Kharkiv National Medical University

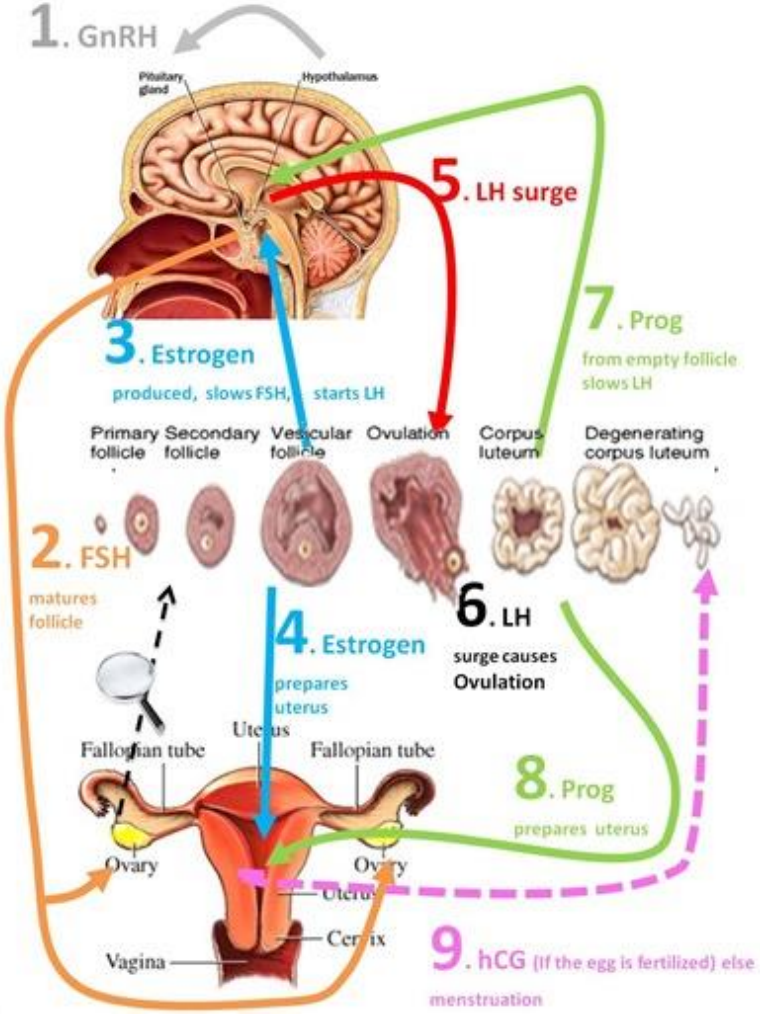
Disorders of menstrual function.

Department of Obstetrics and Gynecology, number 1

Menstruation

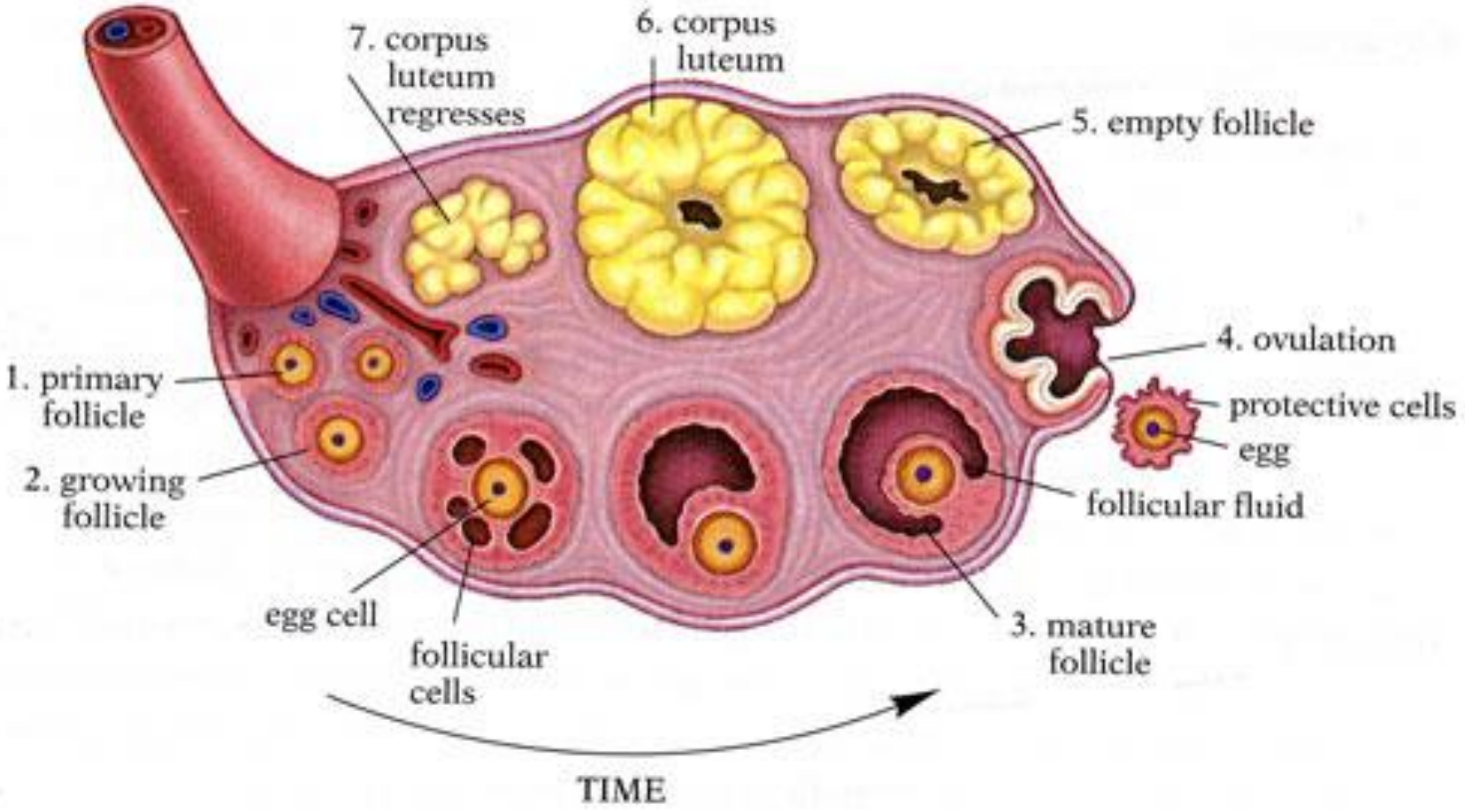
is the visible manifestation of cyclic physiological uterine bleeding due to shedding of the endometrium following invisible interplay of hormones mainly through hypothalamo-pituitary-ovarian axis.

