs can be symptoms of various pathologies of the reproductive system or somatic diseases. Uterine bleeding is most often a clinical manifestation of the following diseases and conditions:

1. Pregnancy (uterine and ectopic, as well as trophoblastic disease).
2. Uterine fibroids (submucous or interstitial fibroids with centripetal node growth).
3. Oncological diseases (uterine cancer).
4. Inflammatory diseases of the genital organs (endometritis).
5. Hyperplastic processes (polyps of the endometrium and endocervix).
6.Endometriosis (adenomyosis, external genital endometriosis)
7. The use of contraceptives .
8. Endocrinopathy (chronic anovulation syndrome - CAS)
9.Somatic diseases (liver diseases).
10. Blood diseases, including coagulopathy (thrombocytopenia, thrombocytopathy, Willebrand's disease, leukemia).
11. Dysfunctional uterine bleeding.

Dysfunctional uterine bleeding (DUB) - disorders of menstrual function, manifested by uterine bleeding (menorrhagia, metrorrhagia), in which no pronounced changes in the genitals are detected. Their pathogenesis is based on functional disorders of the hypothalamic-pituitary regulation of the menstrual cycle, as a result of which the rhythm and level of hormone release change, anovulation and violation of cyclic transformations of the endometrium are formed.

Thus, DUB is based on a violation of the rhythm and production of gonadotropins and ovarian hormones. DUB is always accompanied by morphological changes in the uterus.

DUB is always a diagnosis of exclusion

DUB accounts for 15-20% of the total structure of gynecological diseases. Most cases of DUB occur 5-10 years before menopause or after menarche, when the reproductive system is in an unstable state.

Menstrual function is regulated by the cerebral cortex, suprahypothalamic structures, hypothalamus, pituitary gland, ovaries and uterus. This is a complex system with double feedback, and for its normal functioning, the coordinated work of all links is necessary.

The main point in the mechanism of functioning of the endocrine system that regulates the menstrual cycle is ovulation, most DUBs occur against the background of anovulation.

DUB is the most common pathology of menstrual function, characterized by a recurrent course, lead to impaired reproductive function, the development of hyperplastic processes in the uterus and mammary glands. Recurrent DUB leads to a decrease in social activity and a deterioration in a woman's quality of life, accompanied by mental (neuroses, depression, sleep disorders) and physiological abnormalities (headaches, weakness, dizziness due to anemia).

DUB is a polyethological disease, which is a special type of response of the reproductive system to the effects of damaging factors.

Uterine bleeding, depending on the age of a woman, is distinguished:

1. Juvenile or pubertal bleeding – in girls during puberty.
2. Menopausal bleeding at the age of 40-45 years.
3.Menopausal – 45-47 years old;
4.Postmenopausal bleeding in menopausal women a year or more after menopause, the most common cause is uterine tumors.

According to the state of menstrual function:

- Menorrhagia
- Metrorrhagia
- Menometrorrhagia

The etiology and pathogenesis of DUB are complex and multifaceted.

Causes of DUB:

- psychogenic factors and stress
- mental and physical fatigue
- acute and chronic intoxication and occupational hazards
- pelvic inflammatory processes
- impaired function of the endocrine glands.

The following mechanisms are involved in the pathogenesis of uterine bleeding:

1. Violation of contractile activity of the uterus in fibroids, endometriosis, inflammatory diseases;
2. Disorders in the vascular supply of the endometrium, the causes of which may be endometrial hyperplastic processes, hormonal disorders;
3. Violation of thrombosis in patients with defects in the hemostatic system, especially in the microcirculatory-platelet link, with the formation of fewer blood clots compared to normal endometrium, as well as as a result of activation of the fibrinolytic system;
4. Impaired regeneration of the endometrium with a decrease in hormonal activity of the ovaries or due to intrauterine causes.

There are 2 large groups of uterine bleeding:

I. Ovulatory (due to the decline of progesterone). Depending on the changes in the ovaries, the following 3 types of DMK are distinguished:

a. Shortening of the first phase of the cycle;

b. Shortening of the second phase of the cycle - hypolyuteinism;

b. Prolongation of the second phase of the cycle - hyperluteinism.

II. Anovulatory uterine bleeding due to the decline of estrogens (follicle persistence and follicle atresia).

Uterine bleeding always occurs against the background of a decrease in the level of steroid hormones.

Ovulatory DUB	Anovulatory DUB
1 . hypoprogesteronemia.	1 . Persistence of immature follicles.
2. Yellow body persistence - hyperluteinism.	2. The persistence of a mature follicle.
3. Shortening of the follicular phase of the cycle.	3. Follicle atresia.

Clinic for ovulatory uterine bleeding:

- there may be bleeding leading to anemia;
- there may be anointing before menstruation;

- ❖ spotting after menstruation;
- ❖ there may be spotting in the middle of the cycle;
- ❖ miscarriage and infertility

Chapter No.4.Bleeding in the first half of pregnancy.

Relevance.

One of the most frequent and serious complications of pregnancy, childbirth and the early postpartum period is bleeding.Bleeding occupies one of the first places in the structure of causes of maternal mortality. The perinatal loss of fetuses is also great.The rate of obstetric bleeding ranges from 3 to 8% in relation to the total number of births.Bleeding during pregnancy is observed in 2-3% of women.

Obstetric bleeding is characterized by

1.Suddenness of occurrence,

2. The massiveness of blood loss,

3. Frequent combination with severe pain syndrome,

4. Rapid depletion of compensatory mechanisms

These factors, despite the constant attention of obstetricians to this pathology, can lead to the death of the mother and fetus.

The main causes of bleeding in the first half of pregnancy.

This group of pathological conditions includes all diseases accompanied by symptoms of bleeding during pregnancy up to 20 weeks.

According to the etiology of bleeding in the first half of pregnancy, it can be divided into 2 groups:

I. Not related to pregnancy.
II. II.Related to pregnancy.

1. Disrupted pregnancy:

- uterine
- ectopic

2.Fetal egg disease

molar pregnancy

4.1. Abortions

Spontaneous miscarriages.

Spontaneous termination of pregnancy before the fetus reaches a viable gestational age, pregnancy up to 22 weeks.

According to the clinical picture:

1. Threatening

2.The beginning

3.Abortion is in progress

4.Incomplete

Diagnostics.

It is based on the definition of doubtful, probable signs of pregnancy: menstruation delay, the appearance of whims, breast enlargement, the appearance of colostrum.

Bimanual examination: an increase in the size of the uterus, softening in the isthmus area, which makes the uterus more mobile in the isthmus area, asymmetry of the uterus (bulging of one of the corners of the uterus).

In case of spontaneous miscarriage, the two leading symptoms are: pain syndrome and symptoms of blood loss.

Spontaneous miscarriages are characterized by their gradual course: threatening miscarriage, incipient miscarriage, abortion in progress, incomplete and complete.

The differential diagnosis between these conditions is based on the severity of bleeding symptoms and structural changes in the cervix and the size of the uterus.

A miscarriage has begun. When an abortion begins, against the background of increased contractions of the uterus, a partial detachment of the fetal egg from its wall occurs.

At the same time, the pain increases, often becoming cramping in nature, and blood discharge from the vagina appears.

The fetal egg peels off in a small area, so the size of the uterus corresponds to the period of pregnancy. The cervix is preserved, its channel is slightly ajar.

Tactics in case of miscarriage

With an abortion that has begun, the treatment is basically the same as with a threatening one:

1. Create peace,

2. Sedatives can be used,

3.antispasmodics (gangleron, no-shpa, baralgin) can be administered intramuscularly,

4.ethamzylate (dicinone) is prescribed,

5.appropriate correction is performed for hormonal dysfunction.

The issue of maintaining pregnancy is being resolved in the hospital. If amniotic fluid leaks, it is impractical to preserve pregnancy.

Incomplete abortion. In case of incomplete abortion, after the expulsion of the fetal egg, its remains are found in the uterine cavity. Fetal membranes, placenta or parts of it are usually retained in the uterus.

When the fetal egg is expelled from the uterine cavity, cramping pains in the lower abdomen and bleeding of varying intensity are observed.

The cervical canal passes the finger freely. The uterus has a soft consistency. Its value is less than it should be at the expected gestation period.

Tactics for "**abortion in progress**" and incomplete abortion. Due to the fact that "abortion in progress" and incomplete abortion are often accompanied by profuse bleeding, it is necessary to provide emergency care to the pregnant woman.

At the hospital stage: call an ambulance, cold on the lower abdomen, intramuscularly inject uterine contraception – oxytocin 1 ml (5e.d.), intravenously glucose with ascorbic acid, calcium gluconate 10% - 10 ml, ethamzylate intramuscularly, soothe.

Upon admission to the hospital, a blood test is performed, the blood group and Rhesus affiliation, HIV are determined, and the Wasserman reaction is performed.

Emergency care consists in curettage of the uterine cavity, removal of the remains of the fetal egg; compensation for blood loss depending on its volume and the condition of the woman.

4.2.Ectopic pregnancy

Pregnancy is called ectopic (ectopic) if the implantation occurred outside the uterine cavity. The most common place of implantation is the fallopian tubes

(98%), rarer localizations are the ovary, rudimentary uterine horn, and abdominal cavity.

Classification.

1.*Abdominal:*

primary - the fetal egg is initially implanted in the mesentery of the intestine, the wide ligament of the uterus or other organs of the abdominal cavity;

Secondary abdominal pregnancy is formed when the fetal egg is pushed out of the tube into the abdominal cavity.

2.*Ovarian:* on the surface of the ovary, inside the ovary.

3.*Tube:*

- by location: ampullary, isthmic, interstitial.

- following the course of the disease: progressive and impaired (by the type of tubal abortion and rupture of the fallopian tube) tubal pregnancy.

4. *Cervical-isthmian pregnancy.*

5. *Cervical pregnancy.*

6. *Pregnancy in the accessory horn of the uterus (rudimentary).*

Risk factors for ectopic pregnancy.

There are two groups of factors that contribute to the appearance of EP:

- fertilization abnormalities

- violation of the movement of a fertilized egg into the uterine cavity.

The abnormalities of fertilization include cases of the use of assisted reproductive technologies, which increase the risk of VB by 4 times. At the same time, the frequency of combined uterine and ectopic pregnancies increases many times.

Factors that disrupt the movement of a fertilized egg :

inflammatory diseases of the pelvic organs;

- ❖ inflammatory diseases of the pelvic organs;
- ❖ artificial abortions;
- ❖ infantilism;

- some contraceptives increase the frequency of ectopic pregnancy up to 4.5 times: intrauterine contraceptives (IUC) containing progesterone or reducing peristalsis of the fallopian tubes under the influence of progesterone;
- narrowing of the fallopian tubes due to birth defects, benign tumors or cysts of the tube, uterine fibroids in the tubal angle, endometriosis of the tubes with the formation of adhesions;
- surgery on the fallopian tubes increases the frequency of EP, the risk of EP increases with chronic salpingitis;
- changes in the implantation properties of the fetal egg: they appear ahead of time;
- abnormalities in the level of prostaglandins in sperm, the basis of the mechanism of action of prostaglandins on the fallopian tubes are the processes of contraction and relaxation of the muscle fibers of the oviducts, regulating the transport of a fertilized egg,;
- In women who smoke, EP develops 2-3 times more often than in the population, which is associated with the damaging effect of nicotine on the atrial fibrillation of the fallopian tubes and impaired peristalsis of the tubes.

Pathogenesis. There are insufficient conditions for nutrition and development of the fetal egg. Progressive ectopic pregnancy stretches the placenta, and chorionic villi destroy the underlying tissue, including blood vessels, then the placenta ruptures. This process can occur at different speeds depending on the location and is accompanied by more or less pronounced bleeding. More often, ectopic pregnancy disorders occur at 4-6, less often at 8 weeks.

Ectopic pregnancy clinic.

The clinical picture depends on the stage of development of ectopic pregnancy (progressive or impaired), the type of its violation (rupture of the tube or tubal abortion), total blood loss and body reaction.

Progressive tubal pregnancy is characterized by: delayed menstruation; breast swelling; nausea, taste changes. Bimanually and in mirrors: cyanosis of the mucous membranes of the vagina and cervix; the neck is flattened, and partial softening is noted in the isthmus; the uterus is softened, slightly increases in size due to thickening of the muscle wall and development of the decidual membrane, the symptoms of Geghar, Piskachek, etc. are weakly expressed or not defined; the yellow body of pregnancy forms in the ovary.

At the same time, there is no effect from therapy, including hormonal methods of hemostasis. The main feature of this form of ectopic pregnancy is the lag in the size of the uterus, according to the expected terms of pregnancy, with an increase in tumor-like formations determined at the sites of localization of the fetal egg.

Depending on the location of the fetal egg, deformity of the uterus or the presence of tumor—like formations are observed (in the uterus and ovaries — in the area of

appendages; between the leaves of the wide ligament — on the side of the uterus; in the rudimentary horn — next to the body of the uterus; in the cervix — a flask-shaped neck; in the abdominal cavity - tumor-like formations of various localization).

Impaired ectopic pregnancy.

The rupture of the tube is characterized by symptoms of internal bleeding of varying severity (the villi of the fetal egg completely destroy the thin wall of the fallopian tube, and blood from damaged vessels pours into the abdominal cavity) - pathological blood loss, massive blood loss syndrome, hemorrhagic shock, as well as symptoms of peritoneal irritation: bloating, soreness, tension of the anterior abdominal wall, peritoneal symptoms.

There is a **sharp abdominal pain**, which may be preceded by less intense cramping pains associated with tubal peristalsis ("tubal colic"). At the moment of an intense pain attack, sometimes there is a loss of consciousness. Nausea, dizziness, pallor of the skin, and sometimes loose stools are noted. Cold sweat appears, blood pressure decreases, and the pulse becomes frequent and weak. When percussion of the abdomen is detected, the sound is dulled in sloping places.

During gynecological examination with the help of mirrors, cyanosis of the mucous membrane of the vagina and cervix is detected, the uterus is slightly enlarged, softened, mobile ("floating"), pasty is determined in the area of the appendages of the uterus or a tumor-like formation of a testaceous consistency is palpated; the posterior and one of the lateral arches is protruding; there is sharp pain when trying to shift the cervix anteriorly and when palpation of the posterior arch, pain radiates into the rectum.

Termination of tubal pregnancy by the type of tubal abortion proceeds more slowly (from several days to several weeks). This is due to the fact that during tubal abortion, the fetal egg, not having the appropriate conditions for development, peels off from the walls of the fallopian tube and is expelled into the abdominal cavity. Due to the rhythmic contraction of the fallopian tube, blood enters the abdominal cavity periodically.

Main complaints: paroxysmal pains in the lower abdomen, spotting, scanty, dark brown or almost black discharge from the genital tract (bloody discharge from the vagina is caused by rejection of the decidual membrane as a result of a decrease in the level of steroid hormones that occurs when the connection of the fetal egg with the placenta is disrupted). Repeated short-term fainting, weakness, dizziness, cold sweat, vomiting may occur.

During gynecological examination— cyanosis of the mucous membranes, scanty bloody discharge from the cervical canal. The enlargement of the uterus does not correspond to the period of pregnancy, it is softened in the isthmus area. In the area

of the uterine appendages, a tumor-like formation is palpated, limited-mobile with indistinct contours. The posterior and corresponding lateral arches are flattened or protruding, with moderate soreness.

In ovarian pregnancy, the fetal egg can be implanted on the surface of the ovary, which is sometimes associated with endometriosis, or develop inside the follicle. This pregnancy is interrupted in the early stages and is accompanied by similar symptoms that are observed during the termination of a tubal pregnancy.

Abdominal pregnancy, both primary and secondary, is extremely rare. The fetal egg can attach to various organs of the abdominal cavity, except the intestine. Very rarely, abdominal pregnancy reaches long periods. As a rule, it ends with rupture of the capsule of the placenta in the early stages, profuse bleeding and peritoneal shock. It is characterized by repeated abdominal pain attacks, sometimes with loss of consciousness. Sharp pain occurs when the fetus moves. During a bimanual examination, a slightly enlarged uterus is palpated, located separately from the fetus. The parts of the fetus are defined under the abdominal wall.

Diagnosis of ectopic pregnancy.

1. **From anamnesis:**

there are questionable and probable signs of pregnancy;

Risk factors for ectopic pregnancy are identified;

2. **Objective inspection.**

Symptoms of acute blood loss: weakness, loss of consciousness, pallor of the skin and mucous membranes, drop in blood pressure, weak rapid pulse.

The symptom complex of the acute abdomen: the abdomen is painful on palpation from the rupture side, the Shchetkin-Blumbergas symptom is positive. Percussion — signs of free fluid in the abdominal cavity.

3. **Two-handed research**. The uterus is slightly enlarged, soft; more mobile than usual (floating uterus). Pasty in the area of the uterine appendages. The posterior arch of the vagina is flattened or protruding, sharply painful on palpation (Douglas cry). When trying to shift the cervix anteriorly, there is a sharp pain.

4. Blood test for **chorionic gonadotropin** (HCG) a person in whom a discrepancy in the amount of this hormone is detected with the proper amount at a given period of uterine pregnancy.

5.**Ultrasound** (transvaginal) It states the absence of a trophoblast in the uterine cavity and detects it outside the cavity.

6. **Culdocentesis** (puncture of the posterior vaginal arch) is used to diagnose intra-abdominal bleeding, as well as aspiration of ascitic fluid for subsequent cytological analysis. With the advent of the echography technique, a number of positions regarding routine culdocentesis have been revised. The presence of hemorrhagic shock is a contraindication to performing a culdocentesis.

7. **Endometrial biopsy**. Currently, diagnostic curettage of the uterine mucosa in case of suspected ectopic pregnancy is not used as often as before the "era" of laparoscopy and echography. Moreover, this procedure is justified only in those clinical situations when the diagnosis of "ectopic pregnancy" is differentiated with incomplete spontaneous abortion and/or dysfunctional uterine bleeding. In the scraping, the presence of decidual tissue in the absence of chorionic villi.

8. **Laparoscopy** is the most informative method of diagnosing ectopic pregnancy, but it does not allow to determine EB in a short period of time.

Treatment.

The 1st stage is the operation. If necessary, simultaneously combat GSH.

Stage 2 – management of the postoperative period.

Stage 3 – rehabilitation of reproductive function.

The 1st stage is the operation.

With undisturbed ectopic (tubal) pregnancy, it is possible to perform 2 types of surgical intervention with laparoscopic access:

1.Removal of the fallopian tube (tubectomy);

2. Removal of the fetal egg and preservation of the fallopian tube (tubectomy).

Laparotomy, removal of the fallopian tube. If necessary, simultaneously combat GSH. In case of massive bleeding, resuscitation measures to combat GS begin immediately upon admission and continue in the operating room until the condition stabilizes:

1. transfusion of blood substitutes,

2. determination of the patient's blood type and Rhesus affiliation, hemoglobin, hematocrit, coagulogram.

The 2nd stage is the management of the postoperative period.

1.Continue infusion therapy for 2-4 days.

2. Physical therapy. Breathing exercises.

3. Antibacterial therapy.

4. Pain relief during the first 3 days.

5. Physiotherapy and hydrotubation from 4-5 days of the postoperative period.

The 3rd stage. Rehabilitation of reproductive function.

Women who have had an ectopic pregnancy need rehabilitation and dispensary supervision at their place of residence. They begin 1 month after surgery:

1.- physiotherapy,

2.- enzymes

3.- hormonal contraception,

4.- spa treatment.

Repeated rehabilitation courses are carried out 3, 6, 12 months after surgery.

Emergency care.

1. Cold on the lower abdomen.

2. Transportation of a woman on a gurney in a horizontal position with a needle in a vein by any convenient transport (or to the operating room).

3. Report by radio, indicating the blood group and Rh factor.

4. It is forbidden to administer painkillers at the prehospital stage.

5. In case of intra-abdominal bleeding, the administration of blood-substituting solutions (dextran solutions, hydroxyethyl starch preparations) is indicated until hospitalization.

Cervical pregnancy. Cervical and isthmic-cervical pregnancy is a relatively rare complication of pregnancy. In a true cervical pregnancy, the fetal egg develops only in the cervical canal. In cervical-isthmian pregnancy, the placenta is the cervix and the isthmus area.

The clinical picture. The general condition of the patient corresponds to the volume of blood loss.

When examined with mirrors, it is found: the cervix looks barrel-shaped, with a displaced external pharynx, with pronounced cyanosis, bleeds easily during examination, the eccentric location of the external pharynx, and in a number of patients a network of dilated venous vessels is noticeable on the vaginal part of the cervix.

In a **bimanual examination**, the cervix appears to be spherical, of a soft consistency, and a small, denser uterine body is located on it in the form of a "cap", immediately after the external pharynx, the fetal egg is palpated, tightly connected to the walls of the cervix; an attempt to separate it with a finger or instrument is accompanied by increased bleeding.

Bleeding during cervical pregnancy is always very abundant, because the structure of the vascular plexuses of the uterus is disrupted – the lower branch of the uterine artery, the pudendal artery, fits here. The trophoblast, and then the villi of the chorion of the fetal egg, implanted in the cervix and in the isthmus of the uterus, penetrate the mucous membrane and penetrate the muscle layer. The melting of muscle elements and blood vessels leads to bleeding and impaired pregnancy development. In some cases, the wall of the cervix may be completely destroyed, and chorionic villi may penetrate into the parametrium or into the vagina.

The thickness of the cervix is significantly less than the thickness of the uterus in the body area, then blood vessels are disrupted and bleeding cannot be stopped without surgery. Mistakenly, you can start helping with curettage of the uterine cavity, then the bleeding increases.