The hypothalamus – pituitary – ovary – uterus GnRH – gonadotropin-releasing hormone, FSH – follicle stimulating hormone, LH – luteinizing hormone.

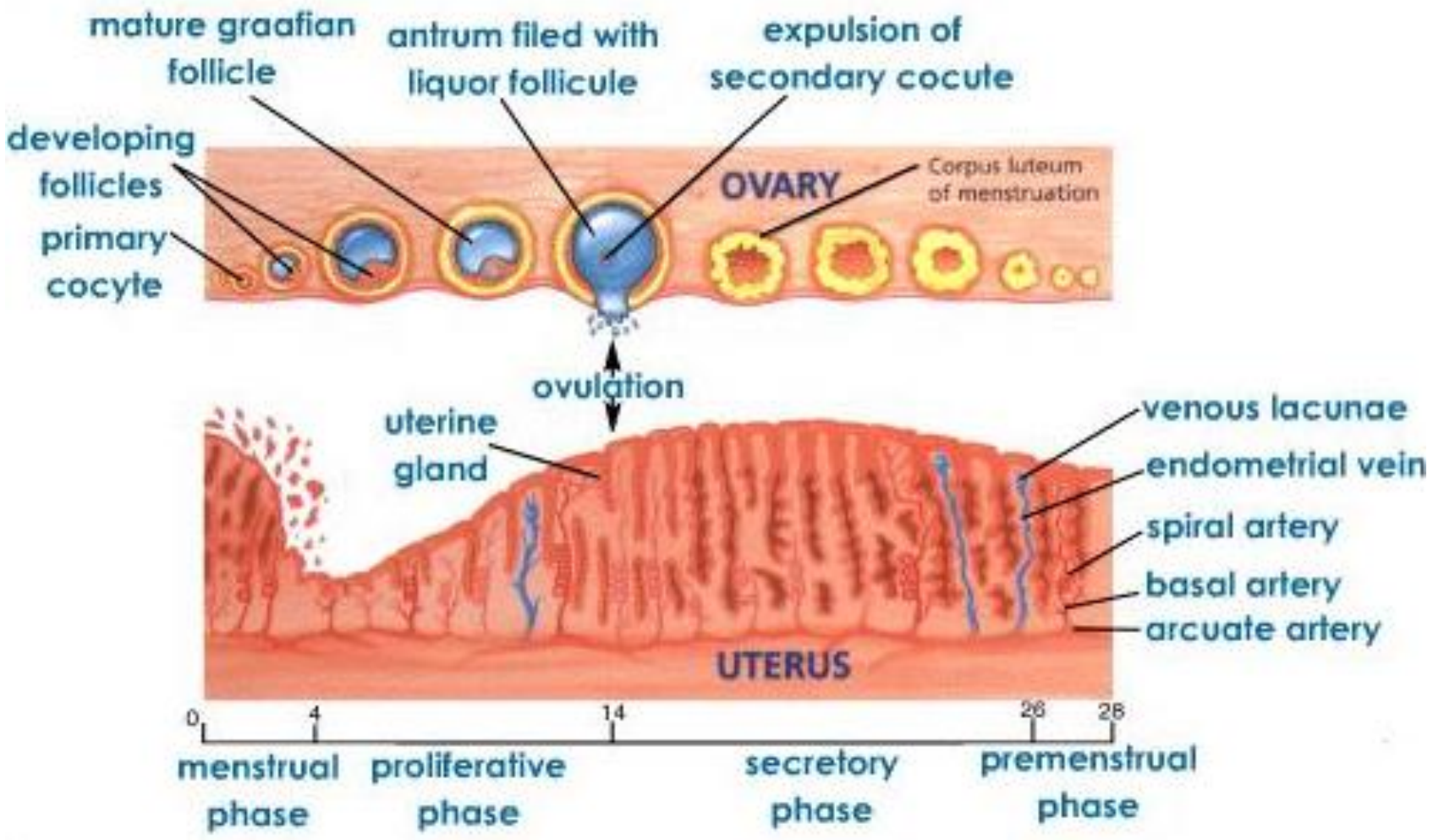


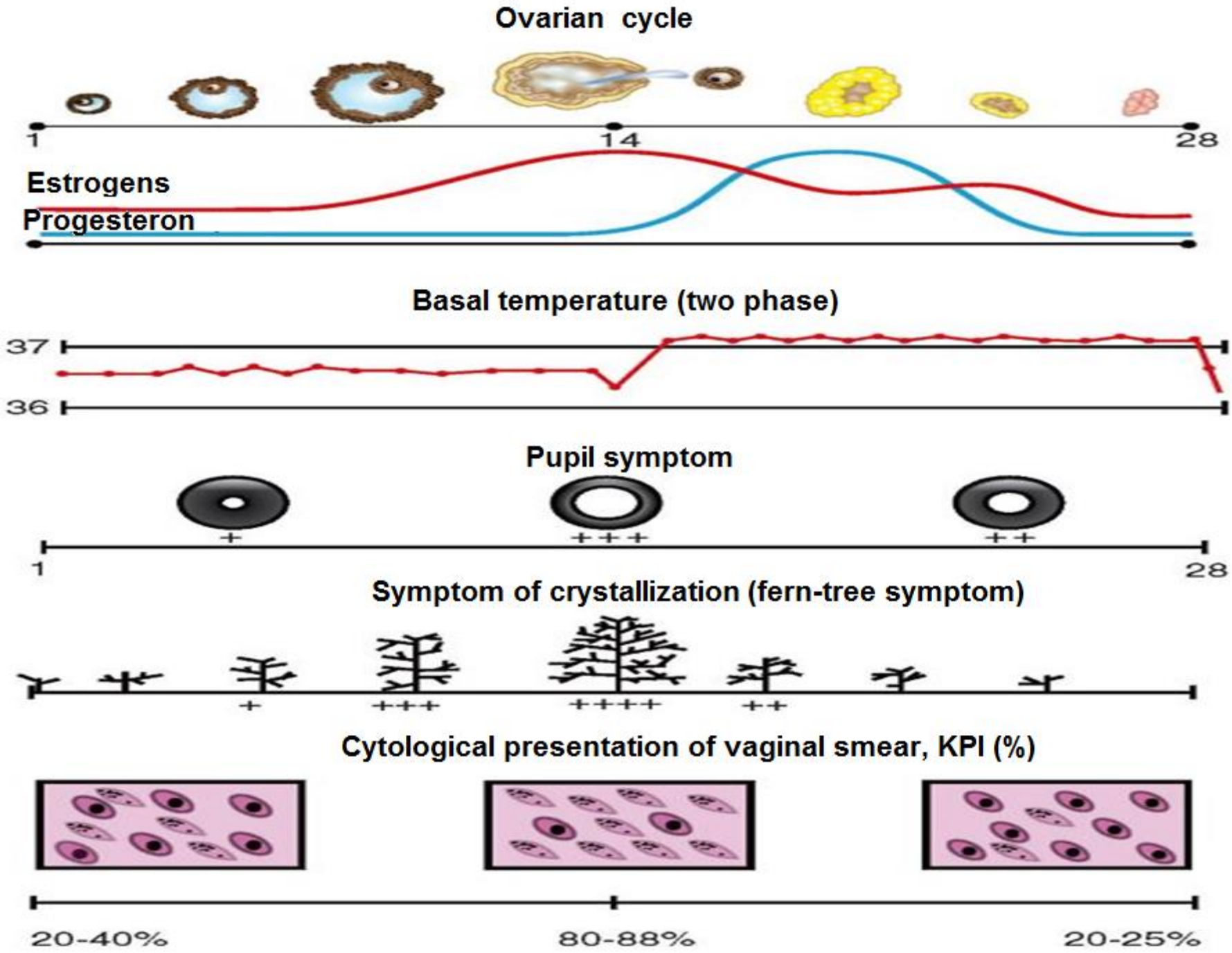
- The period extending from the beginning of a period (mens) to the beginning of the next one is called menstrual cycle .
- Once the menstruation starts, it continues cyclically at intervals of 21-35 days with a mean of 28 days. The duration of menstruation is about 3-7days (average 3-5)days and the amount of blood loss is estimated to be 50to150 ml.

Cyclic changes in the ovary

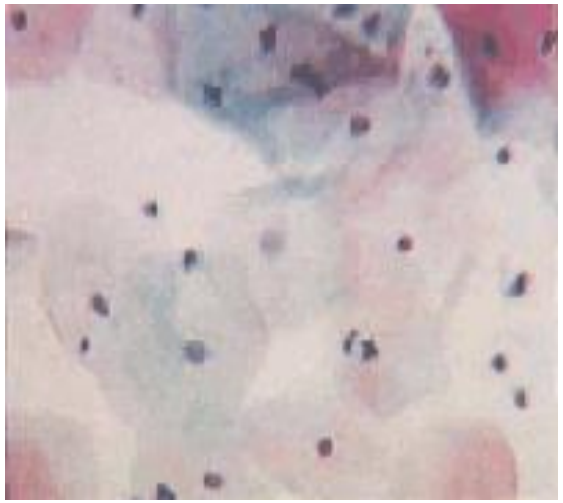


Menstrual cycle

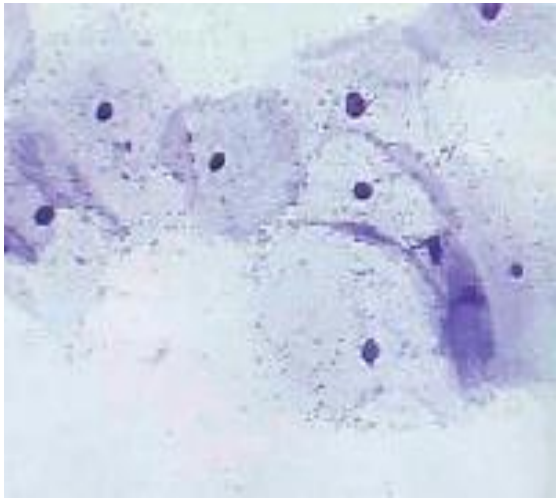



Ovarian cycle
1
14
28
Estrogens
Progesteron
Basal temperature (two phase)
37
36
Pupil symptom
+
+++
++
1
28
Symptom of crystallization (fern-tree symptom)
+
+++
++++
++
Cytological presentation of vaginal smear, KPI (%)
20-40%
80-88%
20-25%

Colpocytology



The proliferative phase: in the smear there are intermediate and superficial cells. The cytoplasm of most cells is cianophilic. Papanicolaou's staining



Ovulatory phase: cells are fragmented and in small clusters. The cytoplasm of light. Staining with Romanovsky.

The secretory phase: superficial and intermediate cells from immature (blue-green) and mature cytoplasm (pink color with glycogen granules). Papanicolaou's staining

Classification of menstrual function violations. (The main clinical forms of violations)

I. amenorrhea
II. uterine bleeding
III. algodysmenorrhea

The etiology of menstrual disorders

-Psycho-emotional and physical stress.

-Nerve (some forms of epilepsy) and mental (schizophrenia, traumatic, senile, alcoholic psychosis) diseases.

-Hyper-and hypothermia / overheating and overcooling / insolation / being under the sun /.

-Nutritional / food / failure

-Acute infectious (including childhood infections) and septic diseases , acute and chronic physical / non-gynecological/ diseases. Oligo-and hypomenorrhea, at least - metrorrhagia or amenorrhea occur in tuberculosis of genitalia most often, (amenorrhea often seen in lesions of the uterus and appendages).

-Inflammatory diseases of the pelvic organs.