As soon as the diagnosis of cervical pregnancy is established, which can be confirmed by ultrasound data, curettage of the uterine cavity cannot be performed, but this bleeding must be stopped by extirpation of the uterus without appendages. Currently, the treatment of patients with cervical and isthmic-cervical pregnancies can only be surgical. The operation should be started as soon as the diagnosis is established. The slightest delay in the doctor's actions poses a threat of death of the patient from profuse bleeding.

Pregnancy in the rudimentary horn of the uterus. With its progressive course, there are no symptoms other than those characteristic of pregnancy, however, when palpating the uterus, a tumor-like formation of a soft consistency is determined at one of the corners. Upon termination of pregnancy, the clinical picture is characterized by profuse internal bleeding and shock. Ultrasound and laparoscopy are of great help in establishing the correct diagnosis.

Abdominal pregnancy. Abdominal pregnancy clinically proceeds in the same way as tubal pregnancy, most often ends with rupture of the capsule of the placenta

in the early stages with abundant internal bleeding and shock. Before termination of pregnancy, it is sometimes difficult to establish a diagnosis. In this case, ultrasound also plays an important role.

Ovarian pregnancy. The termination of an ovarian pregnancy is accompanied by the same symptoms as the termination of a tubal pregnancy. Ovarian pregnancy is most often interrupted at the 6th-8th week by the type of rupture of the placenta with bleeding into the abdominal cavity. The clinical picture is dominated by symptoms of internal bleeding, peritonitis and hemorrhagic shock. The diagnosis is usually made during surgery.

Fetal egg disease:gestational trophoblastic disease

Gestational trophoblastic disease is characterized by proliferative changes in chorionic tissue, which leads to increased release of chorionic gonadotropin.

Trophoblastic disease includes cystic drift and trophoblastic tumors, which in turn are divided into

- invasive molar pregnancy

- destructive molar pregnancy

- choriocarcinoma.

Invasive molar pregnancy is characterized by significant proliferative activity, but, as a rule, does not lead to metastases, unlike choriocarcinoma.

4.3.Molar pregnancy (hydatidiform mole).

Hydatidiform mole is a condition accompanied by trophoblast proliferation, in which chorionic villi transform into numerous cluster-like formations in the form of bubbles of various shapes and sizes filling the uterine cavity.

There is a complete and partial bubble drift. With partial cystic drift, fetal elements are found in the uterus. This disease is caused by chromosomal abnormalities and rarely transforms into malignant tumors of the trophoblast.

The clinical picture. The following signs are characteristic of a hydatidiform mole:

1. There is usually a delay in menstruation, the appearance of questionable signs of pregnancy, and therefore the woman considers herself pregnant.

2. Uterine bleeding often occurs in the first trimester of pregnancy. Its nature and intensity can be different: scarlet or dark brown, sparse or abundant, requiring hemostatic, hemosuppression therapy.

3. Sometimes, bubbles of drift are released along with the blood.

4. There are no reliable signs of pregnancy in the form of determining the parts, heartbeat and movements of the fetus, ultrasound examinations in the uterus reveal only small-cystic tissue in the absence of the fetus.

5. The enlargement of the uterus does not correspond to the period of pregnancy, which is due to the large size of the villi, the accumulation of blood between them and the uterine wall.

6. In the first trimester of pregnancy, signs of gestosis may appear in the form of hypertension, proteinuria, edema, but eclampsia is extremely rare.

7.In 50% of cases, tecalyutein ovarian cysts are detected.

Diagnostics. Clinical manifestations and results of additional studies — ultrasound, histological, determination of high concentrations of chorionic gonadotropin in body fluids.

Hydatidiform mole should be differentiated from miscarriage, multiple pregnancies and choriocarcinoma.

With ultrasound, there are no signs of a normal fetal egg or fetus.

Treatment. After the diagnosis of cystic drift is established, hospitalization, its removal is indicated.If within 1-2 months after removal of the vesicular drift, the titer of chorionic gonadotropin in the blood does not decrease, then additional studies are indicated to exclude choriocarcinoma.
Within a year after removal of the vesicular drift, systematic monitoring of the woman is necessary to determine the level of chorionic gonadotropin in the blood or urine, X-ray examination of the lungs.
A woman should be protected from pregnancy for 2 years.

Chapter No. 5 Inflammatory diseases of the female genital organs of non-specific etiology. Vulvovaginitis and colpitis of girls in the neutral period.

Inflammatory processes account for 60-65% of gynecological diseases (according to the data on access to women's consultations).

There are inflammatory processes of non-specific and specific etiology. The first group includes inflammatory processes caused by staphylococci, E. coli, streptococci, Pseudomonas aeruginosa, the second group is caused by trichomonas, gonococci, candida, viruses, mycoplasmas, chlamydia.

Inflammatory diseases of the lower genital organs

I. Vulvitis.

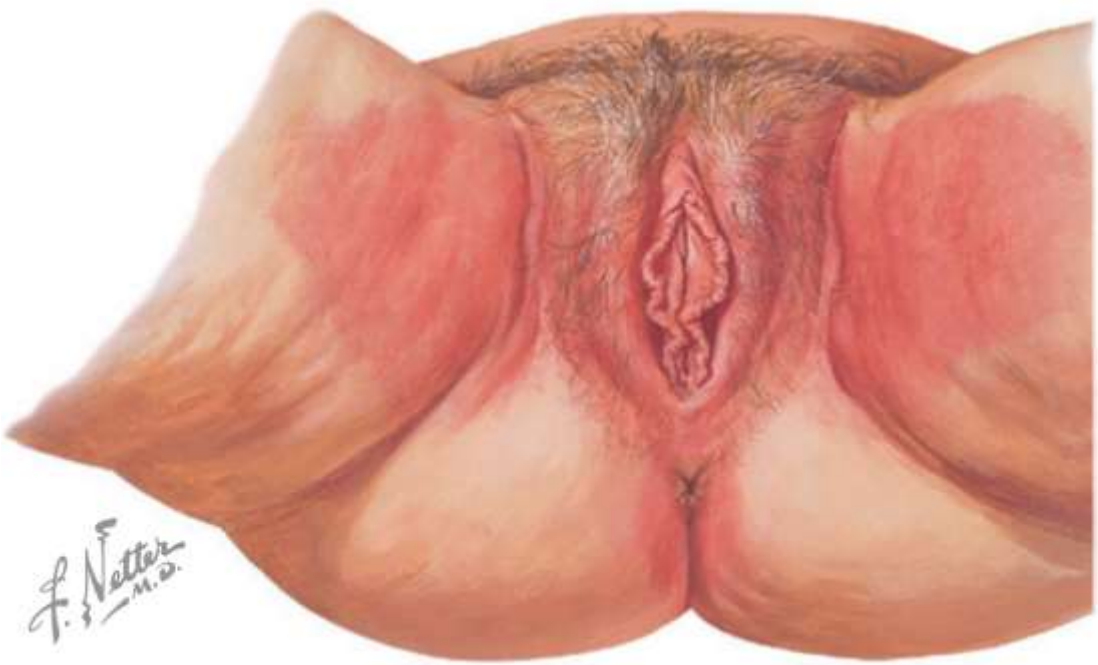

Figure 5.1.Vulvitis

Vulvitis is an inflammation of the external female genital organs. There are primary and secondary vulvitis. Primary vulvitis occurs as a result of trauma with subsequent infection of the injured areas. Secondary vulvitis in women occurs in the presence of an inflammatory process in the internal genitalia. A predisposing factor for the development of vulvitis is ovarian hypofunction. Patients complain of burning and itching of the external genitalia, especially after urination, purulent

discharge, pain during movement. Chronic vulvitis is characterized by itching, burning, and hyperemia, but these manifestations of the disease are erased. The treatment is comprehensive, including the use of local and general tonic agents. Treatment of concomitant diseases (diabetes, pustular lesions, helminthiasis, cervicitis) is indicated, against which vulvitis often develops.

II.Bartholinitis.

Bartholinitis is an inflammation of the large gland of the vestibule of the vagina. It can be caused by staphylococci, Escherichia, gonococci, etc. Regardless of the type of pathogen, the process begins in the excretory duct of the gland - canaliculitis occurs, then the inflammatory process captures the parenchyma (serous, purulent inflammation). Purulent exudate fills the lobules of the gland with the formation of a false abscess, which can open on its own.

Figure 5.2. Bartholinite

The occurrence of bartholinitis is possible with non-compliance with hygiene of the genital organs, weakening of the body, violation of vaginal self-cleaning, venereal diseases. Unilateral damage to the bartholin gland is more common. Inflammatory edema can clog the duct of the gland, preventing the release of purulent secretions, which, lingering in the duct, stretches it, forming a cyst (false abscess). When the duct is blocked and pus is delayed in it, the bartholin gland is painful, enlarged, sometimes reaches the size of a chicken egg. In rare cases, the inflammatory process can directly capture the gland tissue, while a true abscess occurs with purulent melting of the gland and surrounding tissues. Purulent formation can spontaneously open with the expiration of thick yellow-green contents, after which the condition improves.

The inflammatory process can subside on its own without suppuration. At the same time, there is a seal and a slight increase in the gland. However, quite often after a while the inflammatory process resumes and becomes more complicated. At first, the disease may not cause much concern: a small seal at the entrance to the vagina is slightly painful, sometimes there is a slight tingling in the perineum, burning sensation. When the condition worsens, there is a sharp pain in the area of the external genitals, which increases with movement and sexual intercourse, an increase in temperature to 38-39 ° C and above, chills.

Clinic. Patients complain of general weakness, malaise and discomfort in the area of the external genitalia. Body temperature is elevated. Edema and hyperemia are observed in the area of the bartholin gland, severe soreness, local fever and swelling of soft tissues are noted on palpation. If purulent exudate fills all the particles of the gland, a pseudoabcess is formed. The woman's condition deteriorates sharply: her body temperature becomes feverish, chills and severe headache appear. Upon examination, a sharply painful tumor-like formation is found. After the rupture of the abscess, the patient's condition improves: body temperature decreases, edema and hyperemia in the area of the bartholin gland decrease. If treatment is insufficient and the excretory duct becomes clogged again, relapses and the formation of a retention cyst are observed, which can mistakenly be considered a benign or even malignant tumor of the external genitalia.

Differential diagnosis. Acute bartholinitis is usually differentiated from the following diseases:

- furuncle of the labia majora;
- cysts of the longitudinal duct (Gartner's canal);
- tuberculosis of the arch of the pubic bones;
- cancer of the bartholin gland.

Treatment. Antibiotics according to the sensitivity of microorganisms, sulfonamide preparations. The shown warm sedentary baths with potassium permanganate solution (1:6000), thermal procedures (hot water bottle, solux) in combination with ointment applications (ichthyol, Vishnevsky ointment) to the appearance of fluctuations, symptomatic remedies. With the formation of a pseudoabcess or retention cyst, surgical dissection is performed, with recurrent bartholinitis, extirpation of the gland. Irradiation of the wound area with an infrared semiconductor laser in combination with a magnetic field in therapeutic doses. The course of treatment is 5-6 procedures. In case of gonorrhea etiology, a specific treatment is used. Sexual activity is contraindicated due to possible infection of the partner or suppuration of the gland. Prevention consists in observing the rules of personal hygiene, the exclusion of accidental sexual intercourse, the treatment of vulvitis, colpitis, urethritis.

III.Colpitis.

Colpitis is an inflammation of the mucous membrane of the vagina. Nonspecific colpitis can be caused by staphylococcus, E. coli, streptococcus, etc. Colpitis is often caused by a mixed infection, as well as trichomonas. Factors predisposing to the development of colpitis may be a decrease in the endocrine function of the ovaries.

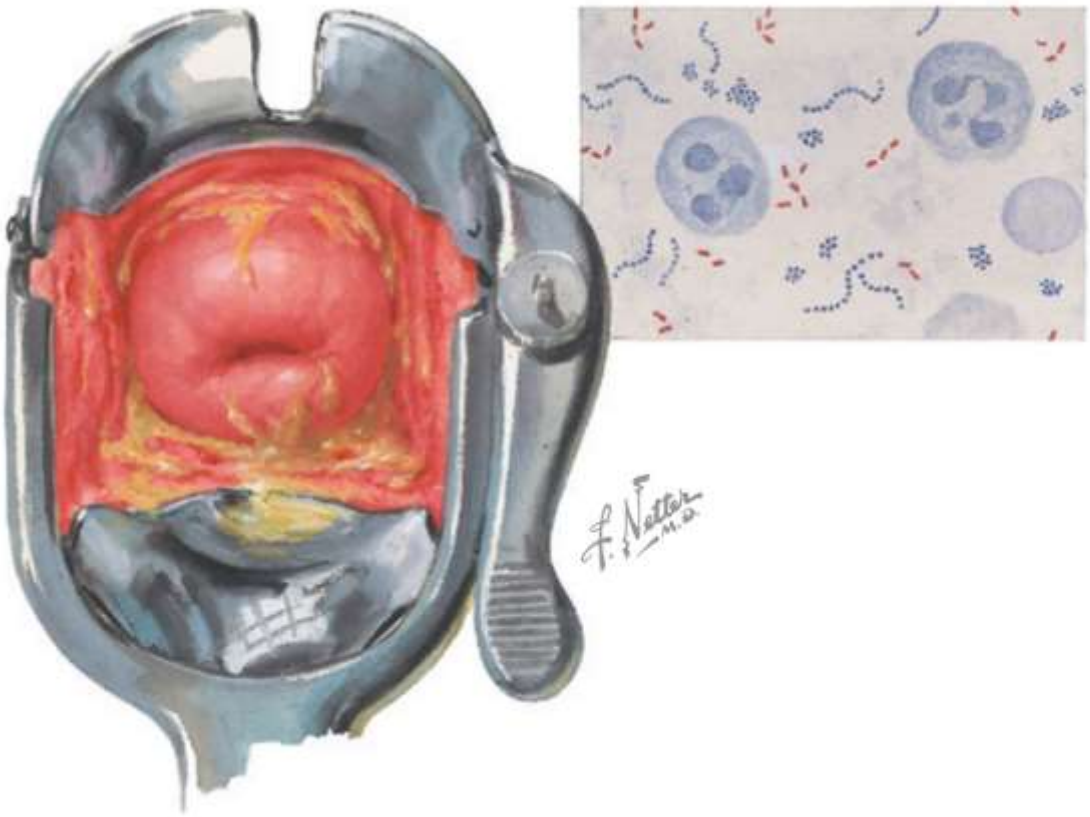

Figure 5.3. Colpitis

Clinic. The main sign of colpitis is serous-purulent bet, which are characteristic of both the acute and chronic stages of the disease. In acute colpitis, patients complain of itching and burning in the vagina, vulva, increased pain and burning when urinating In the chronic stage, these phenomena subside.

In the presence of nonspecific colpitis, general and local treatment is carried out. The local one consists in the toilet of the external genitalia and douching of the vagina. Antibiotics can be applied topically, however, only after preliminary determination of the sensitivity of the microbial flora to them in combination with physiotherapy. Concomitant gynecological diseases are subject to mandatory treatment; due to this, the glycogen content in the vaginal epithelium is normalized and normal vaginal flora develops.

IV. Cervicitis.

Endocervicitis is an inflammation of the mucous membrane of the cervical canal. The causative agent is staphylococci, streptococci, E. coli, enterococci, gonococci, viruses, candida. The appearance of endocervicitis is facilitated by ruptures of the neck of the maca that occurred during childbirth.

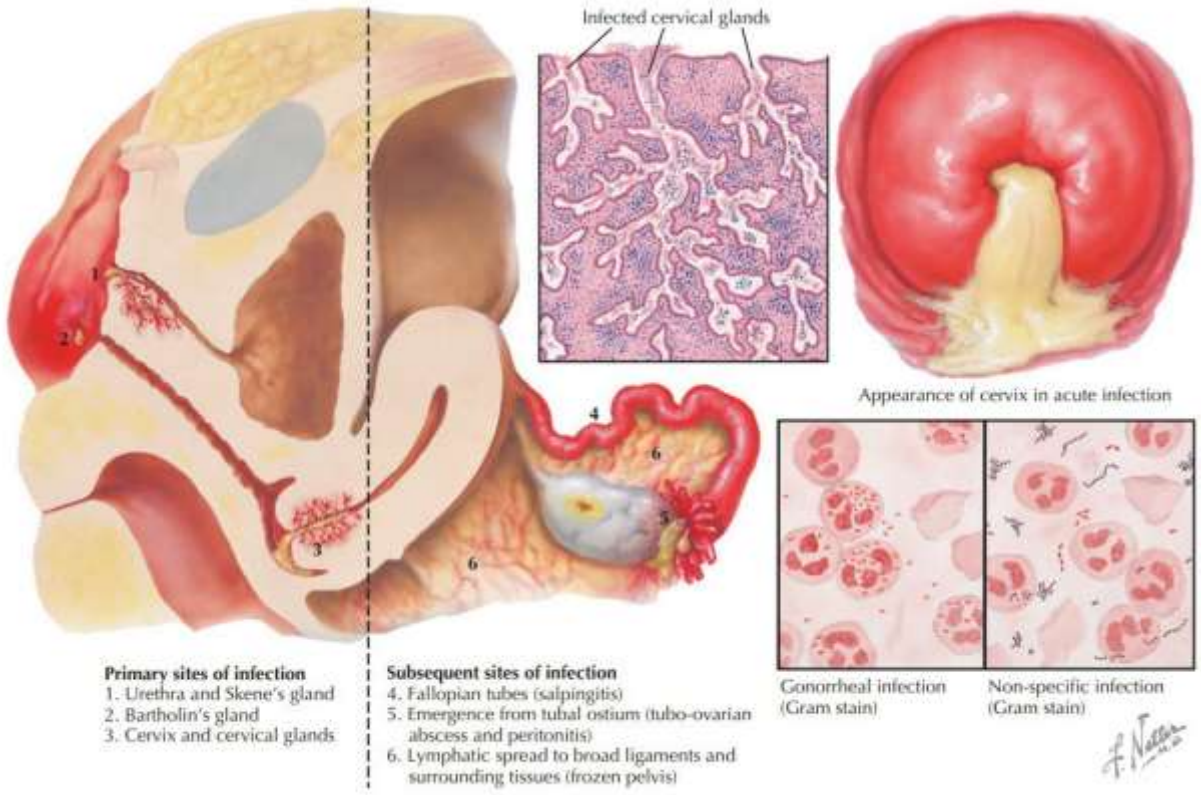

Figure 5.4. Cervicitis

Clinic. In the acute stage, patients complain of the appearance of mucopurulent whites, sometimes pulling pains in the lower abdomen and lower back. In the chronic stage, patients do not complain, rarely note the secretion of the mucous nature of their genital tract. With a prolonged course of the disease, the cervix becomes hypertrophied, and pseudoerosion often occurs.

Treatment. In the acute stage, antibiotics or sulfonamide preparations, douching are prescribed. If endocervicitis occurs against the background of cervical ruptures, after anti-inflammatory treatment, plastic surgery of the cervix is indicated.

Inflammatory diseases of the pelvic organs.

I. Endometritis.

Endometritis is an inflammation of the lining of the uterus, which is caused by staphylococcus, streptococcus, E. coli and the like. Its occurrence is facilitated by complications of abortion and childbirth, diagnostic curettage of the uterus, hysterosalpingography and other intrauterine interventions. The inflammatory

process spreads to the entire functional and basal layers of the uterine mucosa or has a focal character.

Depending on the etiology, the following endometritis is distinguished:

1. gonorrhea

2. tuberculosis

3.actinomycotic

4.Non-specific

Risk factors for the development of endometritis are: abortions, complicated childbirth, intrauterine manipulations (diagnostic curettage, hysteroscopy, probing of the uterus, blowing of the fallopian tubes), the use of an intrauterine device, a decrease in local and general immunity, non-compliance with personal hygiene rules.

Clinic. Symptoms of endometritis appear a few days after infection, which occurred during abortion, childbirth or intrauterine manipulation. Acute endometritis lasts about 7-10 days, if the patient sees a doctor in a timely manner, then the disease passes completely.

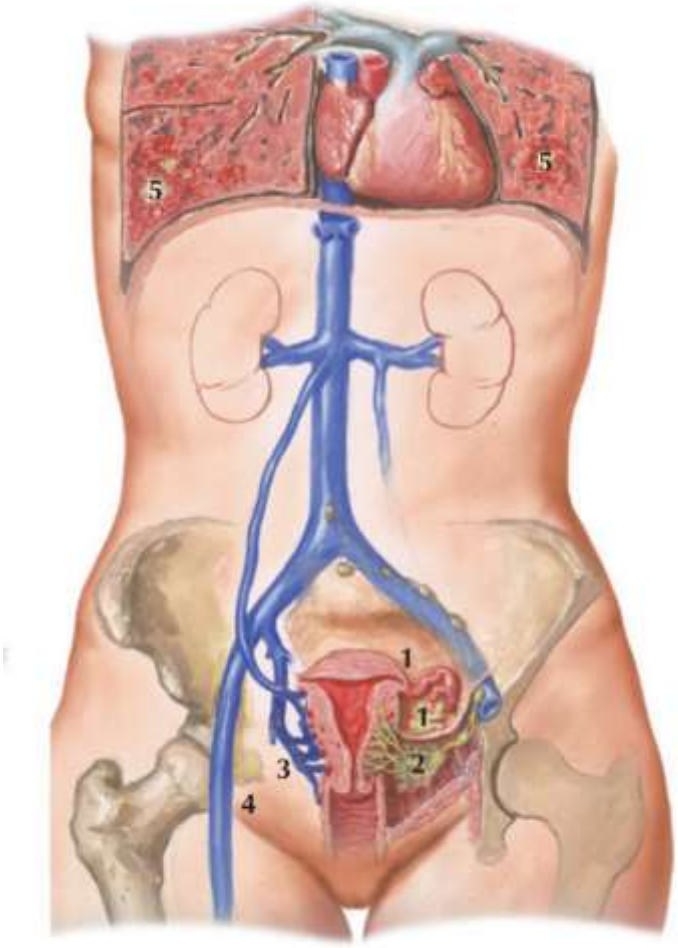

Figure 5.5. The spread of septic endometritis:1 - Peritonitis; 2 - Parametritis (via lymphatic pathways); 3 - Pelvic vein thrombophlebitis; 4 - Femoral thrombophlebitis; 5 - Heart attack or lung abscess (septic embolism)

The main symptoms of acute endometritis are fever, general weakness, pain in the lower abdomen, liquid purulent discharge (possibly with an admixture of blood), increased ESR, during vaginal examination, a slight increase in the size of the uterus, its soreness, and soft consistency are determined.