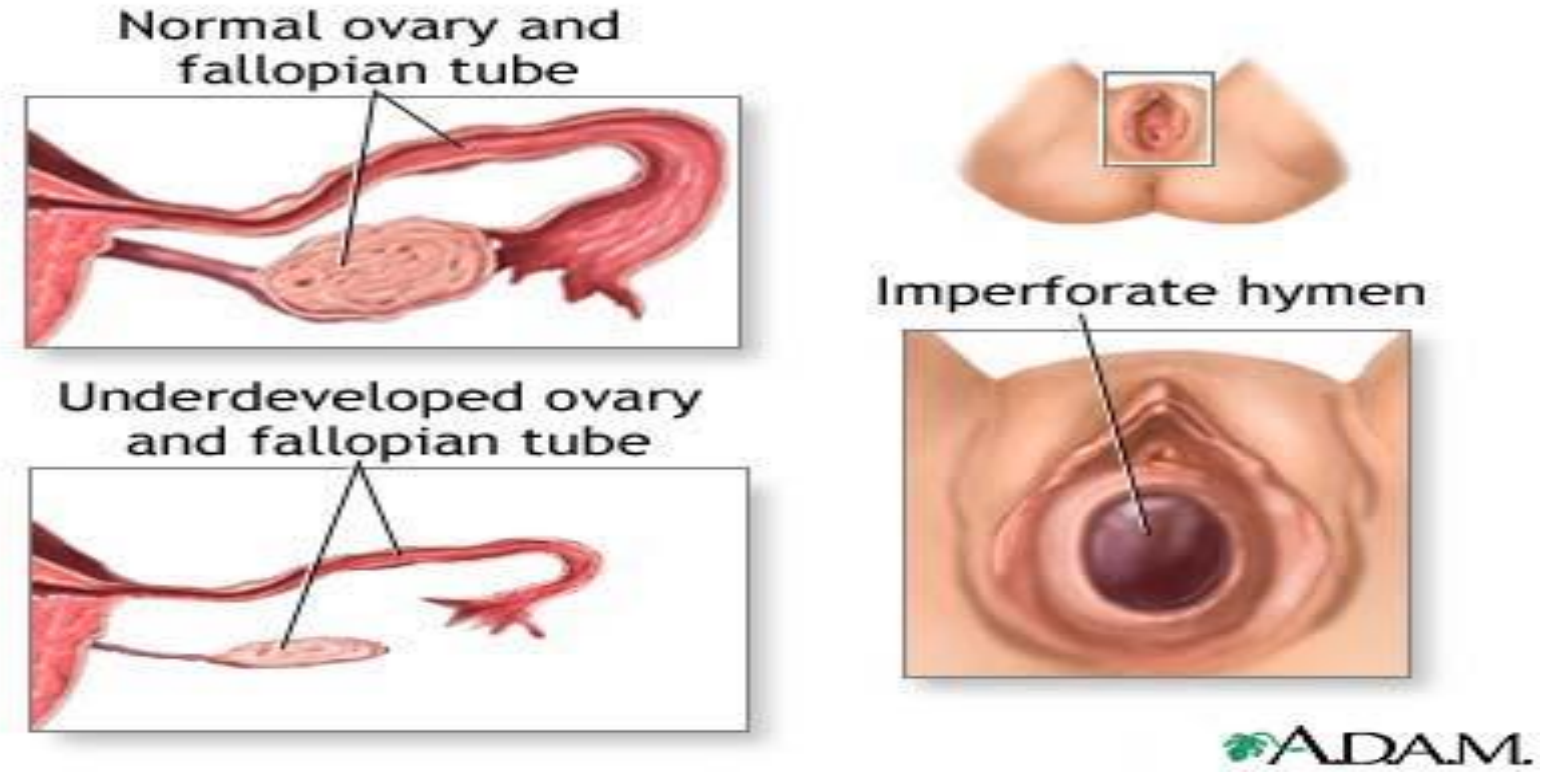
-Gynecological surgery. Amenorrhea after curettage of the uterus due to the removal of basal layer of the endometrium or the formation of intrauterine adhesions. Amenorrhea may occur when atresia / imperforate / cervical canal after electrocoagulation .

The etiology of menstrual disorders

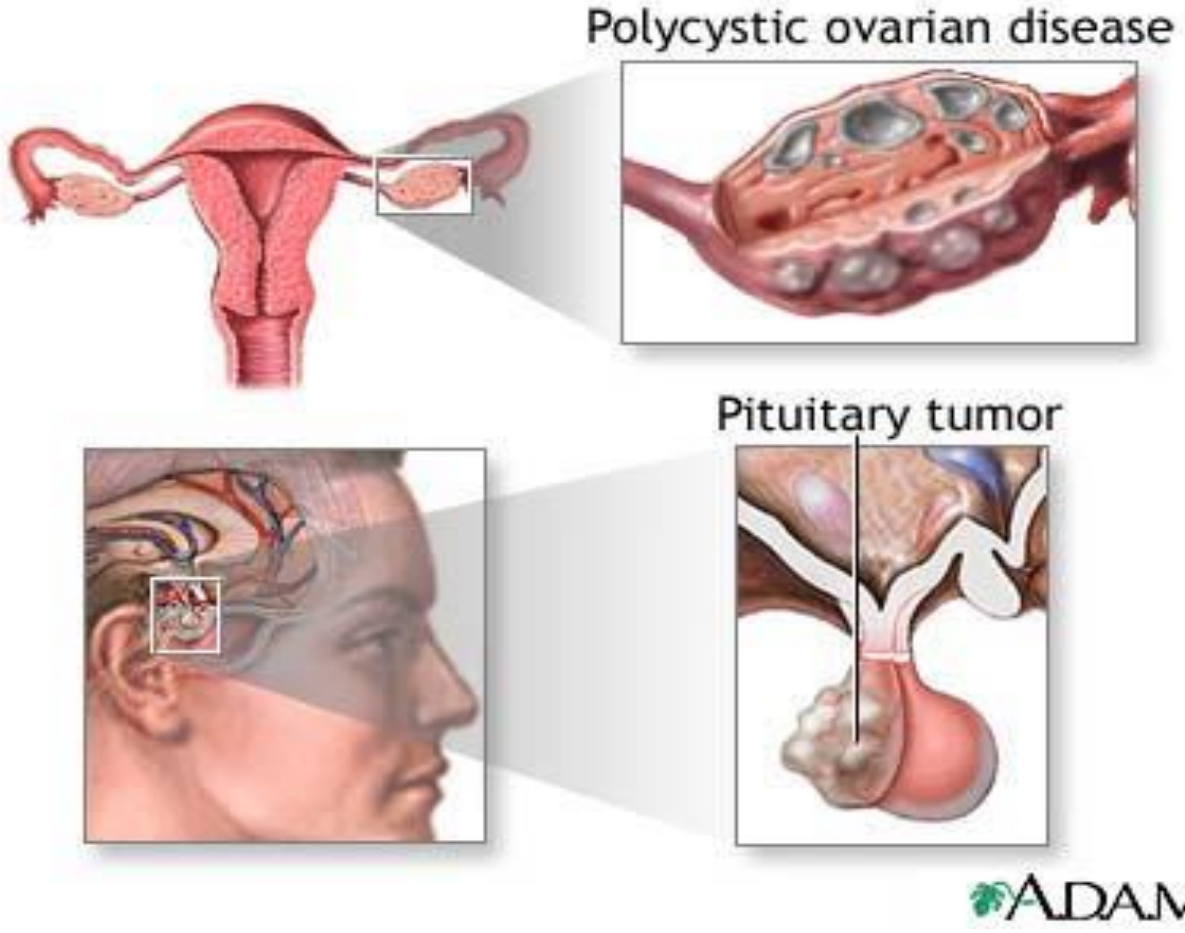
- Endocrine diseases including obesity of different etiology.
- Disorders of coagulation (liver disease, blood).
- Hypertensive heart disease.
- Involutional alteration of hypothalamic centers in pre-climacteric period and menopause.
- Genetic factors.
- Parasitic diseases.
- Trauma of urinary tract (fistula).
- Brain tumors (pituitary adenoma, craniopharyngioma, the tumor III ventricle).
- Professional hazards

Amenorrhea – the absence of menstruation within 3 months and more

Primary amenorrhea



Secondary amenorrhea



-hypermenorrhoea - increase the amount of blood during cyclic bleeding at its normal duration;
-menorrhagia - a significant increase the amount of blood during menstruation up to 12 days;
-hypomenorrhoea - scanty menstruation , begin in term;
-polymenorrhoea - menses lasting longer than 7 days;
-oligomenorrhea - short (1-2 days) , recurrent menstruation;
-proiomenorrhea - shortening of the duration of the menstrual cycle (less than 21 days);
-opsomenorrhea - rare menstruation at intervals of 36 days to 3 months.

Classification of amenorrhea:

Physiological (true) amenorrhea

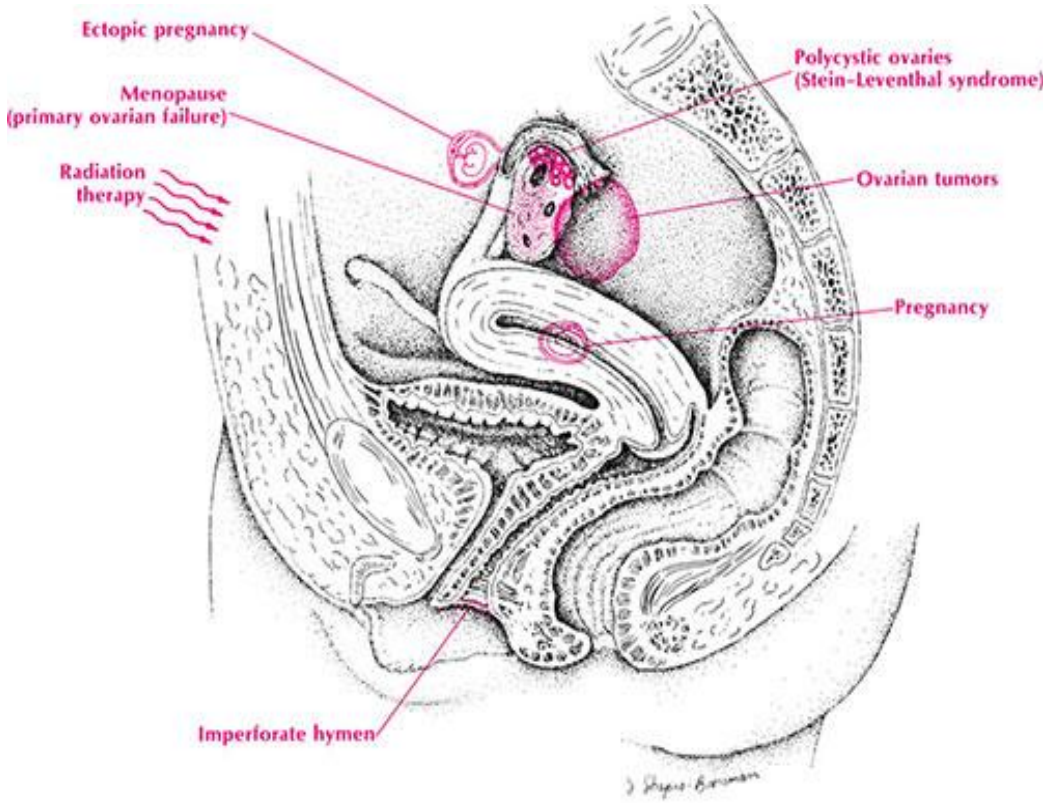
childhood	PREGNANCY	lactation	MENOPAUSE

Pathological amenorrhea

Due to anatomically factors (defect or lack of uterus or vagina)	Due to endocrine factors

hypomenstrual syndrome

menstrual disorders characterized by poor / hypomenorrhea / short / oligomenorrhea and / rare / opsomenoreya / menses.