A blood test shows leukocytosis with a neutrophil shift to the left, and palpation determines an enlarged, painful uterus. Without appropriate therapy, the disease may become chronic.

Diagnostics. The diagnosis is confirmed by bacteriological examination of the contents of the uterine cavity, ultrasound examination.

Treatment of endometritis is a therapy that can only be prescribed by a doctor, after examination and conducting a number of studies. Self-medication can lead to a severe form of the disease, which is the cause of infertility. The treatment of endometritis (especially acute) consists in the use of the following types of therapy:

- antibacterial
- desensitizing
- infusion
- general strengthening

For general treatment, antibiotics are used that act on the pathogen. The drug is selected depending on the sensitivity of the pathogen, taking into account the characteristics of the patient's body. Antibacterial therapy is carried out until the therapeutic effect is permanently fixed. In the acute stage of endometritis, antibiotics are used taking into account the sensitivity of the pathogen to them, more often doxycycline, clacid, cefobid, cyfran, claforan, semi-synthetic penicillins, unazine, metronidazole.

The lack of treatment leads to the spread of infection, which is the cause of sepsis and, as a result, adhesive disease. Forming on the pelvic organs, adhesions not only cause pain, but also cause infertility.

II. Salpingitis, salpingoophoritis.

Salpingoophoritis (adnexitis) is an inflammatory disease of the fallopian tubes and ovaries, having a similar pathogenesis and clinic. The causative agent of adnexitis can be gonococci, Mycobacterium tuberculosis, staphylococci, streptococci, Escherichia, enterococci, chlamydia, etc

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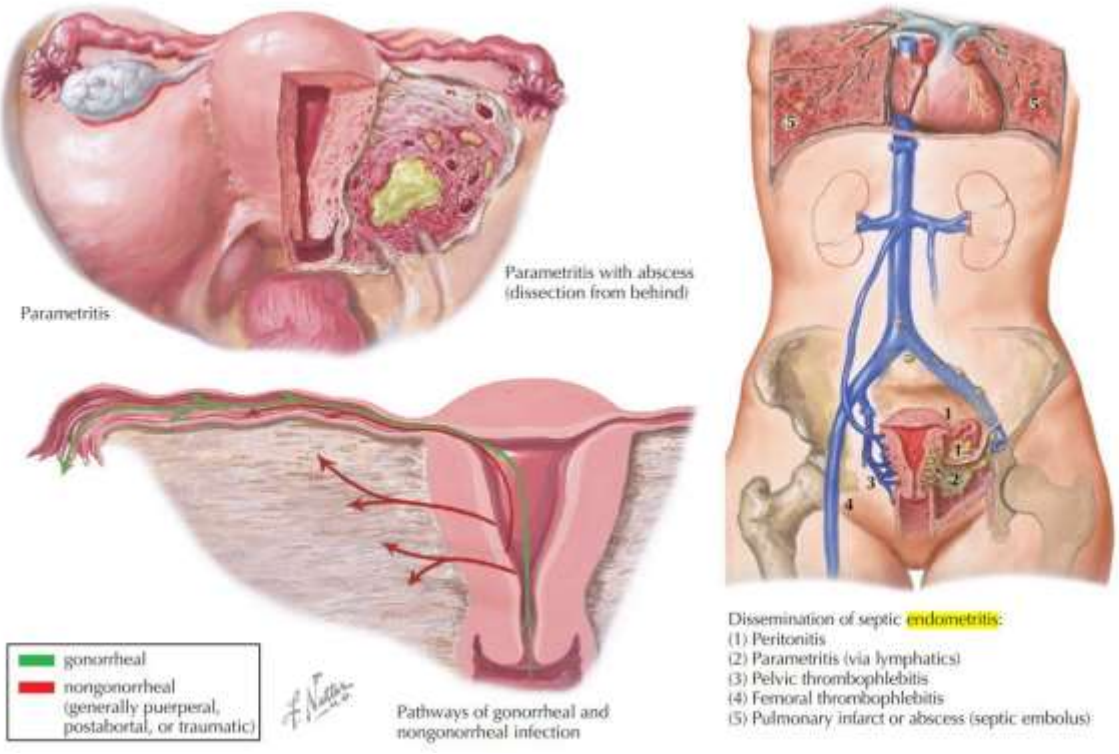


Figure 5.5. Ways of spreading infection

The clinic of adnexitis is clinically distinguished: acute and chronic adnexitis.

There are 2 phases in the clinical picture of acute salpingitis: the first is toxic, clinical manifestations are due to the influence of aerobic flora; in the second phase, anaerobic flora joins, which leads to encumbrance of the symptoms of the disease and the development of complications. In this phase, tubovarial formations with purulent contents are formed, which threaten perforation. Complaints of an increase in body temperature, deterioration of the general condition, severe pain in the lower abdomen, chills, dysuric signs. In the early days of the disease, the abdomen is painful, tense on palpation, the phenomenon of muscle protection may appear. During vaginal examination: discharge from the cervical canal is serous, abundant, applications on palpation are painful, enlarged, pasty, their mobility is limited, the contours of the applications are not clear enough. In the study of blood, there is a shift of the leukocyte formula to the left, leukocytosis, acceleration of ESR.

Clinic of chronic adnexitis. The main complaints are dull, aching pains that worsen with cooling, intercurrent diseases, before or during menstruation. Pain irradiation is characterized by the mechanism of viscerosensory and viscerocutaneous reflexes. Pain, of course, is felt in the lower abdomen, iliac areas, in the sacrum, in the vagina, along the pelvic nerves. Menstrual dysfunction is observed in 40-55% of patients (polymenorrhea, oligomenorrhea, algodismenorrhea). Anatomical and functional changes in the fallopian tubes and hypofunction of the ovaries are often the cause of infertility. Pathological termination of pregnancy is also observed - spontaneous abortions, ectopic pregnancy. Violation of sexual function (painful coitus, decreased libido) is noted by 35-40% of patients. The presence of whiteness is often observed, which occurs in connection with concomitant colpitis and endocervicitis. Changes in the nervous system often lead to the development of neurotic conditions and a decrease in performance. Two variants of exacerbation of chronic salpingoophoritis are noted: - pathological secretion increases, the exudative process in the uterine appendices increases, the number of leukocytes increases, ESR accelerates; - complaints of increased pain, deterioration of well-being, decreased performance, mood lability prevail, objective indicators of exacerbation are absent.

Diagnostics.

Diagnosis of acute adnexitis (salpingoophoritis) is based on medical history and a typical clinic, ultrasound examination can serve as confirmation of the diagnosis.

The diagnosis of chronic adnexitis is made on the basis of: anamnesis (acute adnexitis after abortion, complicated childbirth, hypothermia), clinical examination data, vaginal examination reveals changes from minor soreness, ultrasound (expressiveness of the ejaculum, hydrosalpinx), hysterosalpingography (to determine anatomical changes in the uterine tubes).

Treatment

Treatment of acute adnexitis (salpingoophoritis) is carried out only in a hospital setting. Patients are shown complete rest, bed rest, painkillers, depending on the severity of the pain syndrome, broad-spectrum antibiotics or antimicrobials from the fluoroquinolone group, anti-inflammatory and desensitizing agents. After the acute inflammatory phenomena subside, biostimulants and physiotherapy (electrophoresis with potassium, magnesium, zinc, ultrasound to the lower abdomen, vibration massage) are indicated.

Physiotherapy and balneotherapy dominate in the treatment of the chronic stage of adnexitis (salpingoophoritis). The use of antibacterial therapy is not indicated, since even with exacerbation, there is no activation of autoinfection or reinfection. Analgesic, desensitizing and anti-inflammatory therapy is used in various combinations, depending on the predominant symptoms of a particular patient. Local treatment is necessarily used in the form of mud and ozokerite applications, vaginal baths, gynecological massage. In addition, patients are shown general restorative therapy, vitamins, immunostimulants, psychotherapy gives a good effect.

III. Parametrite

Parametritis is inflammation of the parathyroid tissue. It occurs most often after various interventions on the uterus (pathological childbirth, abortions, gynecological operations). Pathogenic or conditionally pathogenic flora penetrates into the parametrium during uterine trauma or, less often, lymphogenically or hematogenically from nearby foci of infection (adnexitis, endocervicitis, colpitis). After the introduction of infection, a diffuse inflammatory infiltrate forms in the parametria, which is able to build up (at the current level of therapy, this happens quite rarely), resolve or acquire a chronic course. The infiltrate is usually located in certain areas: from the anterior part of the neck along the lateral edges of the bladder to the anterior abdominal wall, from the anterolateral parts of the neck to the umbilical ligament and lateral parts of the abdomen, from the posterolateral parts of the neck to the walls of the pelvis, from the posterior part of the neck to the rectum.

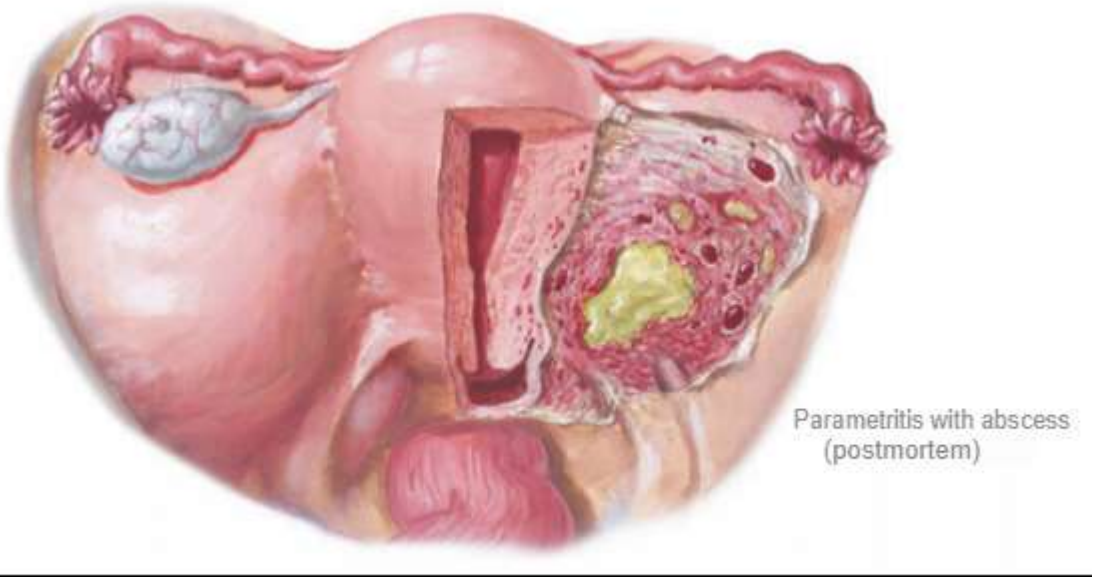


Figure 5.5. Parameterization

Clinic

The first and early manifestations of parametritis include febrility (body temperature 38-39 ° C), constant, often stabbing or cutting abdominal pain, radiating into the sacrum and lower back. With suppuration of the parametrium, the patient's condition worsens: the temperature rises even more, taking on a hectic character; tachycardia, chills, thirst, headaches are noted.

When the infiltrate of the bladder or rectum is involved in the ring, a clinic of cystitis or proctitis with tenesmus is observed. In the case of the spread of parametritis to the lumbosacral muscle, its inflammation develops - psoitis, which is characterized by a typical flexor contracture of the hip on the affected side.

In chronic parametritis, pain decreases and increases only during sexual intercourse; functional changes in the cardiovascular and nervous systems may be noted; menstrual function disorders.

Diagnostics

In the blood of patients, there is usually only a persistent increase in ESR. With the development of suppuration of the infiltrate, leukocytosis with a neutrophilic shift to the left, dysproteinemia, etc. occur. A bimanual examination determines the shortening and smoothing of the posterior or lateral vaginal arches, more pronounced on the part of the lesion (or evenly — with total infiltration). The uterus is not completely contoured, since it is partially or completely included in the inflammatory infiltrate. Then, an infiltration is determined from the side of the uterus, first of a soft, later of a dense consistency. There are no signs of irritation of the peritoneum. Palpation of the abdomen at the beginning of the disease is painless or slightly painful, if suppuration occurs, the abdomen becomes sensitive

during palpation. Complications can occur with untimely diagnosis and the development of suppuration of the infiltrate — the breakthrough of the abscess into the free abdominal cavity, rectum, bladder.

During the diagnosis, the parametrite is differentiated with tubo-ovarian abscess, tumors, pelvioperitonitis.

Treatment

Treatment should begin with the appointment of broad-spectrum antibiotics or fluoroquinolone drugs (ciprofloxacin) in combination with metronidazole for 5-7 days. The woman is on strict bed rest, cold is shown on the lower abdomen, intravenous drip of calcium chloride up to 150 ml of a 3% solution. When suppuration occurs, the abscess is opened through the posterior arch of the vagina or from the side of the anterior abdominal wall (extraperitoneal). When chronicling the process, prednisone can be used in a daily dose of 20 mg for 10 days, followed by a switch to NSAIDs, with normalization of blood parameters, ultrasound to the lower abdomen, light warmth, candles with indomethacin are shown. The disease is characterized by a long-term reverse development. After 4-6 months, sanatorium treatment is indicated using mud vaginal tampons, hydrogen sulfide irrigation or baths, gynecological massage.

5.1 Vulvovaginitis and colpitis of girls in the neutral period

Vulvovaginitis is a common disease characterized by inflammation of the vestibule of the vagina (vulvitis) and the mucous membrane of the vagina (colpitis), caused by various causes.

The relevance of studying vulvovaginitis in girls is explained by the high frequency of registration of this disease, the torpidity of the course, and the tendency to relapse. In the future, these patients have problems with reproductive function: tubal infertility, miscarriage, atonic pregnancy.

The high incidence of the disease is explained by the peculiarities of the anatomical and physiological structure of the genitourinary organs: excessive folding of the mucous membranes, insufficient closure of the labia in the lower parts: low estrogenic saturation of the body, insufficient glycogen production, thinning and delayed proliferation of the endothelium of the genital tract, neutral or weak alkaline environment of the vagina, predominance of coccal flora in the vagina, reduced local immunity, thin multi-layered flat epithelium of the vestibule of the vagina, the presence of the hymen.

The state of the biocenosis is important, which is determined by the function of the ovaries, the concentration of lactoflora. Vulvovaginitis occurs as often as possible at the age of 3-7 years, the so-called neutral puberty period (85% of patients

seeking help are younger than 8 years old), since at this time there are practically no processes of vaginal self-cleansing.

One of the factors of the growth of vulvovaginitis in girls is the uncontrolled growth, especially of asymptomatic and torpid, urogenital infections among the adult population.

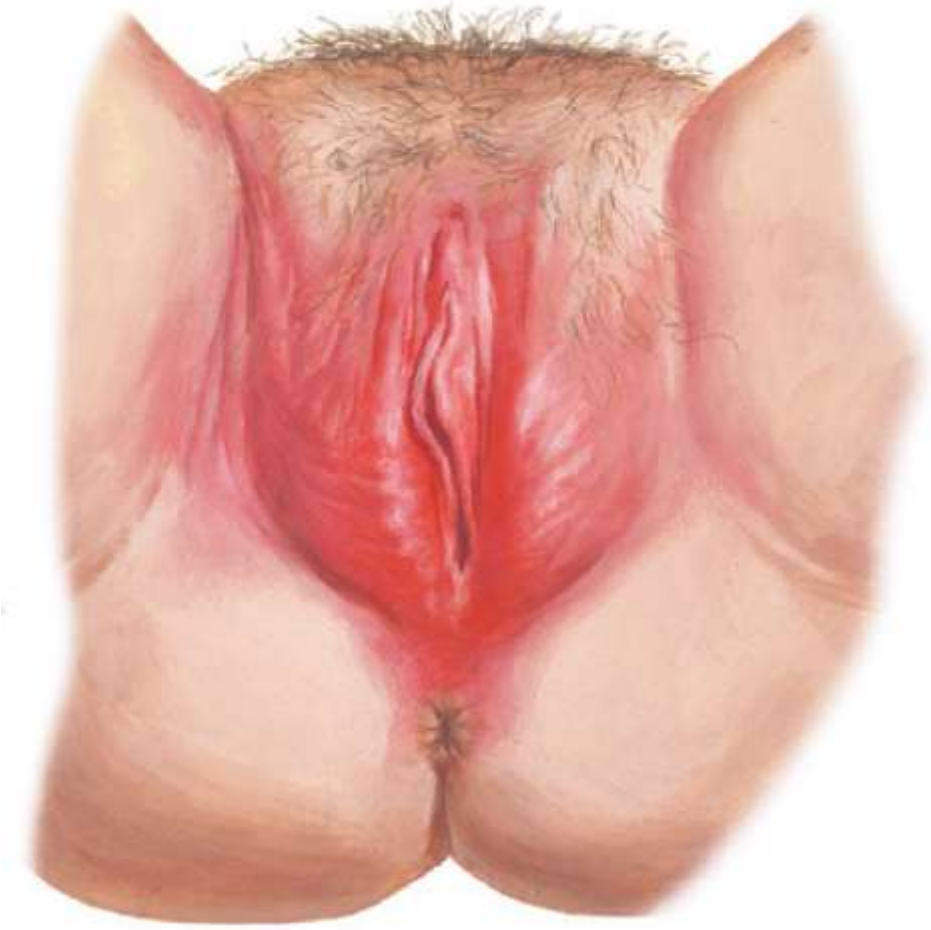


Figure 5.5. Vulvovaginitis

Etiology and pathogenesis. Vulvovaginitis is divided into specific, non-specific ones caused by gonococci, trichomonas and chlamydia, viruses and fungi. Nonspecific vulvovaginitis can be primary and secondary, which are the result of a common disease; infectious and non-infectious

Nonspecific primary vulvovaginitis can be caused by trauma to the genitals, violation of the rules of personal hygiene and vice versa by abuse of hygienic procedures (frequent washing, douching), overflow of the bladder, constipation, finding a girl in a dusty room, masturbation, reading exciting literature.

The causes of secondary nonspecific vulvovaginitis in girls may be: helminthic invasion, urethrovaginal reflux, atopic dermatitis, allergic diseases (in such children, exacerbation of vulvovaginitis is caused by ingestion of food allergens, exacerbation of allergic disease - an increased number of eosinophils is found in smears); rich in extractive substances and spices, chocolate, childhood alcoholism, chronic diseases of the ENT organs, upper respiratory tract, urinary tract organs, anemia, systemic blood diseases, diabetes mellitus, glomerulonephritis, pyelitis, cystitis, infantilism, immunosuppressive conditions, age-related immunological restructuring, accumulation of blood in rudimentary formations, prolonged uterine bleeding.

Nonspecific primary vulvovaginitis may be caused by activation of the conditionally pathogenic flora of the genitourinary organs of a girl. The development of dysbiosis after the use of antibiotics, corticosteroids, and irrational use of vitamins contributes to the activation of saprophytic flora.

Staphylococci and streptococci act as infectious causes of primary nonspecific vulvovaginitis. Vulvovaginitis can develop as a result of the introduction of E. coli, enterococci and other representatives of the intestinal flora. Microbiological examination with the detection of E. coli and other representatives of the intestinal microflora allows us to confirm the cause of vulvovaginitis.

In most cases, the cause of infectious vulvovaginitis is bacteria and fungi (70%), viruses in 20%, and the pathogen cannot be detected in 10%.

Half of the patients have a mixed infection, in which the pathogenicity of each pathogen increases.

The clinic. Depending on the prescription of the disease, vulvovaginitis is divided into: acute (the duration of the disease is no more than 1 month, subacute (from 1 month to 3) and chronic (over 3 months).

Nonspecific vulvovaginitis. Despite the different etiology, the clinical manifestations of nonspecific vulvovaginitis are similar to each other. The process is aggravated against the background of respiratory diseases, it is well treatable with sulfonamide drugs and metranidozole-type drugs. The general condition of children, as a rule, is not disturbed. There are complaints of burning sensation after urination, itching and slight soreness of the external genitalia, sometimes pain can radiate into the inguinal folds. Young children 4-5 years old may complain of pain in the hip or knee due to the inability to identify the source of pain. The feeling of shyness of older children makes them point to abdominal pain instead of genitals.

In most cases, nonspecific vulvovaginitis occurs with scant symptoms, have no specific signs, worsen against the background of intercurrent diseases, hypothermia, therapy (usually penicillin antibiotics) leads to temporary improvement.