Hypermenstrual syndrome

menstrual disorders, characterized by abundant / menorrhagia / long / polymenorrhea / and frequent / proiomenorrhea / menses.

Primary true pathological amenorrhea

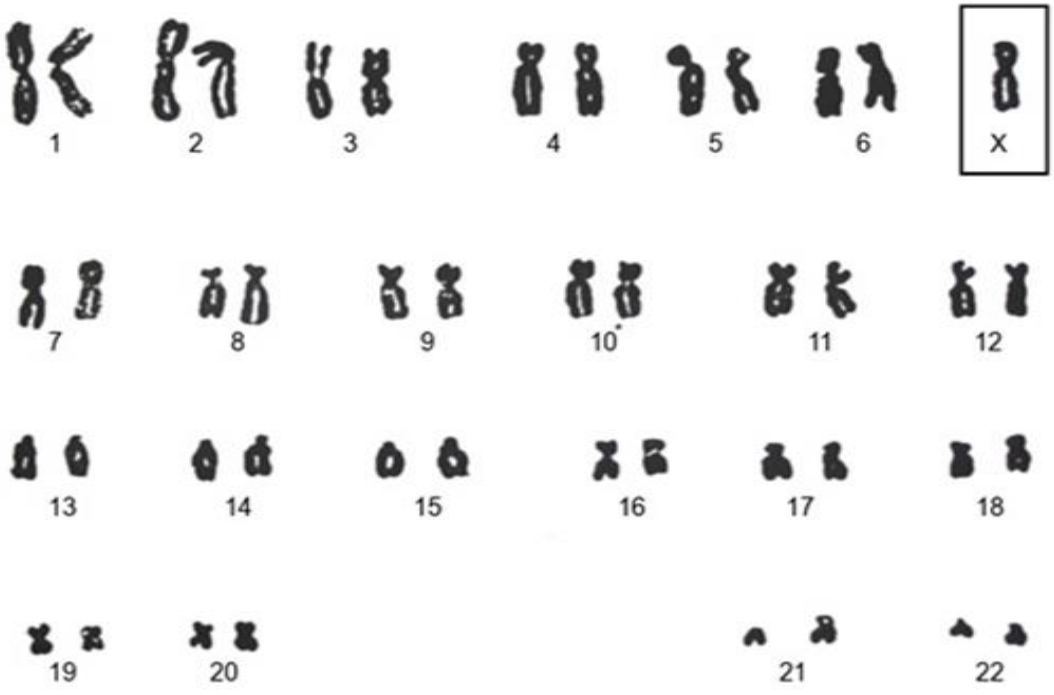
1)The gonads dysgenesia;

2)Syndrome of testicular feminization (Morris syndrome or false male hermaphroditism)

3)Primary hypofunction of ovaries (syndrome of resistant ovaries)