Hyperemia and edema of the external genitalia occur in almost all types of vulvovaginitis. The next constant sign is white (watery yellow or serous-purulent). White spots can be observed not only in specific and non-specific infections of the genitourinary organs, but also in general infectious diseases, intoxications, heart and kidney diseases, anemia, neoplasms.

Examination of a child with manifestations of vulvovaginitis has a number of features. Children often offer physical resistance to the actions of medical personnel, so you need to prepare for the examination of the child in advance. The abuse of a child and the use of violent measures are completely unacceptable. The girl needs to be distracted by affectionate treatment, hide the tools prepared for the examination, allow her to keep her favorite toys, books, the tools used for the examination should be the least traumatic, of the required size. You can examine the girl in a lying position with her legs bent at the knee joints or with her legs brought to her stomach. In the latter case, the help of medical personnel is required. If you have a pediatric gynecological chair, you can use it. At the beginning, the abdomen is examined, then the external genitals and the hymen. Smear sampling is performed from the vestibule of the vagina, urethra, paraurethral passages, excretory ducts of the large vestibular glands and rectum. Baby catheters, pipettes, a grooved probe, and spoons of various shapes are used to collect the material. If for some reason it is impossible to take material from the vagina, then smears can also be prepared with a centrifuge of morning urine. A bimanual (rectal - abdominal) examination is performed in children under 6 years of age with a little finger. In exceptional cases, a rectal - vaginal examination with one finger is permissible. In such situations, parental consent is required for the examination, and during the direct procedure, a third person must be in the office. Sometimes inhalation anesthesia is used for examination. Vaginoscopy, colposcopy and cervicoscopy are performed according to indications.

Diagnosis of vulvovaginitis includes a vaginal smear for the presence of microflora, bacteriological examination, consultation with a nephrologist, examination of feces for dysbiosis, consultation with a gastroenterologist, ultrasound examination of the internal genitalia.

Treatment of nonspecific vulvovaginitis. Treatment is carried out on an outpatient basis, only in torpid and often recurrent cases inpatient treatment is indicated. In mild cases, it is enough to comply with hygienic requirements and establish a diet. Concomitant diseases that cause vulvovaginitis for a second time are being treated. General antimicrobial therapy is rarely prescribed, when identifying the pathogen and determining sensitivity to it. With vulvovaginitis of allergic origin, penicillin preparations are not prescribed, since they can aggravate the process due to the pronounced allergenic effect. Topically, the vagina is washed with solutions of furacilin -1:10,000, rivanol - 1: 5000, 3% hydrogen peroxide, sedentary baths with an infusion of chamomile, sage, eucalyptus leaves. These procedures are prescribed for no more than 3-5 days, due to the leaching of glycogen and a

decrease in local protection factors, slow colonization with Dederlane sticks occurs. Topical application of antibiotics is also performed in torpid and recurrent cases by prescribing candles containing antibiotics or irrigation of the vagina with antibiotic solutions.

Uroseptics are used to sanitize the urinary tract in non-specific vulvovaginitis. Lactobacterin, bifidumbacterin, bactisubtil are applied topically and orally in age-related dosages for 10 days in order to restore the vaginal microflora after vaginal and vulvar sanitation. Dibazole can also be used as an immunomodulator at the rate of 1 mg for each year of life once a day for a month. Immunostimulants of microbial origin and chemically pure drugs are used to treat vulvovaginitis in children over one year old.

The cause of vulvovaginitis in girls may also be enterobiosis. In such cases, the child's poor sleep is noted, the girl may wake up at night complaining of pain in the area of the external genitalia, itching of the skin of the perineum. Sometimes it is possible to detect pinworms in the feces of a child, on the skin in the perianal area or even in the vaginal discharge. Upon examination, there is hyperemia of the folds of the anus, their thickening, traces of combing. In such cases, it is necessary to take a scrape from the perianal folds onto the pinworm eggs. For the treatment of enterobiosis, a pyrantel of 10 mg per 1 kg of child weight is used. The treatment is repeated after a month. Family members also need to undergo anthelmintic therapy and be advised to follow the rules of personal hygiene. Antibiotics are used, to which the detected microflora is sensitive. Complex treatment with systemic and local antibiotics is considered more effective.

The presence of a foreign body in the vagina may be one of the causes of vulvovaginitis. Patients complain of bloody purulent discharge from the vagina, there may be manifestations of pyoderma on the skin of the perineum and thighs - the result of maceration. A leading role in the diagnosis of this type of vulvovaginitis is played by rectoabdominal examination, vaginoscopy or examination in children's vaginal mirrors. During these studies, the discharge is increased due to the traumatization of granulations that have grown around the foreign body. When conducting these studies, you can try to push the foreign body to the entrance to the vagina, where it is more accessible to capture with a clamp. Small foreign bodies: pieces of cotton wool, the fabric can be washed under liquid pressure through a rubber catheter, on which a 20 mm3 syringe is placed. After removing the foreign body, the vagina is washed with an antiseptic solution, then this procedure is repeated for 2-3 days.

Chapter No. 6 Specific inflammatory diseases of the female genital organs.

I. Gonorrhea

Etiology.

The disease is caused by gonococcus; gonococci are sensitive to elevated temperatures (they die at temperatures above 56 degrees), drying, and the action of chemical compounds (silver salts, mercury). When treated with sulfonamides and antibiotics, L-forms of gonococcus may form, which differ from the typical morphological and biological properties, this occurs if the dosage of the drugs is insufficient. Gonococcus becomes insensitive to the drug that caused their formation (they tolerate a dose thousands of times higher than sensitive gonococci). They have different sizes, more often a spherical shape. Recently, strains producing penicillinase have been common. The incubation period for gonorrhea ranges from 3-5 to 14-15 days.

Pathogenesis.

The transmission path is more often sexual, household path (through linen, washcloths, towels). It is observed very rarely (more often in girls). Gonococci affect parts of the reproductive system lined with a single-row epithelium: cylindrical (urethra, paraurethral passages, excretory ducts of the large glands of the vestibule of the vagina, cervical canal, uterine body, fallopian tubes). And the endothelium (synovial membranes, peritoneum, embryonic endothelium, ovaries), as well as the bladder and rectum. Cases of oropharyngeal gonorrhea, gonorrheal stomatitis, runny nose, and gonorrhea of the eyes have been described.

The vaginal mucosa, covered with a multi-layered squamous epithelium, is resistant to gonococci. Gonococcus spreads more often through the mucous membrane by directly passing through “channels” (the canalicular pathway of distribution is along the length). Gonococci can enter the bloodstream, which is facilitated by an abundant network of blood vessels in the genitourinary organs. There is no acquired immunity in gonorrhea. Reinfection is as acute as primary infection. Innate immunity also does not exist.

Classification.

I. By clinical course.

1) Fresh gonorrhea – the duration of the disease is up to 2 months:

Acute gonorrhea – inflammatory processes that occurred no more than 2 weeks ago;

Subacute gonorrhea – inflammatory processes that are 2-8 weeks old;

torpid (low–symptomatic) gonorrhea is a variant of the course of the disease when, with minor clinical manifestations or their absence, gonococci can be detected;

2) Chronic gonorrhea is a sluggish disease lasting more than 2 months.

II. By localization

a. Of the lower genital organs

b. Upper genital area

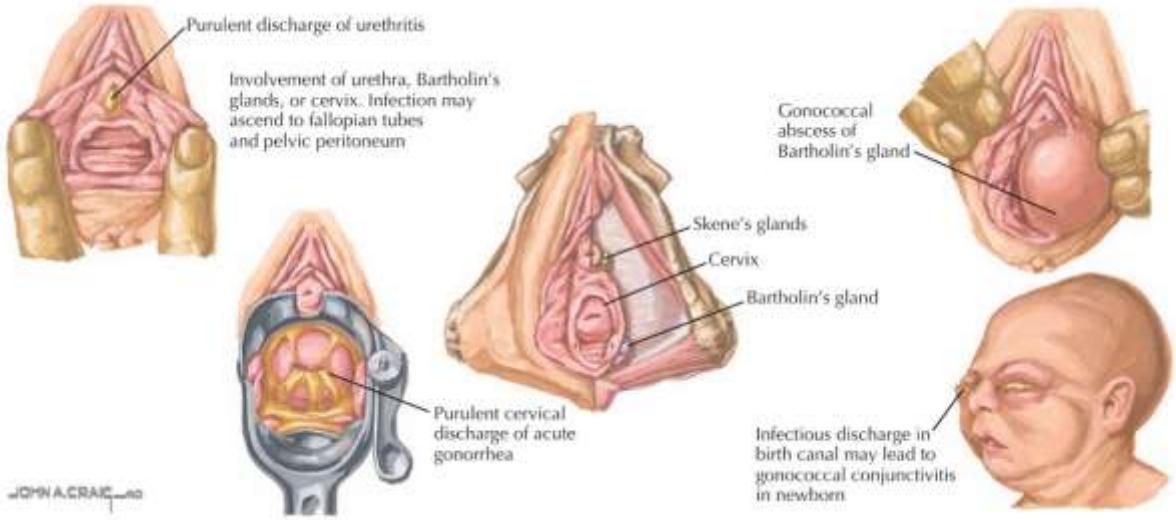


Figure 6.1. Gonorrhea

Gonorrhea of the lower genital organs.

1. Gonorrheal urethritis.

Clinic: sensations of pain and pain at the beginning of urination (anterior urethritis) or at the end of it (posterior urethritis).

Objectively: swelling and hyperemia of the urethral sponges, purulent discharge from the urethra, yellowish in color.

2. Gonorrheal endocervicitis (85-98%).

Clinic: complaints of pus-like whiteness, pulling pain in the lower abdomen.

Objectively: swelling and hyperemia of the cervical mucosa, true erosion around the external opening of the cervical canal.

3. Gonorrheal bartholinitis

4. Gonorrheal colpitis and vulvovaginitis.

Clinic: complaints of copious discharge, burning and itching. The process is often combined with candidiasis and trichomonas colpitis.

5. Gonorrheal proctitis (30-47%). It is usually combined with a lesion of the genitourinary organs and develops a second time as a result of the leakage of pus from the genital tract.

The clinic is characterized by tenesmus, burning and itching in the anus and minor discharge.

Objectively: the skin around the anus is hyperemic, the folds are edematous, with cracks and purulent discharge, polypous growths are occasionally observed.

Gonorrhea of the upper genital organs.

1. Gonorrheal endometritis.

Clinic: a feeling of heaviness in the lower abdomen, malaise, headache, abundant serous-purulent, blood or blood secretions, an increase in body temperature.

Objectively: with a two-handed gynecological examination, an enlarged painful uterus of a soft consistency is determined.

2. Gonorrheal salpingoophoritis.

It is usually bilateral (as opposed to septic). The disease can occur for a long time with frequent exacerbations, the formation of inflammatory tubovarial formations, pyosalpinx.

3. Gonorrheic pelvioperitonitis.

It is observed in 16.4% of patients with fresh and 2.2% with chronic gonorrhea. The process usually develops from the peritoneal cover of the fallopian tubes, spreads to the perimetrium, peritoneum of the pelvis and abdominal cavity, and is characterized by a tendency to form adhesions and adhesions. A sudden onset is characteristic - sharp pain in the lower abdomen, nausea, vomiting, retention of stool and gases, an increase in body temperature to 40 degrees. The abdomen is sharply painful on examination, positive symptoms of irritation of the peritoneum.

Diagnostics

Bacterioscopy (material - from the cervical canal, urethra, vagina, if necessary - rectum).

Bacteriological methods - sowing of these secretions on the medium with the addition of native protein and vitamins.

In chronic and torpid gonorrhea, these studies are carried out during the first 3 days after provocation.

Methods of provocation:

- chemical - lubrication of the urethra with a solution of silver nitrate

- biological - intramuscular injection of gonovaccine (500 million microbial bodies)

physiological - menstruation, when swabs are taken on the days of the greatest bleeding

- physiotherapy procedures - inductothermy, ultrasound

Treatment.

Antibacterial therapy.

Benzylpenicillin sodium 1 million 4-6 times a day intramuscularly for 5 days.

Oxacillin 1.0 4 times a day intramuscularly for 1 week.

Cefazolin 1.0 2-4 times a day intramuscularly for 5-7 days.

Tetracycline 0.25 4 times a day orally for 5-7 days.

Levomycetin 0.25 4 times a day orally for 5-7 days.

Sulfadimethoxine 1.0 4 times a day for 5-7 days.

Immunotherapy - a specific gonococcal vaccine and non-specific immunotherapy are used - pyrogens, prodigiosan, autohemotherapy (AGT).

The criterion for the cure of gonorrhea is the absence of gonococci in smears after complex provocation during 3 days of menstrual cycles.

II. Trichomoniasis

Trichomoniasis (trichomoniasis) is one of the most common sexually transmitted diseases. The causative agent of trichomoniasis is trichomonas. Trichomonas are very often the cause of inflammatory diseases of the genital organs in women. Trichomonas are often detected in the test results along with chlamydia, gonococci, and viruses. The pathogen mainly affects the mucous membrane of the vagina. In the body, immunity to trichomonas does not develop, so repeated re-infection with trichomoniasis is possible. Infection with trichomoniasis occurs mainly sexually, although a household way of infection is possible when wearing someone else's underwear, using a common towel. It is also possible to become infected with fetal trichomoniasis during childbirth from a sick mother. The incubation period of

trichomoniasis (the time from the moment of infection to the onset of symptoms) is usually 5-15 days.

The main symptom of trichomoniasis in women is vaginal discharge, usually liquid, foamy, yellowish or yellow, accompanied by itching and burning of the genitals.

The development of trichomoniasis is facilitated by a decrease in immunity, hormonal disorders, and a violation of the vaginal microflora in women. Trichomonas actively reproduce during menstruation.

Taking into account the duration of the disease and its symptoms, there are three forms of trichomoniasis:

- Acute trichomoniasis
- Chronic trichomoniasis (duration of the disease is more than 2 months)
- Trichomoniasis (absence of symptoms of trichomoniasis in the presence of trichomonads in vaginal discharge)

Recently, the asymptomatic course of gynecological diseases, including sexually transmitted diseases, has been very common. Even pathological vaginal discharge in such diseases does not always occur. It is difficult to distinguish them from normal secretions without tests. With the latent course of women's diseases, there is no abdominal pain, bleeding, menstrual irregularities and other symptoms. Therefore, every woman needs a preventive examination by a gynecologist at least twice a year.

Symptoms of acute trichomoniasis in women are copious vaginal discharge, itching and burning in the area of the external genitalia. The discharge is usually liquid, foamy, yellowish in color or yellow. When the urethra is affected, burning and soreness during urination are observed.

Chronic trichomoniasis is characterized by a prolonged course and periodic exacerbations with the appearance of the above symptoms. Exacerbations of chronic trichomoniasis occur under the influence of various provoking factors - stress, diseases, hypothermia, violations of hygiene rules.

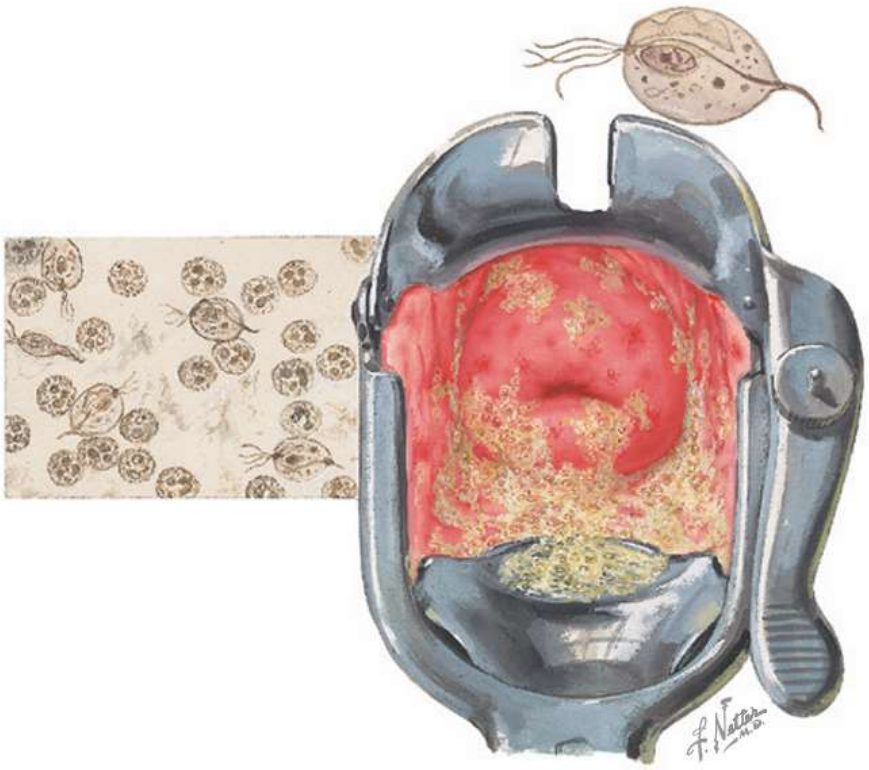


Figure 6.2. Trichomoniasis

Research methods used by a gynecologist to diagnose urogenital infections, including trichomoniasis:

- ❖ anamnesis collection – the presence of chronic inflammation of the genitals in a woman, infertility, miscarriage, pathological course of previous pregnancy, inflammation of the genitourinary tract in a sexual partner
- ❖ examination of a woman's external genitalia to determine signs of inflammation (edema, hyperemia) of the urethral and vulvar mucosa, pathological secretions
- ❖ examination in mirrors to determine signs of inflammation in the area of the mucous membrane of the vagina and cervix, pathological secretions
- ❖ bimanual gynecological examination – the presence of signs of inflammation of the uterus and appendages

Indications for the appointment of tests for trichomoniasis are:

- the presence of signs of acute inflammation or chronic urogenital infections

- infertility

- spontaneous abortions, pathology of pregnancy

- the presence of a female sexual partner with urogenital infections

Tests for suspected urogenital infection, including trichomoniasis:

I.general blood analysis

II.general urine analysis

III.bacterioscopic analysis of secretions (smear)

IV.PCR diagnosis

V.sowing with determination of sensitivity to antibiotics and antifungal drugs.

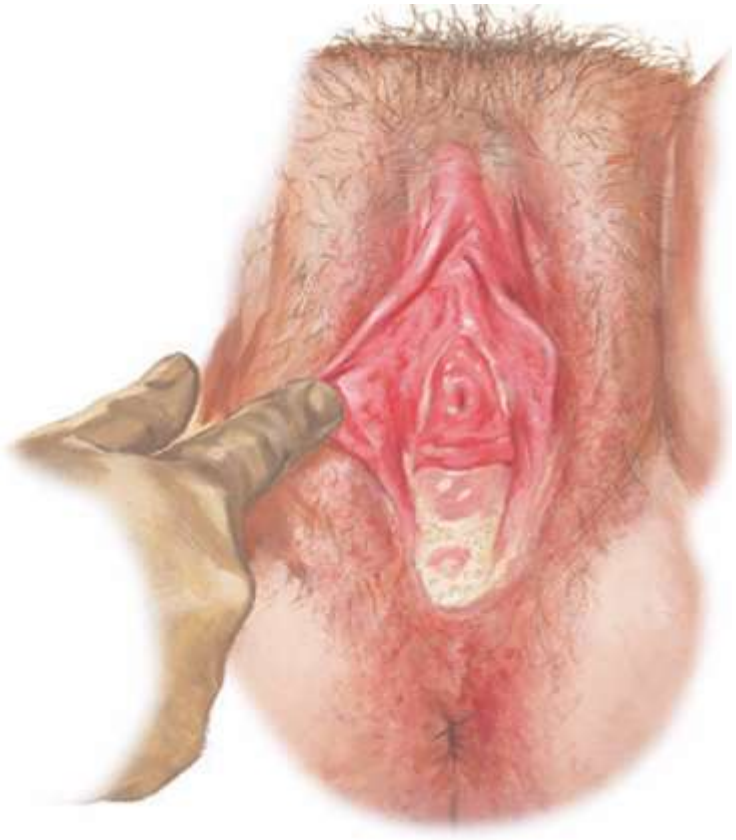


Figure 6.3. Status localis in trichomoniasis

The main method of diagnosing trichomoniasis is an assessment by a gynecologist of the symptoms of trichomoniasis during a gynecological examination and the result of an analysis of a vaginal smear. The identification of opportunistic flora concomitant with trichomoniasis is assisted by sowing vaginal secretions for dysbiosis while simultaneously determining the sensitivity of flora to antibiotics. For a general assessment of the disease, it is also recommended to conduct studies on chlamydia, mycoplasma, HIV, hepatitis and other sexually transmitted infections, which are often detected in trichomoniasis.

False negative results of the analysis are possible even in the presence of obvious symptoms of urogenital infection. Possible reasons for such an analysis result:

- the material for analysis was taken or investigated unsuccessfully
- the woman took antibiotics less than a month before the test, or used candles, douches
- It was not taken into account that one should not urinate for 1 hour before taking material from the urethra
- the absence of the genome of the microorganism in the sample of the material (in secretions) during the localization of the inflammatory process in the deep parts of the reproductive system (ovaries, fallopian tubes, prostate gland)

The following rules should be followed in the treatment of trichomoniasis:

1. together with a woman, her sexual partner must be treated

2. Sexual activity during the treatment period is prohibited

3. treatment of trichomoniasis is necessary for all forms of the disease (including trichomoniasis)

Monitoring of the result of treatment is carried out 7-10 days after treatment, and then again during 3 menstrual cycles. In the absence of trichomonads in vaginal discharge after menstruation, treatment should be considered successful. The need for mandatory treatment of trichomonas is caused by the fact that trichomonas in many cases is the cause of infertility in men and women. The waste products of trichomonads reduce the viability of spermatozoa and immobilize them. The same effect is exerted by trichomonads located in the genital tract of a woman. During pregnancy, trichomonas cause infection of the fetal membranes, which leads to premature birth and infectious damage to the fetus. In chronic trichomoniasis, treatment is supplemented with methods of correcting immunity. In case of mixed infections, antitrichomonas preparations are combined with appropriate remedies.

III. Chlamydia.

Chlamydia is caused by the obligate intracellular microorganism Chlamydia trachomatis. Chlamydia is isolated from the genital tract in 12-18% of women of the reproductive period who have sex, and about 5% of women who have never had sex. Infection occurs sexually or in utero.

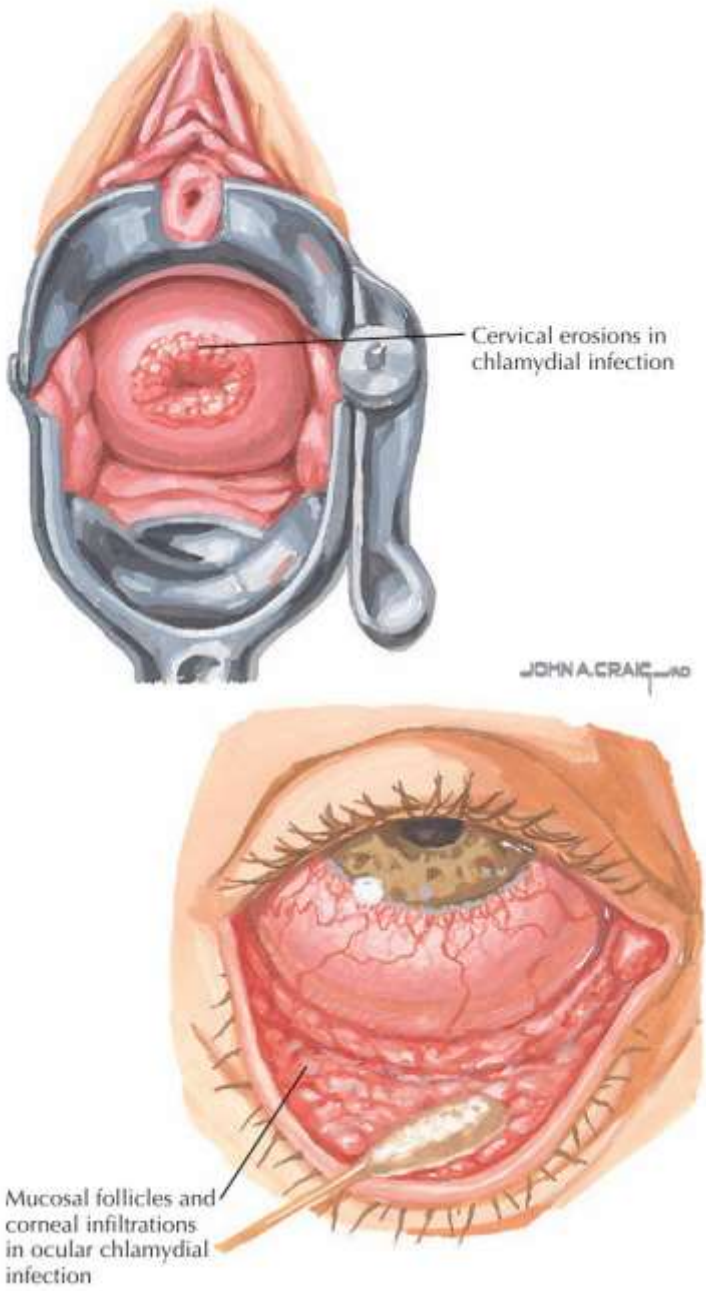


Figure 6.4. Chlamydia

Ways of transmission of infection: during sexual contact; during oral sex; a household transmission route is rarely possible.

The course and management of pregnancy.

In pregnant women, chalamidiosis is also most often asymptomatic or in the form of an inflammatory process of the cervix (cervicitis).

Complications: threatening premature birth, polyhydramnios, prenatal outpouring of waters, placental insufficiency, intrauterine and intranatal infection of the fetus.

Newborns in 40-50% of cases have a clinically pronounced intrauterine infection: conjunctivitis and pneumonia, pharyngitis, otitis media, vulvovaginitis, urethritis. Premature newborns after pneumonia may develop generalized infection and specific myocarditis, cases of chlamydial meningitis and encephalitis have been described.

Pregnancy does not affect the incidence and course of chlamydia infection. Whether chlamydia infection affects pregnancy has not been established.

Treatment:

1. Treatment of chlamydia is prescribed to pregnant women with clinical manifestations of chlamydia infection.

2. Treatment is also prescribed to women whose sexual partners suffer from non-gonococcal urethritis.

3. Erythromycin is prescribed, 250 mg orally 4 times a day for 14-21 days or 500 mg orally 4 times a day for 7 days. Tetracycline is contraindicated in pregnant women.

IV. Mycoplasmosis.

Mycoplasmas are small bacteria, represented by hundreds of species and subspecies, very widespread in nature. Some of them are pathogenic to humans. Mycoplasmosis is caused by microorganisms (mycoplasmas), which in the generally accepted classification of pathogens occupy a place between unicellular living microorganisms and multicellular pathogens of viral or bacterial infections.

Despite the variety of mycoplasma species, only some of them, if certain conditions occur, can cause human disease.

These include:

- *mycoplasmagominis,*
- *Mycoplasmagenitalium,*
- *ureaplasmurealytic,*
- *Mycoplasma pneumonia*

Mycoplasmas are not adapted to independent existence, by parasitizing these microorganisms obtain the nutrients necessary for their existence. The difference at this stage from viruses is the ability to exist in a cell–free environment. The usual habitat of mycoplasma is the epithelial cells lining the intestinal respiratory and genitourinary tract, "screwing" between which these microorganisms disrupt their work. Reproduction of these microorganisms occurs autonomously, i.e. budding, which gives rise to award mycoplasmas an intermediate form of existence between

a virus and a unicellular organism. The resistance of mycoplasmas in the environment is not so great, their life span is quite short, in this regard, the infection process takes place during unprotected sexual contact and very rarely by household method.

Urogenital mycoplasmosis

Microorganisms mycoplasma hominis, mycoplasma genitalium, ureaplasma urealyticum are involved in the process of damage to the genitourinary system, leading to genitourinary mycoplasmosis (both in women and men).

In most cases, infection occurs during sexual contact (unprotected), and also quite rarely has a domestic character. The incubation period can be two weeks, but there are also cases when its duration ranged from 3 to 5 months. Only 10% of the disease is asymptomatic. Pregnancy, stressful situations, cases of hypothermia and malfunctions of the immune system contribute to the activation of bacteria.

In women, urinary mycoplasmosis is expressed as inflammation of the vaginal mucosa (vaginitis) or inflammation of the urethra (urethritis), the symptoms of which are:

- Itching and burning of the genitals;
- discharge of light yellow or gray tint, having a mucous character;
- slight redness in the area of the external opening of the urethra;
- lower back pain;
- the presence of pulling pains in the lower abdomen;
- feeling of discomfort, as well as pain during sexual intercourse.

The consequences can be pyelonephritis, and in the most dangerous situations infertility.

Mycoplasmosis in women. The clinical picture of the course of this disease in women is asymptomatic in most cases. It is possible for the latent state of infection living in the body to turn into a chronic form with constant relapses or to an acute infection. The development of diseases such as cystitis, vaginitis, salpingitis, in most cases occurs when infected with mycoplasmosis. Various infections, such as chlamydia, fungi, certain types of viruses and bacteria, provoke the development of mycoplasmosis. In addition, pregnancy, changes in the hormonal background (at the time of egg maturation) and other physiological changes serve to activate the bacterium. Mycoplasma most often affects the external genital organs (the vestibule of the vagina, the bartholin gland, the urethra). These lesions do not have pronounced symptoms, the manifestation of symptoms is short-lived, and moreover they are weak in nature. When the internal genitalia are affected, adnexitis and salpingitis develop in most cases at the beginning. Mycoplasma entering the cavity of the uterus itself through its neck causes the development of endometritis. In cases of medical abortions, as well as spontaneous abortions and

stillbirths, mycoplasmas are very often detected during the examination. Mycoplasmic endometritis has the same clinical picture as normal endometritis, its main symptoms are bleeding and the occurrence of menstrual irregularities. Complications of this disease include miscarriages and infertility. Adnexitis disease on the background of mycoplasma infection leads to inflammation of the ovaries (there may be cases of abscesses leading to adhesion of the ovary to the fallopian tube). Symptoms include severe lumbar pain, menstrual irregularities, discomfort and soreness during sexual intercourse.

Mycoplasmosis during pregnancy

During pregnancy, infections in the body worsen, which in most cases leads to the development of various complications. According to the conducted studies, it is the presence of mycoplasma that has a significant effect on miscarriages and cases of "frozen pregnancy". Premature birth is also possible, due to the rupture of the membranes. This situation occurs during the transition of the inflammatory process from the vaginal walls to the fetal membranes. It is possible to infect a newborn during childbirth, when passing through infected fallopian tubes (much more often this is how girls get infected). After childbirth (natural or by caesarean section) or abortion, acute endometritis (acute postpartum infection) may develop. If mycoplasmosis is detected during pregnancy, it is necessary to carry out treatment, preferably not in the first 3 months after conception. After all, it is during this period that completely all organs are being laid, and taking medications may affect them, which will already be incorrigible in the future.

Mycoplasmosis: causes

Mycoplasmas belong to microorganisms of a conditionally pathogenic nature, i.e. they may not cause infectious diseases due to the absence of pathogenic properties, being in the body of people with an absolutely healthy state of the body. Despite this, there have been cases of diseases against the background of the presence of mycoplasmas in the human body. It is believed that these microorganisms themselves are harmless, but in the presence of any infections (pathogenic bacteria) in the body they lead to illness. This opinion is based on the fact that there have been cases of mycoplasma detection in the bodies of absolutely healthy people. Transmission of this infection occurs during unprotected sexual intercourse or to a child during childbirth.

Laboratory diagnostic methods include:

I.Bacterioscopic method – using a microscope, it allows you to detect microorganisms in a smear. But mycoplasma is too small to be seen under a microscope, so this method, when parasites are detected, the diagnosis of mycoplasmosis is excluded;

II.PCR (polymerase chain reaction) is one of the most effective methods for determining mycoplasma in the human body. The material for analysis is sputum or mucus of the nasopharynx (if a pulmonary form of mycoplasmosis is suspected) or a smear from the vagina and cervix in women and the urethra in men. The laboratory assistant detects fragments of mycoplasma DNA, which confirms that the cause of the patient's disease is mycoplasmosis;

III.The cultural (bacteriological) method is the most accurate, but at the same time the longest method. A smear from the genitourinary system or sputum is applied to a special nutrient medium. Colonies of microorganisms grow within 4-7 days. According to certain signs, the laboratory assistant confirms or refutes the presence of mycoplasmosis;

IV.The serological method is less informative, however, it is also used. The presence of antibodies (special blood proteins that the body produces in response to microorganisms) to mycoplasma is determined in the patient's blood;

V.The immunofluorescence method is close to the serological one. But antibodies to mycoplasma are determined in a slightly different way – by staining these antibodies with a special dye;

VI.The method of paired serums – this method allows not only to diagnose mycoplasmosis, but also to check the quality of treatment. Two blood samples are taken: the first before the sixth day of the disease, and the second two weeks later.

VII.The most commonly used method is DNA diagnostics. Its popularity is based on the accuracy of the results obtained, which is 90-95%. In the presence of purulent discharge, this method is not suitable, therefore, an ELISA procedure (accuracy of only 70%) or a seeding algorithm is performed.

Mycoplasmosis in children

Infection of a child with mycoplasma infection is possible not only during childbirth, but also in adulthood when entering kindergarten. In this case, the infection is transmitted through the air and children with low immunity are susceptible to infection. In most cases, in children, this disease is expressed by bronchitis and pneumonia. Therefore, if your child does not cough for a long time and may become infected with this infection, you need to urgently consult a doctor, otherwise the disease may develop into bronchial asthma.

Treatment of mycoplasmosis

- When diagnosing mycoplasmosis, the attending physician prescribes a course of treatment consisting of complex therapy, including:

- ❖ medicines (due to the resistance of mycoplasma to penicillin, antibiotics for mycoplasmosis are used from the tetracycline group, and macrolides are also used; the course of this treatment is up to 2 weeks);
- ❖ Local therapy (candles, douches);
- ❖ Physical therapy;
- ❖ immunomodulators (these drugs enhance the effect of drugs, are used in the treatment of cycloferon or lycopide);
- ❖ Follow an appropriate diet.

Complications: miscarriage; chorioamnionitis, which occurs with intact fetal membranes; placentitis; intrauterine infection of the fetus - fetal growth retardation, pneumonia, hematogenous dissemination of infection (neurological symptoms, hemorrhagic and hepatolienal syndromes, acute hydrocephalus).

Infection with mycoplasmas and ureaplasmas is diagnosed in 1-3% of newborns. With delayed diagnosis and treatment of IUI, complications occur in 37-51% of newborns, and with timely etiotropic therapy, they are observed 6 times less often.

Treatment. Effective antibiotics against mycoplasma infection are gentamicin and lincomycin.

V. Genital herpes.

Etiology: herpes simplex virus type 2.

Clinic:

a) local symptoms: multiple vesicles on the background of hyperemic edematous mucosa in the area of the affected area; vesicles open 2-3 days after appearance and form ulcers with a yellowish coating, healing after 2-3 weeks. In the case of secondary infections, the ulcers increase in size and exist for a longer time. In the affected area - itching, burning, soreness. There may be an increase in regional l.u.

b) common symptoms: headache, myalgia, nausea, subfebrile fever, irritability, sleep disturbance.

Depending on the location of the lesion and the severity of clinical symptoms, there are 3 stages of genital herpes:

1st: lesion of the external genitalia

2nd: herpetic colpitis and cervicitis

3rd: herpetic endometritis and salpingitis.

The clinical manifestations of genital herpes also differ in the types of infection with HSV-1 and HSV-2 viruses:

a) primary infection - develops in women who first encounter the herpes simplex virus in the absence of resistance to it; symptoms progressively increase over 7-10 days and last up to 3 weeks. General and local symptoms develop, expressed within 1-2 weeks. After 2-3 weeks, they disappear and for another 2 weeks, asymptomatic peeling of the epithelium continues. The total duration of primary infection is 5-7 weeks.

b) secondary infection is the primary manifestation of the disease in women who already have AT to one of the types of HSV (more often HSV-1) and infected with the HSV-2 virus. Clinical symptoms are less pronounced, up to 2 weeks or absent.

c) recurrent infection - characterized by less pronounced symptoms with prodromal phenomena in half of the patients in the form of itching, tenderness of the lymph nodes. The reduction is facilitated by: a decrease in the body's immunoreactivity, hypothermia or overheating, stress, various diseases, etc.

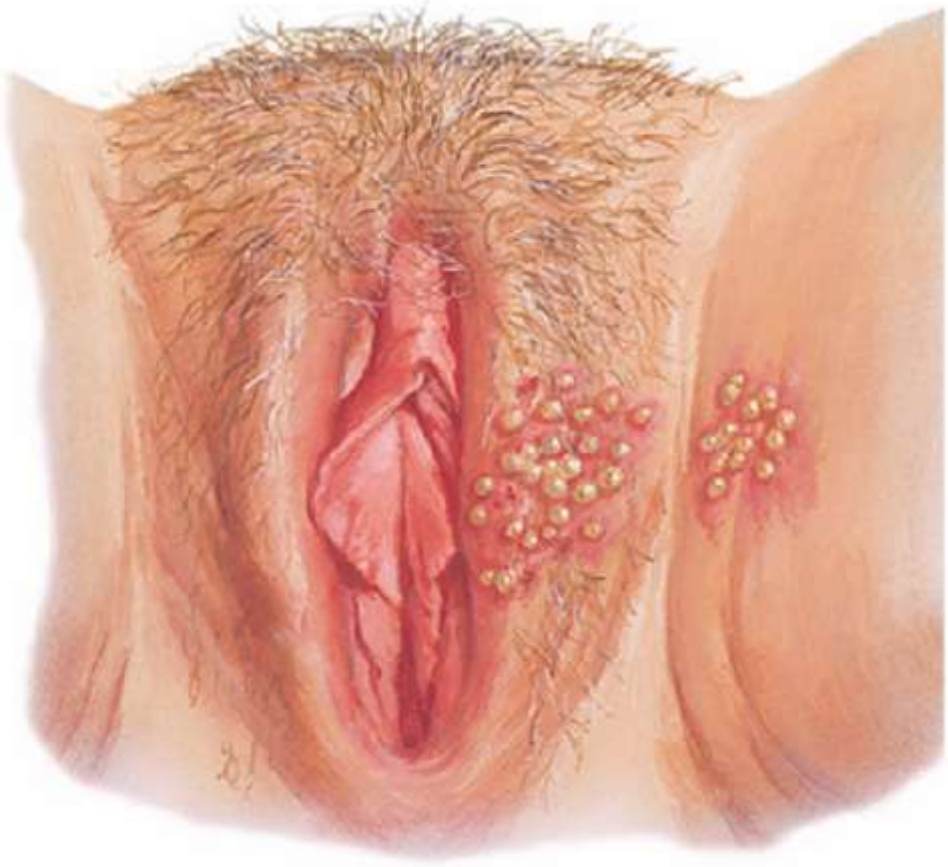


Figure 6.5. Genital herpes.

Diagnosis: *v*irological methods for the identification and detection of HSV (by infecting cell cultures, chicken embryos), cytomorphology, ELISA, PCR, methods for determining immune status.

Treatment:

1) chemotherapy in the acute or recurrent period with local or systemic drugs: zovirax, valtrex, acyclovir for 10 days, megasin ointment, 5% acyclovir ointment

2) immunomodulation in remission: interferon, viferon in candles, interferon inducers, dibazole, amixin, then a course of thymic hormones (thymalin) and a course of general immunomodulators (prodigiosan) for 30-60 days.

3) specific vaccine therapy 2 months after the end of the acute phase of the disease to prevent relapses.

V. Ureaplasmosis.

Ureaplasmas are tiny bacteria that are not much larger than most viruses, do not have their own cell wall and their own DNA, and live on the mucous membranes of the genital organs and urinary tract of a person. – this is one of the varieties of bacteria. There has also been a long-standing discussion in the scientific literature among gynecologists, urologists and microbiologists about the importance of detecting ureaplasmas in the vagina. Today, this discussion is largely over. The position of modern medical science in relation to ureaplasmas can be expressed as follows: ureaplasmas found in the vagina belong to the group of conditionally pathogenic microbes. Ureaplasma, like other sexually transmitted infections, is widespread.

In most cases, ureaplasma, being in the body, does not cause disease. If the disease does develop, it can manifest as:

- inflammatory diseases of the uterus and appendages;
- cystitis;
- Spontaneous abortions and premature births;
- Urethritis in men.

Accurate diagnosis of ureaplasmosis

In the best clinics, the most complete version of the bacteriological diagnosis of ureaplasmosis and mycoplasmosis is performed:

1. Sowing on a special medium .
2. Cultivation and isolation of the pathogen.
3. Its identification to the species (U. urealiticum)
4. PCR (polymerase chain reaction)
5. Quantitative accounting with determination of the titer of the pathogen.
6. Determination of antibiotic sensitivity.

In the diagnosis of a number of forms of ureaplasmosis, the determination of antibodies to antigens of different types of ureaplasmas is used. With its help, you can see how your body reacts to these microbes. If there is a reaction, then most likely they are responsible for inflammation.

In people living a sexual life, the prevalence of ureaplasmas increases, which is associated with infection during sexual intercourse. About half of women are carriers, and they are less common in men. Household infection is unlikely. Ureaplasmosis is an infectious disease of the urinary tract. The disease is caused by ureaplasma, parasitizing leukocytes, spermatozoa, epithelial cells of the respiratory and urinary organs. Both men and women suffer from ureaplasmosis, and people with weakened immune systems are most often ill.

Symptoms of ureaplasmosis. The incubation period of the disease (from the moment of infection to the appearance of symptoms) ranges from several days to a month, sometimes longer (several months). During the period when the symptoms of the disease have not yet manifested themselves, but the infection already exists in the body, the person himself is a carrier of ureaplasmas and can infect sexual partners with them. Very often, the disease has hidden symptoms, sometimes the disease does not manifest itself at all. In women, the asymptomatic course of the disease is more common than in men, so they can live with ureaplasmosis for decades and not even suspect that they are its carriers.

In men, ureaplasmosis is manifested by slight transparent discharge from the urethra (urethra), burning sensation and pain during urination. If ureaplasmas affect the parenchyma of the prostate gland, then symptoms of prostatitis occur.

In women, ureaplasmosis is characterized by transparent discharge from the genital tract, but if ureaplasmas have caused inflammation of the uterus and appendages (ovaries, fallopian tubes), pain occurs in the lower abdomen. With oral sexual contact, angina may appear at the site of penetration of the pathogen: sore throat, purulent plaque on the tonsils (follicular, lacunar forms of angina)

The first symptoms of ureaplasmosis are most often mild and pass quickly. But the ureaplasmas themselves remain in the body, they attach to the walls of the genitourinary organs, and wait to manifest their symptoms in full force. In case of weakened immunity (severe hypothermia of the body, heavy physical exertion, stress, diseases), ureaplasmas begin to activate, the symptoms of the disease manifest themselves in full.

In men, prostatitis or urethritis usually begins, the inflammatory process spreads to the testicles, seminal vesicles, causing a whole "bouquet" of diseases, the outcome of which is infertility.

In women, ureaplasmosis provokes inflammation of the vagina (colpitis), uterine wall (endometritis), bladder (cystitis), inflammation of the kidney parenchyma (pyelonephritis). It is also possible to have sexual disorders - unpleasant and painful sensations appear during sexual intercourse.

Ureaplasma and pregnancy. Ureaplasma can cause spontaneous termination of pregnancy at an early stage and even lead to infertility. Ureaplasma during pregnancy is also dangerous because during childbirth the child can become infected by passing through the infected birth canal of the mother. Treatment during pregnancy can negatively affect the development of the child. That is why it is so important to diagnose the disease and carry out proper treatment before pregnancy.

Treatment of ureaplasmosis is mandatory for all available partners (who have sexual intercourse). To do this, antibacterial drugs are used, the course of treatment with antibiotics is 2 weeks. Immunomodulatory therapy (drugs that stimulate the immune system), local treatment (injection of drugs into the urethra - installations), physiotherapy, if prostatitis occurs, a man is prescribed prostate massage.Throughout the treatment, the patient should refuse sexual contact, adhere to the recommended diet. After treatment, a control study is conducted to determine the effectiveness of therapeutic measures. The control is done for several months (usually 3-4).

Antibacterial drugs are selected taking into account the sensitivity of microorganisms to them. Ureaplasmas are sensitive to antibiotics: macrolides (oleandomycin, roxithromycin, clarithromycin, erythromycin), tetracycline series, lincosamines (dalacin, nkomycin, clindamycin), antiprotozoal and antifungal drugs. If ureaplasmosis is uncomplicated (urethritis, cervicitis, asymptomatic carriage), tetracycline is prescribed 500 mg four times a day for one to two weeks. Doxycycline is more preferable, as it is prescribed 100 mg twice a day.

Erythromycin is often prescribed in the treatment of ureaplasmosis, it is much more active than sumamed, but it is slightly more difficult to tolerate (this is due to dyspeptic disorders). Erythromycin is prescribed 500 mg twice a day for 10 days or 250 mg four times a day for 7 days. Rovamycin (spiromycin) is prescribed for 3 million. EATING three times a day for 10 days, this antibiotic has the property of accumulating in the focus of inflammation and is quite safe.

The patient is also prescribed immunomodulators (thymalin, takvitin, lysozyme, decaris, methyluracil). Eleutherococcus extract and pantocrine can be used as an immunomodulator. At the end of the course of treatment, the patient is prescribed

vitamins B and C, bifidum and lactobacillus, hepatoprotectors (stimulation of liver and gallbladder function).

VI. Tuberculosis of the genital organs.

Etiopathogenesis. The infection spreads to the genitals hematogenously or lymphogenously from the foci of primary tuberculosis.

Among patients with inflammatory diseases of the internal genital organs, tuberculosis is diagnosed in 10-11%, among women with infertility - in 10-22%, among patients with menstrual disorders - in 8.4%.

Classification.

1. Tuberculosis of the uterine appendages with signs of activity (VA, VB groups of dispensary registration). Clinical forms:

a. With minor anatomical and functional changes.

b. With pronounced anatomical and functional changes.

c. With the presence of tuberculoma.

In each form, the process is distinguished by the nature of the course (acute, subacute, chronic); by prevalence (damage to the uterus, cervix, vulva, vagina, involvement of the peritoneum and adjacent organs in the process, ascites); by phases (infiltration, resorption, calcification, scarring); by bacilli (VC + and BC-).

2. Tuberculosis of the uterus with signs of activity (group VA VB)

a. Focal endometritis

b. Total endometrial lesion

c. Metroendometritis

3. Tuberculosis of the cervix, vulva, vagina

Diagnostics.

- Medical history data, complaints
- X - ray methods
- Tuberculin diagnostics

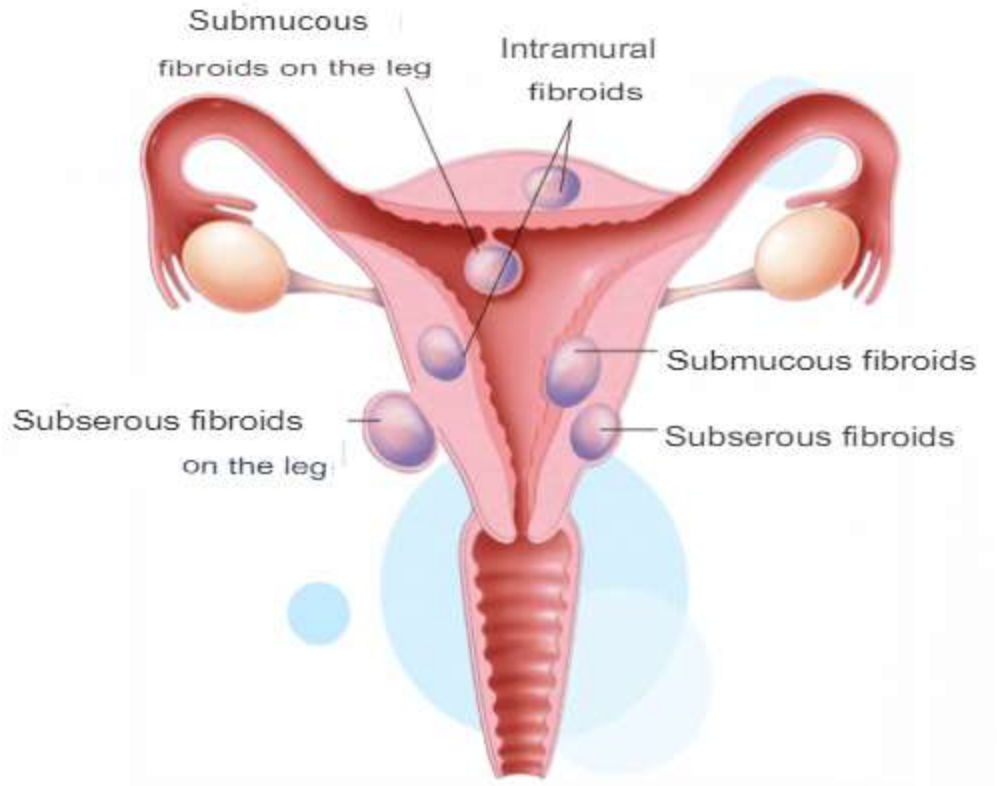
Treatment.

Anti-tuberculosis drugs (isoniazid, ethambutol, ethionamide, streptomycin, PAS), biostimulants (ligase, vitreous), physiotherapy procedures (zinc or sodium thiosulfate electrophoresis) are used.

Chapter. No. 7. Uterine fibroids.

Uterine fibroids are the most common benign tumor of the female genital organs, consisting of muscle and connective tissue. According to their ratio, the tumor is referred to as fibromyoma (more connective tissue is a rare phenomenon) or fibroids (more muscle tissue).

A tumor occurs at the age of 20-40 years, it is subjected to surgical treatment at the age of 30-50 years. Currently, uterine fibroids have dramatically "rejuvenated". The incidence of fibroids in women who have reached the premenopausal period reaches 30-35%.



There are a number of stages in the development of a tumor:

1) formation of an active growth zone in the myometrium with accelerated metabolic processes (more often this zone is located around thin-walled vessels and is characterized by high metabolism)

2) intensive tumor growth without signs of differentiation

3) expansive tumor growth with differentiation of "maturation".

Classification of uterine fibroids:

a) taking into account the tissue composition: fibroids, fibromyomas, angiomyomas

b) by the activity of metabolic processes:

1. simple - characterized by slow growth, without pronounced proliferative processes

2. proliferating - characterized by rapid growth; mitotic activity is increased, but there are no atypical myometrial cells

c) by localization: in the body of the uterus (95%), in the cervix (5%)

d) by the nature of growth:peritoneal (subserous fibroids), inside the myometrium (interstitial fibroids) and in the deep layers of the myometrium (submucous fibroids). More often, tumor nodes are located along the midline of the uterus, in the area of corners, less often along the side walls (intraligmental fibroids).

Etiopathogenesis: it is generally recognized to be associated with hormonal disorders in the body (hormone-dependent tumor), however, typical changes in hormonal homeostasis characteristic of fibroids have not yet been detected (it is assumed that the basis is an increase in estrogens, androgens in the blood and local uterine hormoneemia). In addition, they matter:

1) increased steroid hormone receptors in the myometrium of fibroids

2) constitutional and hereditary factors, metabolic and immune disorders (predominance of T-suppressors, decrease in the concentration of immunoglobulins), the condition of other organs and systems

Uterine fibroids are a type of hyperplastic processes of the uterus, a hormone-dependent disease, the development and course of which, along with general patterns, is largely determined by individual characteristics.

In most cases, fibroids develop in multiple ways, occurring in different areas of the myometrium simultaneously or sequentially. A pseudocapsule is formed around the myomatous nodes from muscle, connective tissue elements, as well as from the abdominal and mucous membranes.

Active growth zones (proliferating fibroids) can move from the myometrium of the uterine walls to the zone of the growing node, which contributes to the development of large submucous or subserous (often on a thin leg) nodes.

The clinical picture of uterine fibroids:

a) general symptoms:

1. Pain - constant aching pains are observed with intensive tumor growth due to stretching of tissues and nerve endings. Pain during menstruation

(algodismenorrhea) is more often noted with interstitial localization of the tumor, which is associated with more active contractile activity of the uterus during this period. Pain is characterized by compression of the surrounding tissues and organs by the tumor, which occur with large fibroids or the corresponding localization of the node. The pain symptom is more pronounced in cases of eating disorders and tumor necrosis, which is characterized by constancy and increased intensity.

Cramping pains occur with submucous localization of the tumor. The most intense, progressive pains occur with twists of the leg of the subserous muscle. Pain in the sacral region is characteristic when the tumor grows posteriorly and pinches it in the sacral fossa under the cape, in this situation they are associated with rapidly developing swelling of the tumor and other degenerative changes. A painful symptom can accompany uterine fibroids and in the presence of concomitant diseases (inflammatory processes, endometriosis, etc.).

3. **Bleeding** associated and unrelated to the menstrual cycle - often occur in the form of hypermenorrhea, metrorrhagia and intermenstrual spotting of blood. Their mechanism is often associated with anovulation and hyperplastic changes in the endometrium, which often accompany uterine fibroids. Tumors, even of very large sizes, do not rarely occur without bleeding. At the same time, a small myoma can deform the vessels that provide blood supply to the myometrium, cause its necrosis and cause periodic uterine bleeding. They may be caused by compression of the opposite uterine walls by the tumor. Fibroids can grow in the form of polyps, protrude through the cervical canal ("giving birth to fibroids") and be accompanied by symptoms similar to incomplete abortion — cramping pains and bleeding, accompanied by contractions of the uterus.

Hypermenorrhea may be associated with a change in the area of the endometrium, which increases 10-15 times with fibroids, as well as with a violation of the contractility of the uterus with a certain localization and tumor growth (centripetal growth, posterior wall). Ulceration of the endometrium with submucous localization in cases of attachment of inflammatory processes leads to intermittent uterine bleeding. Finally, bleeding in uterine fibroids occurs as a result of violations of local hemodynamics due to compression of the vessels, dilation of the veins, and also in connection with the adaptation of the vascular system of the uterus due to tumor growth.

3. **General anemia syndrome** - anemia is initially compensated with a rapid recovery of the number of erythrocytes and hemoglobin, and then acquires a sub- and decompensated course and is accompanied by various hemodynamic disorders.

4. Features of menstrual function - the duration of menstruation is prolonged, which is often accompanied by pain, menopause occurs later (after 50-55 years), pathological symptoms are more often noted in the perimenopausal period.

b) specific symptoms - depending on the location of fibroids and the nature of its growth:

1. **Submucous fibroids** - is almost always accompanied by uterine bleeding in the form of meno- and metrorrhagia, frequent pain. In this form of fibroids, hyperplastic processes are often complicated by atypical hyperplasia. Ulceration of the endometrium and its delayed regeneration contribute to the attachment of inflammatory processes. The growth of submucous nodes on the pedicle is often complicated by the process of their "birth". At the same time, there is a characteristic clinical picture: opening of the cervical canal, sharply painful contractions of the uterus, bleeding and infection. After the "birth" or removal of such a tumor, reversible (involutive) changes occur, as in abortion. This type of fibroids tends to degenerate and not to croze.

2. **Intermuscular** (intramural, interstitial) fibroids are located in any wall of the uterus in the thickness of the muscle layer, reach large sizes, have an asymmetric or spherical shape. Due to the increase in the area of the endometrium, the duration of menstruation is prolonged and the volume of blood loss increases. They often undergo degenerative changes (edema, heart attacks, aseptic necrosis) with fever and severe pain syndrome. Degeneration often occurs during pregnancy or in the postpartum period.

3) **Cervical fibroids** - develops in the supravaginal or vaginal part of the cervix, quickly manifests itself as a violation of the function of adjacent organs (dysuric phenomena, difficult defecation). Due to the pronounced deformation of the cervix, compression of surrounding tissues and organs, pain syndrome is noted. Fibroids do not change in size according to the phases of the menstrual cycle and with the onset of menopause.

Of the disorders of extragenital organs and systems in uterine fibroids, pathology can be noted:

a) urinary system - compression of the bladder by fibroids leads to frequent urination, urinary incontinence, ureter - to hydronephrosis.

b) gastrointestinal tract, etc.

Diagnosis: the data of anamnesis, clinical picture and gynecological examination in most cases make it possible to make a diagnosis. To clarify the diagnosis or verify it, the following methods are also used: rent genological studies, ultrasound, endoscopic studies - laparoscopy, hysteroscopy, colposcopy, cytological examination of smears from the vagina and cervical canal.

Conservative treatment of uterine fibroids.

Conservative treatment is indicated for women with a small tumor size with intermuscular and peritoneal localization of nodes, with moderate menorrhagia, as well as patients with severe concomitant extragenital pathology, for whom surgery is contraindicated.

Basic principles of treatment:

1. A comprehensive study of the premorbid background in order to possibly correct the disorders that have arisen.

2. Treatment of concomitant gynecological and extragenital diseases.

3. Measures aimed at normalization of neuroendocrine, metabolic volemic disorders and therapy of anemia.

4. Rehabilitation measures aimed at maintaining homeostasis and restoring the ability to work of patients.

Hormone therapy: the method of choice is gestagens. They are used from the 16th to the 28th day of the cycle for 3-4 cycles for women of reproductive age. For women in the premenopausal period, gestagens are used continuously.

In combination with uterine fibroids with the initial stage of endometriosis and endometrial hyperplasia, the use of norcolut for 6-9 cycles is indicated. The use of danazol, gestrinone, with antiestrogenic and antigonadotropic effects is effective. Prolonged-acting progestogens are used: 17 - OPK and depo-provera. A good effect when using gonadotropin releasing hormone agonists: zoladex, decapeptil.

Non-hormonal drug therapy:

1.Oxytocin intramuscularly: uterotonic and antiestrogenic effects.

2. Vitamin therapy, phytotherapy, blood clotting agents

3.FTL: electrophoresis of zinc and iodine on the lower abdomen, microclysms with potassium iodide, radon baths.

Surgical treatment.

Currently, surgical treatment of uterine fibroids is generally recognized, but the indications for surgery have not always been fully determined, and there is also a lot of controversy about the scope of the operation itself.

The main indications for surgical treatment are:

1. Symptomatic course of fibroids (severe pain syndrome, menometrorrhagia) in the absence of effect from conservative therapy. Bleeding is most often determined by the submucous localization of the node (but not always).

2. Rapid tumor growth and suspected sarcoma (more than 5 weeks of pregnancy in 1 year).

3. Large tumor size (12 weeks or more of pregnancy).

4. Malfunction of neighboring organs (bladder and rectum) due to mechanical compression.

5. Malnutrition of fibroid tissues (edema, node necrosis) and as a result, a high risk of developing or having a picture of an acute abdomen.

6. The combination of multiple fibroids with cervical localization, leading to severe cervical deformity and impaired outflow from the uterus.

7. The presence of a subserous node on the leg.

8. The combination of uterine fibroids and adenomyosis in the absence of effect from the treatment.

9. Recurrent course against the background of hormonal treatment of hyperplastic processes and DMK in combination with fibroids.

10. A combination of uterine fibroids and ovarian tumors.

11. Habitual miscarriage when identifying a causal relationship with fibroids.

12. Combination of fibroids with precancerous cervix and/or endometrium.

The methods of choice for the surgical treatment of fibroids are:

a) radical operations:supravaginal amputation of the uterus; extirpation of the uterus

b) conservative operations:conservative myomectomy; uterine defundation; high uterine amputation.

The issue of appendages is solved individually in each case, depending on their appearance, the results of an express biopsy, and the age of the patient.

Conservative operations are operations in which the uterus and its inherent physiological functions are preserved (abdominal myomectomy, removal of

nascent and unborn nodes from the vaginal side). They have negative aspects associated with a high recurrence rate (up to 40%) and it is irrational to produce them with multiple localization of nodes. Supravaginal amputation has the same disadvantages, although to a lesser extent. With total removal of the uterus, the number of postoperative complications decreases, and it is also possible to prevent the occurrence of recurrent fibroids and malignant neoplasms in the cervical stump.

7.1. Endometriosis

Genital endometriosis is a heterotopic localization of endometrial-like foci beyond the typical localization of the endometrium.

The etiology is poorly understood, a polyetiological disease, in the origin of which a role is played:

1. immunological, hormonal, metabolic and other disorders (women of reproductive age, physically impaired, with metabolic disorders and endocrine pathology are more likely to suffer)

2. heredity (traced according to genealogical history)

3.socio-economic status of a woman (in a group of women with low socio-economic status, the incidence of endometriosis is higher than in the general population)

Less likely etiological factors of endometriosis are obesity, late onset of sexual activity and late labor, complicated labor, abortions, prevention of pregnancy with the help of IUD, late onset of menarche.

Pathogenesis - a number of theories:

1) **Transportional** (implantation, transplantation, immigration, lymphogenic, hematogenic, iatrogenic dissemination, retrograde menstruation) - the formation of endometrioid foci occurs as a result of retrograde casting into the abdominal cavity of endometrial cells rejected during menstruation and their further implantation on surrounding tissues and peritoneum.

2) **Coelomic metaplasia** - the development of endometriosis occurs due to degeneration (metaplasia) of the mesothelium of the peritoneum, as a result of which foci of endometrial-like glands and stroma are formed.

3) **Embryological cellular gamartia** - presupposes the development of endometriosis from the remains of the Muller ducts and the primary kidney

4) **Hormonal and immunological concept** - most researchers note that hormonal and immunological disorders are not the direct cause of the formation of endometrioid foci, but only contribute to them

Disorders in the reticuloendothelial and immune systems play an important role in the pathogenesis of endometriosis.

Classification of endometriosis:

a) by localization:

- Genital - localized in the internal and external genitalia:
- Internal - the body of the uterus, isthmus, interstitial part of the fallopian tubes;
- External - external genitalia, vagina and the vaginal part of the cervix, retrocervical region, ovaries, man-made tubes, peritoneum lining the recesses of the pelvis.
- Extragenital - the development of endometrioid implants in other organs and systems of a woman's body.

b) in relation to the peritoneum:

intraperitoneal, peritoneal endometriosis - ovaries, mammary tubes, peritoneum lining the recesses of the pelvis.

extraperitoneal endometriosis - external genitalia, vagina, vaginal part of the cervix, retrocervical region.

Internal endometriosis is divided by degree:

Degree I - the germination of the mucous membrane into the myometrium to the depth of one field of view at low magnification of the microscope

Grade II - lesion up to 1/2 the thickness of the uterine wall

Grade III - the entire muscle layer is involved in the process

Histological classification of internal endometriosis:

1. Glandular - occurs 16 times more often than stromal

2. Stromal:

a) adenomyosis — endometriosis, accompanied by hyperplasia and hypertrophy of uterine muscle fibers

b) adenomyoma — unlike adenomyosis, there is a clearer restriction of nodes with surrounding tissue, with the absence of glandular inclusions of endometrial stroma around clusters.

Endometrioid ovarian cells are a variant of external endometriosis.

The clinical picture of genital endometriosis:

1. Ovarian endometriosis:

- the leading symptom is painful: patients complain of constant, periodically increasing aching pains in the lower abdomen with irradiation into the rectum, lower back, reaching a maximum on the eve and during menstruation

- with spontaneous perforation of the cyst wall and the outpouring of its contents into the abdominal cavity, a picture of an acute abdomen resembling an ectopic pregnancy: progressive algomenorrhea, often accompanied by vomiting, dizziness, cold extremities and general weakness

- adhesions in the pelvis, leading to impaired bowel and bladder function (constipation, dysuric phenomena)

- subfebrile fever, chills, increased ESR, leukocytosis of the blood

- a common manifestation is primary infertility

Bimanual examination determines tumor-like formations of a tight elastic consistency on the side or behind the uterus, limited in mobility due to the adhesive process, sharply painful on palpation, ovoid or rounded in size up to 8-10 cm in diameter.

b) **Peritoneal endometriosis** - pathognomonic symptoms:

- disorders of menstrual function (meno- and metrorrhagia)

- pain in the lower abdomen and lumbar region of varying intensity

- dyspareunia

- infertility (as a rule, primary, less often secondary)

c) Endometriosis of the fallopian tubes - more often in combination with endometrioid heterotopias of other localizations (internal endometriosis of the uterus and endometriosis of the ovary), manifested by pain, which increases during menstruation

d) **Retrocervical endometriosis** - overgrowth of small-nodular or infiltrative endometriosis directly at the cervix in the rectovaginal cavity:

- a variety of clinical manifestations is characteristic at various stages of the prevalence of the process

- the strongest persistent pain in the pelvic region, which radiate into the vagina, rectum, perineum, external genitalia, often in the thigh area, increases during sexual intercourse and the act of defecation

- spotting spotting before and after menstruation.

During vaginal examination, fine-grained, dense, immobile, sharply painful endometrioid formations of various sizes are detected in the retrocervical region.

In most patients with retrocervical endometriosis, the body of the uterus is of normal size, deflected posteriorly.

When the pathological process spreads to the rectum with the "germination" of foci of endometriosis into the thickness of its wall, a dense, sharply painful tumor with an uneven surface is palpated. There may be a rather significant narrowing of the intestinal lumen.

e) Vaginal endometriosis - may be primary or may be a consequence of the spread of retrocervical endometriosis, the clinic depends on the involvement of adjacent organs in the process.

f) Endometriosis of the peritoneum of the rectum-uterine recess and sacral ligaments: complaints of pain in the lower abdomen and in the back, sometimes taking on a bursting character, disturbing during sexual intercourse

During vaginal examination, it is sometimes possible to palpate endometriosis nodules on the peritoneum or sacral ligaments in the form of "rosaries". Palpation of them is sharply painful.

g) Endometriosis of the external genitalia - the labia majora is more often affected, less often the labia minora and the large glands of the vestibule.

Diagnostics: anamnesis, clinic, gynecological examination, auxiliary methods (determination of endometriosis markers, ultrasound, hysteroscopy, colposcopy, CT, MRI, study of hemodiamics of pelvic organs using angiography and Dopplerometry, laroscopy).

Treatment of endometriosis - complex, combined:

- intake of high-calorie food with a restriction of spicy and spicy dishes

- stay in the fresh air and physical exercises

- elimination of mental, physical and emotional overload

- prescription of sedatives (valerian, motherwort), psychotherapy, small tranquilizers (tazepam)

- immunocorrection

- vitami nototherapy (vitamin A, B1, B6)

- removal of foci of endometriosis - the use of antiendometroid drugs - antihormones that inhibit the system of regulation of reproductive function at various levels:

1) combined estrogen-progestogenic drugs (oral contraceptives): with monophasic (rigevidone, regulon) and multiphase (triregol) action

2) progestins (derivatives of hydroxyprogesterone - medroxyprogesterone, megestrol and chlormadinone and derivatives of 19-nortestosterone - norgestrel, levonorgestrel)

3) antiestrogens (tamoxifen)

4) antiprogestins (gestrinone)

5) gonadotropin inhibitors (danazol)

6) gonadoliberin agonists (decapeptil, zoladex)

- the use of radon waters

- enzyme preparations: lidase, ronidase, chymotrypsin, chymopsin

Indications for surgical treatment:

1. Adenomyosis is a diffuse or nodular form of the disease accompanied by myometrial hyperplasia.

2. Internal endometriosis in combination with hyperplastic ovarian processes and/or precancerous endometrium.

3. The absence of a positive effect from conservative therapy for three months

4. The presence of contraindications to hormone therapy - a tendency to thromboembolism, varicose veins and thrombophlebitis, disorders of arterial and

venous circulation, acute and chronic hepatitis, cirrhosis, diabetes mellitus, psychosis and psychopathy, epilepsy, migraine, hypertension

5. Combination of internal endometriosis of the uterine body with other diseases of the internal genitalia requiring surgical intervention

In the reproductive period, in the absence of interest in maintaining childbearing function, as well as in pre- and postmenopause, supravaginal amputation of the uterus or its extirpation is performed. For young women interested in preserving reproductive function, an organ-preserving operation is performed - myometrectomy.

After surgery, physiotherapy is recommended (iodine and zinc electrophoresis with sinusoidal modulated or fluctuating current, galvanization of the cervical-facial region, endonasal galvanization, etc.), physical therapy, HBO.

Prevention:

- the use of contraceptives to prevent abortion;
- Prescribing intrauterine manipulations as rarely as possible;
- prevention of birth canal injuries or their complete cure;
- following a special diet: you need to enrich your diet with polyunsaturated fatty acids, which are abundant in salmon, sardines, pollock, caviar, linseed oil.

Chapter No. 8. Benign and malignant ovarian tumors.

Clinical and histological classification of ovarian tumors

I. Epithelial tumors of the ovaries:

1.Serous cysts: a) smooth-walled (serous cystadenoma), or cilioepithelial; b) papillary (papillary serous cystadenoma)

2.Mucinous cystomas (pseudomucinous): a) smooth-walled; b) papillary; c) pseudomyxoma of the ovary

3. Brenner's tumor.

4.Endometrioid

5.Light-cell

II. Connective tissue tumors of the ovaries:

1. Ovarian fibroma.

III. Hormone-active ovarian tumors (tumors of the genital stroma):

1.Feminizing tumors: a) granulocellular; b) tecellular (tecomes); c) granulocellular (mixed)

2.Masculinizing (virilizing) tumors: a) androblastoma; b) arrhenoblastoma; c) lipoidocellular tumor

3. Gynandroblastoma is a tumor of mixed structure

4. Gonadroblastoma is a tumor of gonocytes of primary germ cells.

IV. Germinogenic tumors:

1.Immature

2.Mature (dermoid cyst)

V. Gonadoblastoma:

1.pure (without admixture of other forms);

2. mixed (with dysgerminoma and other forms of germinogenic tumors).;

VI. Soft tissue tumors that are nonspecific for the ovaries.

VII. Secondary (metastatic) tumors.

VIII. Tumor-like processes:

1) pregnancy luteoma;

2) ovarian stroma hyperplasia and hyperthecosis;

3) massive ovarian edema;

4) single follicular and corpus luteum cyst;

5) multiple follicular cysts (polycystic ovaries);

6) multiple luteinized follicular cysts and/or yellow bodies;

7) endometriosis;

8) superficial epithelial cysts-inclusions;

9) simple cysts;

10) inflammatory processes;

11) paraovarial cysts.

IX. Unclassified tumors.

1. Benign tumors and tumor-like formations of the ovaries.

Epithelial tumors of the ovaries are the most common group of tumors, among which several types are distinguished:

a) **serous epithelial tumors** are benign, borderline and malignant; macroscopically they can be in the form of cysts or a solid tumor with or without capsule germination. The heterogeneity of the consistency is characteristic. In the later stages, the tumor masses not only germinate the capsule, but also fuse with neighboring tissues, forming conglomerates, including the omentum, intestinal loops, etc.

b) **mucinous epithelial tumors** - macroscopically have the appearance of cysts, often large, multicameral; the lining epithelium has the ability to form mucus, and as it becomes malignant it loses it

c) **endometriodic** epithelial tumors come in various sizes of brown or reddish color with similar contents

d) **light-cell** (mesonephroid) tumors - rare, they are unilateral, large size, solid or small-cystic structure

e) **Brenner's tumors** are more often benign, oval in shape, with an uneven surface, rocky density, have estrogenic activity, and are accompanied by ascites. It is possible to develop elements of Brenner's tumor in other cysts.

Ovarian tumors from the stroma of the genital tract:

a) feminizing:

1) granulocellular - found in women of all ages, are hormonally active, produce estrogenic hormones, as their activity decreases. More often they are one-sided, of various sizes

2) tecomas (teca-cellular) are hormonally active, macroscopically resemble ovarian fibroma, more often benign, but may be accompanied by ascites

3) mixed (granulosothecellular) - they are diagnosed only histologically.

b) masculinizing - androblastomas (tumors from Sertoli and Leydig cells) are hormone-active tumors that cause defeminization and masculinization of a woman, more often benign.

Germinogenic tumors: teratomas are a group of tumors that are very diverse in the type of their constituent tissues and in the degree of maturity. There are mature (dermoid cyst) and immature (embryonic) teratomas. Mature teratomas can become malignant ("cancer in the dermoid cyst"), and immature ones are characterized by a very malignant clinical course.

The clinical picture of ovarian tumors is not expressed, which is the main reason for their delayed diagnosis (in advanced stages):

a) subjective symptoms: anxiety, disorders of the gastrointestinal tract and urinary system, general symptoms (weakness, weight loss, lack of sleep, fatigue and disability, increased body temperature, sleep disorders, poor health).

b) objective symptoms: accumulation of fluid in the abdominal cavity (ascites), abdominal enlargement, tumor detection, menstrual cycle disorders.

c) specific symptoms characteristic of a particular type of tumor: granulocellular tumors in childhood are accompanied primarily by temporary puberty, in childbearing — meno- and metrorrhagia, in the elderly — the appearance of menstrual bleeding in postmenopause, often increased libido, etc. Androblastomas in girls lead to premature puberty, in adult women - to defeminization and

masculinization. Ascites is a symptom of malignant ovarian tumors, but it can also be observed in benign ones (fibroma, Brenner's tumor).

Diagnostics: survey, bimanual examination, laboratory data, ultrasound, culdocentesis with cytology, hysteroscopy with separate diagnostic curettage, CT, etc.

Treatment: surgical, the volume of surgical intervention is determined after the exclusion of malignancy (with the help of urgent histological examination, cytology). In childhood, prepubertal and pubertal periods, in reproductive age, both with unilateral and especially with bilateral ovarian tumors, operations should be performed with the preservation of unchanged ovarian tissue (by type of resection). In cases of unilateral removal of tumors, resection of the second ovary is performed with urgent histological examination. In the perimenopausal period, hysterectomy with appendages is indicated for ovarian tumors.

Metastatic ovarian tumors.

Any form of malignant tumor at any location can metastasize to the ovaries, they are more often observed in cancers of the gastrointestinal tract and breast. Metastatic ovarian cancer often occurs with primary lesions of the uterus, its neck and other genital organs. Metastasis occurs in lymphogenic, hematogenic and other ways. Meta-stasis from the gastrointestinal tract more often affects both ovaries **(Krukenberg tumor).**

Diagnosis: data from anamnesis, general, gynecological examination and special research methods:

a) cytological method - based on the study of fluid from serous cavities, tumor punctures, smear prints from the top of the tumor

b) radiological methods of follow-up (lymphography, computed tomography)

c) ultra sound examination

d) diagnostic laparoscopy

e) detection of tumor markers - antigens of a protein nature, which are produced by tumor tissue.

The difficulties of diagnosis are obvious, since there are no pathognomonic symptoms of malignant tumors in the early stages. The clinical manifestation of cancer is preceded by a preclinical period. Oncological alertness should always be present during preventive and other examinations of women, this is the key to the success of timely diagnosis of ovarian tumors.

Treatment: tactics are determined taking into account the primary localization of the process:

1. Treatment is determined based on the stage of the process and the histotype. Combined treatment is usually performed, which includes: surgery, radiation therapy, chemotherapy, hormone therapy and immunotherapy. The options for their combinations are selected individually.

2. The operation of choice is hysterectomy (total or subtotal) with appendage and removal of the large omentum. Omentectomy is always performed during such operations, since it is in the omentum that metastases are detected (in the absence of visible ones, micrometastases can be detected during histological examination). According to the indications, metastases in the intestine, lymph nodes, etc. are removed. In some cases, with a significant expansion of the process, the operation is limited to the removal of only the main tumor masses. It is mandatory during the operation that the abdominal organs (intestines, stomach, liver, kidneys, etc.) are audited

3. Chemotherapy is almost always indicated for malignant ovarian tumors in addition to surgical intervention. In some cases (stage III-IV), chemotherapy may precede surgical treatment. Mono- or polychemotherapy is currently used.

4. Radiation therapy for malignant tumors of the ovaries is used less often, combined with chemotherapy. It is considered advisable after surgical intervention for the treatment of malignant ovarian tumors of stage I-II.

5. Hormone therapy for ovarian cancer is carried out according to the type of estrogen or gestational therapy, taking into account the presence of estrogen and progesterone receptors in the tumor tissue.

6. In addition, immunotherapy is used.

8.1. Cyst and ovarian cyst.

I. Retention cysts of the ovaries

Ovarian cysts are predominantly retention cysts. They develop from follicles and yellow bodies.

There are two main theories of the occurrence of retention ovarian cysts.

The first theory explains their appearance by changes associated with inflammation of the uterine appendages (51.6% of cases). Stagnant hyperemia of the pelvic organs and the development of perioophoritis phenomena are of great importance in this case. In addition, hyperemia is observed in physiological conditions in connection with the menstrual cycle (ovulation, the phase of development of the

corpus luteum), pregnancy, childbirth, the postpartum period and lactation; the causes may be interrupted sexual intercourse, non-onset of orgasm with severe sexual arousal, as well as uterine tumors (fibroids) in 34.2% of cases.

The second theory is hormonal – a violation of the hormonal balance in the patient's body.

The development of cysts can occur in various ways. In some cases, there is a violation of the ratio between LH and FSH, increased FSH, impaired ovulation with follicular cysts (lack of luteinizing hormone in the body), and corpus luteum cysts develop with excessive production of luteinizing hormone of the pituitary gland. In other cases, cysts occur against the background of congestive hyperemia, and thirdly, the thickening of the protein membrane of the ovary occurs, as a result of which the mature follicle cannot open.

Highlight:

1. Follicular cysts.

2. Cyst of the corpus luteum.

3. Paraovarial cyst.

4. Tecalyutein cysts.

5. Endometrioid cyst.

II.Follicular ovarian cyst

This is a single-chamber formation that arose due to the fact that the Graaf follicle has not opened, its cavity is filled with transparent liquid bone, which is a product of the vital activity of granulosa cells

The presence of a follicular cyst does not disrupt the processes of egg maturation and ovulation in other follicles.

Follicular cyst is observed most often. With small sizes, it is asymptomatic, can reach a size of up to 10 cm in diameter, rounded, single-chamber, with a smooth surface, tight-elastic consistency, thin-walled, mobile, painless on palpation, has a leg, can spontaneously burst and often ruptures during bimanual examination.

The diagnosis is based on the data of a bimanual ultrasound examination (a thin-walled, hypoechoic formation with dimensions from 3 to 10 cm is visualized in the ovary).

III. Cyst of the corpus luteum

Cysts of the corpus luteum, unlike follicular cysts, are much less common. Their development is due to the fact that after ovulation, the follicle cavity does not collapse and is not filled entirely with luteal cells, as it normally happens, but remains in existence and is stretched by serous fluid. The cyst wall consists of several rows of luteal and tecalyutein cells. As the cyst grows, luteal cells and cystic elements of the inner wall atrophy. The cyst of the corpus luteum is hormonally inactive.

The cyst is usually unilateral, small in size — 3-4 cm in diameter, of a tight elastic consistency, painless. A yellow or orange scallop is marked on the incision. The luteal tissue of the cyst undergoes the usual cyclical changes for the corpus luteum. In this regard, bleeding into the cyst cavity occurs in the phase of vascularization of the corpus luteum. As a rule, the cyst appears and increases in the 2nd phase of the menstrual cycle.

There are symptoms of early pregnancy — delayed menstruation, swelling of the mammary glands; during vaginal examination, an increase in the size of the uterus is noted, the appearance of blood secretions from the genital tract. At this stage, it is necessary to make a differential diagnosis with both uterine and ectopic pregnancies. The diagnosis is clarified when examining urine for HCG, which is not detected with a corpus luteum cyst. To make a diagnosis, as a rule, a bimanual examination, ultrasound is sufficient.

The tactics are wait-and-see. As a rule, corpus luteum cysts and follicular cysts are subject to reverse development. If this is not observed for 2-3 months or there is a tendency to increase the cyst, an operation is indicated during which the ovary is resected within healthy tissues. Corpus luteum cysts, like follicular cysts, can recur.

IV. Tecalyutein cysts

Tecalyutein cysts are formed under the influence of the stimulating effect of chorionic gonadotropin, containing a large amount of luteinizing hormone, on the tissue of follicles. They are bilateral, reach gigantic sizes, and are companions of diseases such as trophoblast diseases. As the underlying disease is treated, the tecalyutein cysts resolve and therefore are not subject to surgical treatment.

V. Paraovarial cyst

A paraovarial cyst is formed from an epiophoron – the supra-ovarian appendage (paraovarium), a remnant of the mesonephral duct.

The cyst is most often single-chambered, thin-walled, located inter-connectedly, the contents are transparent, liquid, protein-poor, and does not contain mucin. By volume, a paraovarial cyst can be from several centimeters in diameter to the size of the head of a newborn. The shape is spherical or ovoid. The ovary is not

involved in the pathological process, the fallopian tube is most often spread out on the surface of the cyst. The wall of the paraovarial cyst consists of connective tissue, the inner surface is smooth, lined with a single-layer cylindrical or flat epithelium.

It usually occurs at the age of 20-30 years and accounts for about 10% of all tumors and tumor-like formations of the ovary. With small sizes, the cyst does not manifest itself in any way. With significant sizes, symptoms appear — pain in the lower abdomen and in the sacrum, dysuric phenomena. The cyst develops slowly, malignancy is extremely rare. A bimanual examination determines a cystic formation, which is limited in mobility due to its intraligmental location. At the lower pole of the cyst, it is sometimes possible to palpate the ovary. The diagnosis is clarified by ultrasound examination (a tumor-like hypoechoic (liquid) formation is determined next to the ovary).

Treatment

Cyst treatment is surgical, since parovarial cysts do not undergo reverse development. The operation consists in peeling the cyst. The fallopian tube and ovary are preserved. There are no recurrences of a paraovarian cyst. The prognosis is favorable.

Chapter No. 9.Abnormal development and improper position of the female genitalia.

Anatomical and physiological features of the girl's genitals

There are several periods in the sexual development of a girl:

• intrauterine;

• newborn period (4 weeks);

• neutral period (from 1 year to 8 years);

• prepubescent period (from 8 years to 12 years or before menarche);

• Puberty period:

phase 1 (from menarche (12 years) to 16 years).

Phase 2 (from 16 to 21 years old).

Prenatal period

The genetic sex of the fetus is determined by a set of sex chromosomes, which are formed during the fusion of germ cells. A set of XX chromosomes determines the female sex of an individual.

The development and differentiation of the genital organs of the fetus occurs under the influence of sex hormones coming to the fetus from the mother's blood, from the placenta, as well as formed in the body of the fetus itself.

Female genitalia develop in close relationship with the urinary system. At week 5 of intrauterine development, a genital roller is formed on the medial surface of the primary kidney (wolf's body), from which the ovary is formed in the distance. The sex gland in the early stages of its development has an indifferent character, the same for both sexes.

Ovarian development begins at **11-12** weeks of embryonic development. At 18 weeks, the fetal ovary already has primordial follicles that begin to function, but the hormonal function of the fetal ovaries is at a low level.

The uterus, fallopian tubes and vagina develop from the Muller passages, which flow into the genitourinary sinus and in the process of embryonic development, starting at 2 months, merge in the middle and lower parts of the passages, while the vagina and uterus are formed (at 3 months of intrauterine development). Fallopian tubes develop from the non-merged upper thirds of the Muller passages. The most intensive growth of the uterus is observed from the 21st week of intrauterine life.

The external genitalia develop from the urogenital sinus. Differentiation of the external genitalia according to the female type ends by week 17.

The newborn period

The genitals of a newborn have features that depend on the influence of the mother's sex hormones obtained during intrauterine life. The clitoris is relatively large. The labia minora are only partially covered by the labia majora. The vestibular glands are not functioning, the hymen is placed deeper into the genital fissure. The entrance to the vagina may be covered with viscous mucus. The vagina is located vertically, its mucous membrane consists of 30-40 layers of flat epithelium, which is mainly represented by intermediate cells, the CPI is high, Doderlein rods are present in the vagina, the reaction of the contents is acidic.

11 as sex hormones are excreted from the newborn's body, the morphology of the mucous membrane and the nature of the vaginal discharge change. A significant drop in the level of sex hormones occurs in the first 10 days after birth, as a result of which the number of layers of the multilayer squamous epithelium decreases to 2-3, the reaction turns from acidic to neutral, and the Do-derlein rods disappear.

On 3-9 days after birth, due to a drop in the level of estrogens in the newborn's body, there may be an increase in mammary glands, bloody discharge from the vagina — a sexual crisis.

The uterus of a newborn is relatively large and located in the abdominal cavity, the ratio of the cervix to the uterine body is 3:1. The body and cervix almost do not form an angle between each other. The fallopian tubes are long and have a convoluted shape. The ovaries are elongated (fusiform) with many primordial follicles.

9.1. Methods of medical and genetic diagnosis of gynecological diseases

According to the World Health Organization, genetic abnormalities occur in 5% of newborns and are the cause of the annual mortality of 3.3 million children under the age of 5 years. Another 3.2 million babies are born with disabilities . The main etiological factors of disability of children in this age group are the health status of pregnant women and the effects of teratogenic factors. The latter include infectious diseases, ionizing radiation, radionuclides, antitumor, hormonal drugs and narcotic substances. Hereditary factors of congenital malformations account for 40-50% of early infant mortality and childhood disability and form the genetic burden of the population, manifested in 5% of humanity.

For the early diagnosis of congenital anomalies in the fetus, a set of diagnostic, prognostic screening technologies and methods has been developed and applied – prenatal genetic diagnosis (PD), the results of which allow the child's parents, if a

pathology is detected, to make an informed decision on the continuation or termination of pregnancy.

Indications for medical and genetic counseling

1. Primary infertility of spouses after the exclusion of gynecological pathology in the wife, as well as in the presence of aspermia in the husband.

2. Primary amenorrhea with underdevelopment of secondary sexual characteristics (suspicion of Shereshevsky–Turner syndrome, gonadal dysgenesis).

3. Violation of sexual differentiation, adrenogenital syndrome.

4. Repeated spontaneous abortions, stillbirths, frozen pregnancies.

5. The birth of a child with malformations, Down's disease.

6. The presence of any hereditary disease or congenital malformations in the husband, wife or their relatives.

7. The repeated threat of termination of this pregnancy at 8-10 weeks.

8. Taking medications with teratogenic effects obtained by spouses before conception or in the first weeks of pregnancy.

9. Infections suffered during pregnancy, especially before 18-20 weeks: rubella, influenza, measles, chickenpox, cytomegaly, toxoplasmosis, listeriosis.

10. Work in hazardous production of a pregnant woman and her husband, X-ray examination of a pregnant woman, especially in the first trimester of pregnancy.

11. Polyhydramnios or lack of water in this pregnancy.

12. The age of the pregnant woman is 37 years and older.

13. Consanguineous marriage.

14. Men suffering from infertility, underdevelopment of the genitals, secondary sexual characteristics, with suspected Klayenfelter syndrome are referred for consultation.

15. Children with mental retardation, stunted growth, physical development, convulsive syndrome, malformations, suspected Down's disease, skeletal dysplasia are sent.

16. Pregnant women who are at risk as a result of prenatal screening of the 1st trimester of pregnancy, as well as pregnant women at any stage of pregnancy with suspected fetal malformation, are sent.

17. Newborns who are at risk as a result of neonatal screening are sent with suspected congenital hypothyroidism, phenylketonuria, cystic fibrosis, galactosemia, adrenogenital syndrome.

Those who consult should have with them a referral from a medical institution, pregnant women additionally have a pregnant woman's book, an extract from the autopsy protocol of a stillborn or deceased child (pathoanatomic diagnosis), histological scraping data from the uterine cavity in spontaneous miscarriages, data from the blood group and Rh factor of both spouses, data from the husband's spermatogram in infertile marriage, an outpatient card of the child or an extract from children's polyclinic.

I. **The consultation reception is held daily from 8-30 am to 15-30 pm, except Saturdays and Sundays.** The consultation is free of charge in the directions from the medical center, there is a preliminary appointment. At the reception of a doctor, genetics is carried out:

- diagnosis of hereditary diseases in children and adult patients using computer diagnostic programs:

“Oxford Medical Database", databases of international registers of hereditary and congenital pathology.

- clinical and genealogical analysis (compilation and analysis of the pedigree)

- counseling of children in order to clarify the diagnosis based on the results of neonatal screening.

- counseling pregnant women for the purpose of prenatal diagnosis and prognosis of offspring.

- Calculation of the individual risk of having a child with Down syndrome and other chromosomal diseases in a pregnant woman using the computer program "Astraya".

-Treatment of patients with phenylketonuria, calculation of dietary nutrition using the PCU Diet computer program.

-Counseling families with infertile marriage, miscarriage to exclude genetic causes.

-Medical examination of patients with hereditary diseases and congenital malformations, maintenance of genetic registers.

II **Prenatal (prenatal) diagnosis is carried out on the basis of Medical and genetic consultation and includes:**

1 ultrasound examination of pregnant women for the purpose of confirmatory diagnosis of fetal HPV in the I – III trimesters of pregnancy.

2. Conducting Dopplerometric studies at 24 weeks or more of pregnancy to diagnose fetoplacental insufficiency.

3. The study of serum markers RARP-A (pregnancy-associated protein A) and betta HCG (chorionic gonadotropin, free subunit) in the first trimester of pregnancy in a screening mode with the calculation of genetic risk for chromosomal pathology in the fetus.

4. Invasive prenatal diagnosis (cordocentesis, placentocentesis, chorionbiopsy) to exclude chromosomal pathology in the fetus is performed for pregnant women who are at risk as a result of prenatal screening after a preliminary consultation with a geneticist, where the pregnant woman receives full information about the upcoming procedure.

In the medical and genetic consultation for the purpose of prenatal diagnosis, high-quality and expert-class equipment is used to identify congenital malformations in the fetus, fetoplacental insufficiency, and diagnosis of gynecological diseases:

1. Ultrasonic scanner "VOLUSON –E8" with the function of volumetric reconstruction, 4D scanning

2. Ultrasonic scanner "VOLUSON – 730 Pro V" digital scanner with the function of volumetric reconstruction and 4D scanning

III Laboratory studies at MGK are conducted in the direction of geneticists, as well as obstetricians, gynecologists, pediatricians and doctors of other specialties:

1. Examination of blood serum in pregnant women for markers of congenital pathology in the fetus:

A) RARP-A (pregnancy-associated protein A) and betta HCG (chorionic gonadotropin, free subunit) in the first trimester of pregnancy in screening mode.

B) alphafetoprotein (AFP), chorionic gonadotropin (HCG), in the second trimester of pregnancy according to indications.

2.Conducting research to diagnose hereditary diseases in children and adults:

- determination of amino acids and carbohydrates by thin-layer chromatography (TLC),

- studies of sodium and chlorine in sweat on the Nanodact device

- examination of glycosoaminoglycans in urine,

- urine analysis for aminoaciduria, ketoacids, reducing substances,

- study of gliadin in blood serum.

Examinations are carried out to diagnose disorders of amino acid and carbohydrate metabolism, if connective tissue dysplasia is suspected, to clarify malabsorption syndrome, cystic fibrosis, celiac disease.

1.Mass screening of newborns for hereditary diseases phenylketonuria, congenital hypothyroidism, galactosemia, cystic fibrosis, adrenogenital syndrome.

The examination is carried out for all newborn children, blood is taken from the heel of the child on a special test form at the maternity hospital. The test form is delivered to the MGK laboratory, where the study is conducted. Newborns at risk are called for an appointment with a geneticist to clarify the diagnosis.

1.ELISA blood serum tests for infections in children and adults:

- herpes simplex virus, type I, II, immunoglobulin M, G

- cytomegalovirus, immunoglobulin M, G, avidity

- rubella virus, immunoglobulin M, G, avidity

- Epstein-Barr virus, immunoglobulin M, G

- toxoplasmosis, immunoglobulin M, G, avidity

1. Immune-allergological studies of blood serum by ELISA in children and adults.

1.Specific immunoglobulin E (food, household, fungal panel)

2. antibodies to helminths, giardia.

3. antibodies to ascarides

9.2. Genital abnormalities in girls, adolescents and young women.

Abnormalities in the development of genital organs usually occur in the embryonic period, rarely in the postnatal period.

Etiopathogenesis: the causes are teratogenic factors acting in the embryonic, possibly fetal and even postnatal periods:

a) external teratogenic factors: ionizing radiation; infection; drugs, especially hormonal; chemical; atmospheric (lack of oxygen); alimentary (irrational nutrition, vitamin deficiency) and other disruptive processes metabolism and cell division

b) internal teratogenic effects - all pathological conditions of the maternal organ, especially contributing to disorders of hormonal homeostasis, as well as hereditary.

Classification of genital abnormalities:

a) by localization (depending on the organ)

b) by severity:

- lungs that do not affect the functional state of the genitals

- average, disrupting the function of the genitals, but allowing the possibility of childbirth

- severe, excluding the possibility of performing childbearing function

The features of malformations of the uterus and vagina depend on the form of the anomaly and may be accompanied by:

1) the absence of menstruation and the impossibility of sexual activity (aplasia of the uterus and vagina)

2) complete delay in the outflow of menstrual blood with the formation of hematocolpos, hematometers (hymen atresia, septum, aplasia of part or all of the vagina with a functioning uterus)

During puberty, developmental disorders are clinically manifested, accompanied by a complete or partial delay in the outflow of menstrual blood. At the same time, pain syndrome is characteristic, the intensity and nature of which have features due to the form of the malformation. With atresia of the hymen, aplasia of a part of the vagina and doubling of the vagina and uterus with partial aplasia of one vagina, recurrent, increasing intensity, aching pains are most characteristic. For girls with aplasia of the entire vagina with a functioning uterus and patients with an additional closed functioning uterine horn, primary cramping pains are more typical, quickly becoming permanent, increasing in intensity. The most severe clinical course is observed in girls with aplasia of the entire vagina with a functioning uterus and in patients with an additional closed functioning uterine horn.

3) unilateral delay in the outflow of menstrual blood with the formation of hematocolpos, hemato meters (additional closed vagina, additional closed uterine horn);

4) habitual miscarriage of pregnancy (intrauterine septum), difficulties with sexual activity (two uteruses, complete or incomplete vaginal septum).

Diagnostics: anamnesis, clinic, detailed diagnostic examination, additional studies (ultrasound, radiography of the pelvic organs in pneumoperitoneum conditions, excretory urography, echography, hysterosalpingography, laparoscopy, etc.)

Aplasia of the uterus and vagina.

Uterine aplasia is often combined with vaginal aplasia - Mayer-Rokitansky-Kuester syndrome, which is characterized by the following signs: the uterus is represented by two rudimentary horns without sewerage, there is vaginal aplasia, primary amenorrhea.

With aplasia of the uterus and vagina, the main complaints are the inability to lead a normal sexual life, the absence of menstruation, accompanied in most patients by the monthly occurrence of pulling pains in the lower abdomen, swelling of the mammary glands, sometimes nosebleeds and headaches.

The diagnosis is established on the basis of a clinic, gynecological examination, ultrasound, laparoscopy.

Treatment: creation of an artificial vagina - colpopoiesis: from the sigmoid colon according to Alexandrov, from a segment of the sigmoid colon according to Gigovsky, from the pelvic peritoneum, using flaps of tissue of the labia minora, bloodless method.

With aplasia of one or two thirds of the lower part of the vagina, the clinical picture manifests itself after the onset of menstruation, is characterized by the presence of pain, rectoabdominal examination in the center of the pelvis reveals a tumor-like formation, sometimes in the form of an hourglass. With a stretched cervix, a common receptacle for menstrual blood is formed (stretched uterus, cervix and vagina), which is palpated in the form of an oval or round formation in the center of the pelvis.

Treatment: surgical, it is reduced to restoring the permeability of the vaginal tube by dissecting the septum, lowering the edges, usually of the stretched vagina and attaching them to the area of the entrance to the vagina

With aplasia of the upper third of the vagina, underdevelopment of the cervix is almost always observed. The earlier occurrence of pain after menarche is characteristic. During rectoabdominal examination, a rounded painful formation is palpated in the center of the pelvis.

Treatment: surgical, during the operation, the uterus is emptied, then, if there is a cervix (in rare cases), an artificial vagina is created; if there is no cervix, emptying

is carried out through an artificially created opening in the uterus. Subsequently, the created hole is obliterated and the hematometer reappears. In such cases, if plastic surgery is not possible, removal of the uterus is indicated.

In some cases, attempts are made to insert a protector into the artificially created cervical canal, but they usually end in failure. After removal of the protector, scarring of the uterine wall occurs and the hematometer reappears.

Atresia of hymen.

Clinic of hymen atresia: with a sufficiently pronounced hematocolposis, there is a swelling of the mucous membrane of the entrance to the vagina of a bluish hue, which is clearly visible when examining the external genitalia, abdominal pain, pulling or cramping, the presence of false amenorrhea, difficulty urinating.

Treatment: surgical - dissection of the hymen with a cross-shaped incision: with Farabeuf hooks, the area of the entrance to the vagina is pushed apart, a cross-shaped incision is made along the most convex part of the hymen, while the contents of the hematocolpos are released from the vagina in the form of a tar-like liquid. The vagina is washed with furacilin solution, then the edges of the incision are sheathed with knobby catgut sutures.

Abnormalities of uterine development.

There are the following types of uterine abnormalities: doubling of the uterus, cervix and vagina; one-horned uterus with a normally developed vagina; two-horned uterus with two necks and a normal vagina; one-horned uterus with a second rudimentary horn and a normal vagina, complete septum of the body and cervix; incomplete septum of the uterine body.

All malformations of the uterus are divided into three groups:

1) with the absence of menstruation and the inability to have sex - with aplasia of the uterus and vagina;

2) with a violation of the outflow of menstrual blood (complete or partial), the formation of hematocolpos, hematometers;

3) without disruption of the outflow of menstrual blood.

Defects that exist without disruption of the outflow of menstrual blood are asymptomatic and are not diagnosed for a long time in women who do not live a sexual life. The main manifestations of these defects are difficulties during sexual activity, infertility or habitual miscarriage.

In the presence of a defect that prevents the outflow of menstrual blood, the picture of the disease unfolds during puberty of the girl, at the beginning of menstruation. Amenorrhea, periodic pain in the lower abdomen are noted. During rectal examination, the presence of a tugoelastic formation in the pelvis is noted.

Treatment: in the absence of an obstacle to the outflow of menstrual blood, treatment of the defect is not carried out. In case of unilateral violation of the outflow of menstrual blood, surgical treatment is performed aimed at removing an additional vagina and a functioning uterine horn. In the presence of an intrauterine septum or a bicornular uterus, which are the cause of infertility, an appropriate operation is performed.

9.3. Mayer-Rokitansky-Kuster-Hauser syndrome

With this syndrome, the main complaint of patients is the lack of menstruation, which girls treat at the age of 15-16.

Examination of the patient usually establishes the correct physique, sufficiently developed secondary sexual characteristics. When examining the external genitalia, there is no entrance to the vagina or, if there is an opening in the hymen, a shallow fossa behind the hymen. During rectoabdominal

examination, the uterus is not detected, during ultrasound scanning, ovaries are found in the pelvis and the uterus is not detected.

The treatment is to create a vagina. The neovagal is more often created surgically from the peritoneum, skin, a segment of the intestine or using synthetic materials. Less often, a non—surgical method is used - the method of colpoelongation. In our country, the method of colpoelongation by Sherstnev is widespread. Gynecologists of adolescence prefer the method of prolongation as the least traumatic, which allows gradually lengthening the vagina. In the same cases, when a girl gets married, an operative method of colpopoiesis should be chosen.

Tests

1. The duration of the normal menstrual cycle:

A. 28-29 days

B. 28-40 days

C. 3-7 days

D. 21-35 days

E. 14-28 days

2. Duration of normal menstruation:

A. 1-3 days

B. 3-5 days

C. 3-7 days

D. 5 days

E. 2-10 days.

3. Average blood loss during normal menstruation:

A. 200-250 ml

B. 100-150 ml

C. 20-30 ml

D. 50-70 ml

E. 150 – 200 ml

4. Desquamation of the functional endometrium occurs due to:

A. A ”peak” release of luteotropin

B. a decrease in the level of estrogens and progesterone in the blood

C. a decrease in the level of prolactin in the blood

D. ”peak” release of follitropin

5. The main criterion of a two-phase menstrual cycle is:

A. the correct rhythm of menstruation

B. the time of the onset of the first menstruation

C. the peculiarity of the formation of menstrual function during puberty

D. ovulation

E. all of the above

6. Which of the functional diagnostic tests indicates the presence

of a two-phase menstrual cycle?:

A. pupil symptom

B. karyopycnotic index

C. basal thermometry

D. "fern" symptom

E. All of the above

7. The basal temperature measurement test is based on the hyperthermic effect:

A. estradiol

B. prostaglandins

C. progesterone

D. LH

E. FSH

8. The ”peak” of luteotropin in the middle of the menstrual cycle is a consequence of:

A. a significant increase in prolactin levels in the blood

B. a decrease in follitropin production

C. a decrease in gonadotropin-releasing hormone production

D. a decrease in estrogen and progesterone levels

E. a significant increase in estradiol levels.

9 Cyclic secretion of luteotropin and follitropin is provided:

A. by the release of gonadotropin-releasing hormone once every 60-90 minutes

B. by the mechanism of negative and positive feedback with steroidogenesis in the ovary

C. by periodic increase in prostaglandin content in follicular

fluid

D. by periodic release of neurotransmitters

E. by changes in blood flow in the portal system of the pituitary gland

10. The synthesis of gonadotropins is carried out in:

A. the anterior lobe of the pituitary gland

B. the posterior lobe of the pituitary

gland C. nuclei of the hypothalamus

D. neurons of the cerebral cortex

E. cerebellar neurons

11. Oligodysmenorrhea is:

A) rare and poor menstruation

B) rare and painful menstruation

C) reduction of blood loss during menstruation

D) intermenstrual scanty spotting

E) none of the above

12. Menorrhagia is:

A) acyclic uterine bleeding

B) cyclic uterine bleeding

C) painful and profuse bleeding

D) pre- and postmenstrual spotting

E) decrease in the duration of the menstrual cycle

13. Metrorrhagia is:

A) a change in the rhythm of menstruation

B) an increase in blood loss during menstruation

C) an increase in the duration of menstruation

D) acyclic uterine bleeding

E) reduction of menstruation

14. The most common mechanism of development of dysfunctional

uterine bleeding in the juvenile period is:

A) hypolyuteinism

B) follicle persistence

C) follicle atresia

D) hyperprolactinemia

E) disorders in the blood coagulation system

15. The anovulatory menstrual cycle with short

-term persistence of a mature follicle is characterized by:

A) a "pupil" symptom (+++)

B) a single-phase basal temperature

C) in endometrial scraping in the second phase of the cycle, the late phase of proliferation

E) all of the above

F) none of the above

16. Anovulatory dysfunctional uterine bleeding

must be differentiated:

A) with pregnancy (progressive)

B) with spontaneous miscarriage that has begun

C) with submucosal uterine fibroids

D) correct answers 2) and 3)

E) all answers are correct

17. False amenorrhea may be caused by:

A. atresia of the cervical canal;

B. aplasia of the uterine body;

C. gonadal dysgenesis;

D. all the diseases listed above;

E. none of the diseases listed above;

18. True (pathological) amenorrhea can be a consequence of all

the following diseases, except:

A. hypothyroidism;

B. neurogenic anorexia;

C. testicular feminization syndrome;

D. hymen atresia;

E. micro- and macroadenomas of the pituitary gland;

19. Physiological amenorrhea is characteristic of:

A. the period of childhood;

B. postmenopause;

C. lactation period;

D. pregnancy;

E. all answers.

20. The presence of ovulation can be judged by the results of all

the studies listed below, except:

A. analysis of the basal temperature graph

B. ultrasound monitoring of the development of the dominant follicle

C. Histological examination of endometrial scraping

D. laparoscopy (detection of stigmas on the surface of the ovary)

E. determination of the concentration of sex steroid hormones in the blood on the 12th-14th

day of the menstrual cycle

1	2	3	4	5	6	7	8	9	10
D	B	D	B	D	C	C	E	B	A

11	12	13	14	15	16	17	18	19	20
B	B	D	C	D	D	A	D	E	E

Glossary

1. Abortion - termination of pregnancy before the fetus is able to survive outside the uterus

2. Adenomyosis is a common disease of the uterus when endometrial tissue grows in the muscular layer of the uterus

3. Amenorrhea - the absence of menstruation in a woman for several cycles

4. Anemia - insufficient number of red blood cells in the body

5. Aplosia is the complete absence of development of any organ or tissue in humans

6. Bartholinitis - inflammation of the Bartholini glands in the vagina

7. Vaginal dysbiosis is a violation of the vaginal microflora

8. Vaginitis - inflammation of the vaginal mucosa

9. Vulvitis - inflammation of the vulva

10. Endometrial hyperplasia - thickening of the endometrial layer in the uterus

11. Uterine hypertonus - increased tension of the uterine muscles

12. Hormone therapy - treatment using hormones

13. Dysmenorrhea - painful menstruation

14. Cervical dysplasia - changes in cells on the surface of the cervix

15. Excretion - excretion of a liquid or substance from the body

16. Extragenic factors - factors contributing to the development of breast cancer

17. Endometriosis is a disease in which endometrial-like tissue grows outside the uterus

18. Endometritis - inflammation of the endometrium

19. Diseases of the genital organs - pathologies associated with the organs of the reproductive system

20. Breast diseases - pathologies related to the mammary glands

21. Diseases of the cervix - pathologies associated with the cervix

22. Ovarian diseases - pathologies related to the ovaries

23. Genital infections - diseases caused by infectious agents

24. Infertility - the inability to conceive a child

25. Colpitis is an inflammation of the mucous membrane of the vagina

26. Lactation is the process of milk production and excretion in women after childbirth

27. Leukorrhea - vaginal discharge, often associated with infections or inflammation

28. Smear on flora - analysis of secretions to determine the microflora of the vagina

29. Mammography - X-ray examination of the mammary glands

30. Mastalgia - soreness or discomfort in the chest

31. Menstrual disorders - deviations from the normal course of the menstrual cycle

32. Ovulation is the process of egg release from the ovary

33. Pap test (cytological examination) is a method of screening for cervical cancer

34. PMS (premenstrual syndrome) - physical and emotional symptoms before the onset of menstruation

35. Sexual infections - sexually transmitted infections

36. Postcoital contraception (postcoital contraception) is a method of preventing pregnancy after sexual intercourse

37. Pre-pregnancy preparation - preparation for pregnancy

38. Habitual miscarriages - repeated pregnancy losses in the early stages

39. Contraceptives - methods of preventing pregnancy

40. Genital cancer - oncological diseases of the reproductive system

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