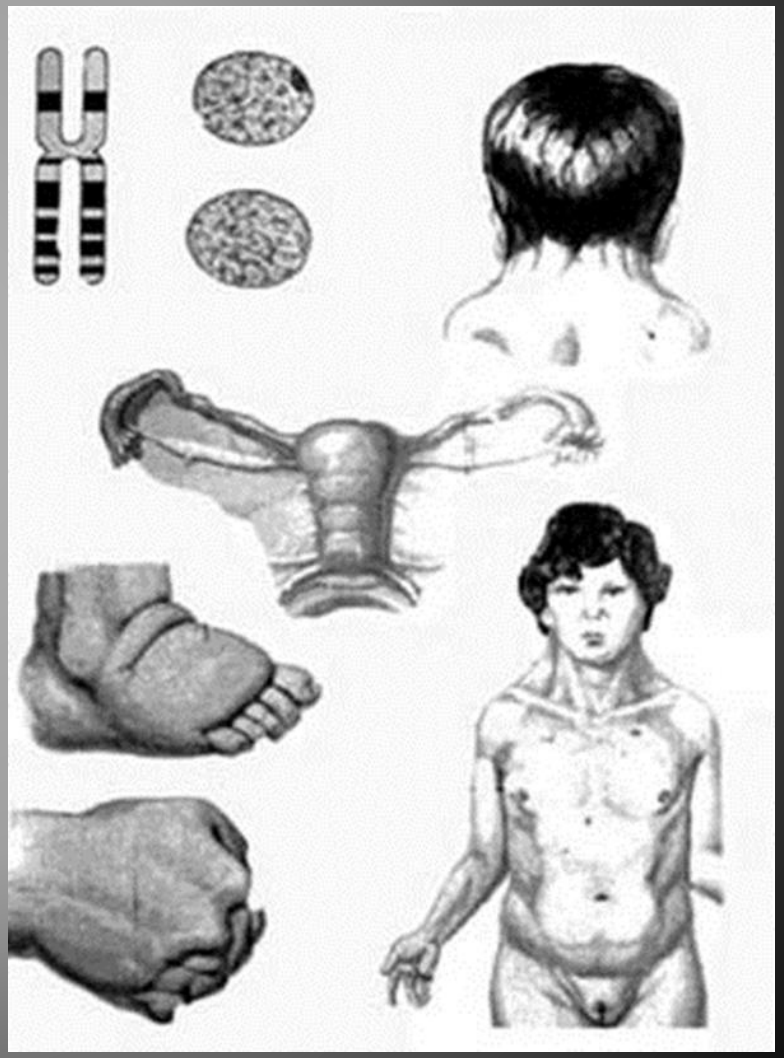
Shereshevsky – Turner's syndrome

In 1938, Turner singled characteristic symptom of this triad of symptoms: sexual infantilism, wing-skin folds on the sides of the neck and elbow strain. The etiology of the disease (monosomy for the X chromosome) was discovered in 1959 Ch.Fordom



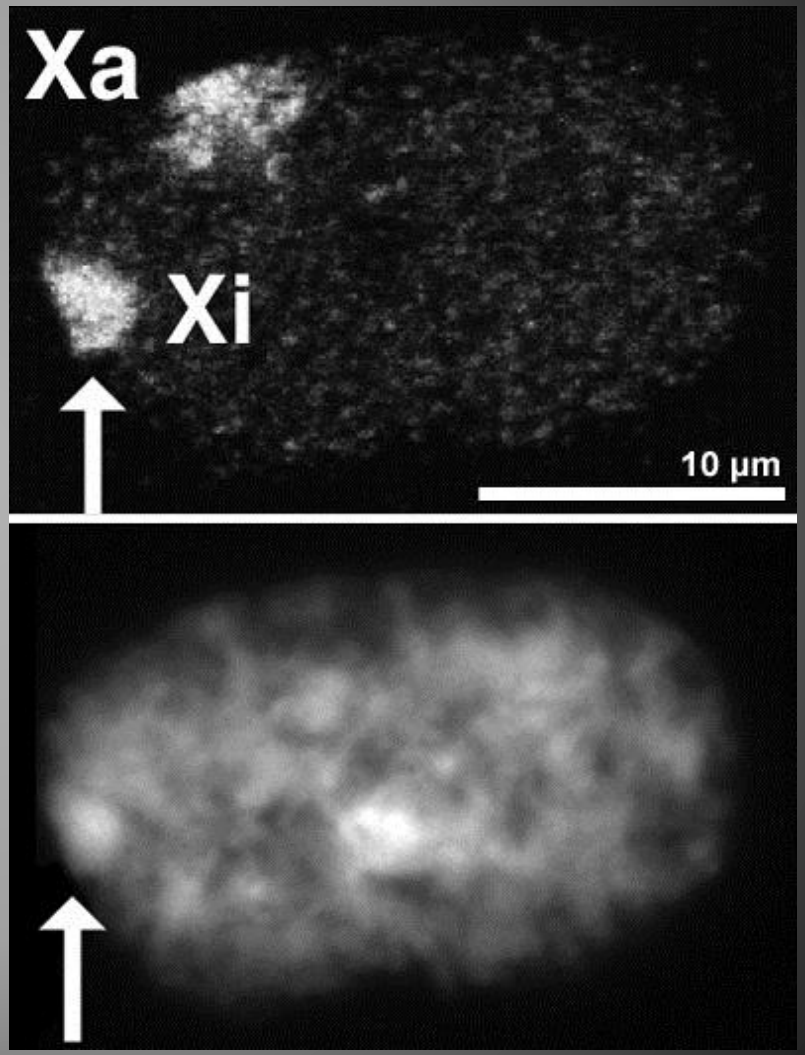
signs of a lesion of the reproductive system:

- Mammary glands in the majority of patients are not developed, low nipples.
- The secondary body hair appears spontaneously and sometimes scanty.
- The uterus is underdeveloped.
- Sex glands are usually undeveloped and presented by connective tissue. Gerodermia (abnormal skin atrophy, resembling senile)
- Scrotum-like view of the labia majora,
- high perineum
- hypoplasia of the labia minora, the hymen and clitoris
- a funnel-shaped entrance to the vagina.



diagnosis

- Determination of sex chromatin
- Karyotype.
- The differential diagnosis is carried out with nanism (dwarfism), which is carried out to eliminate the determination of pituitary hormones in the blood, especially gonadotropins.



A general view of patients

- two-way membrane neck;
- growth of hair on the lower border of the neck;
- dissociated infantilism
- primary amenorrhea;
- low or dwarf height with a proportional increase in delayed ossification of the cartilage of the epiphyseal zone;
- excessive distance between the nipples.
- languid face, drooping eyelids and the corners of the mouth (the "face of the sphinx").
- agenesis or gonadal dysgenesis

Рисунок 13. Больная 14 лет. Синдром Шерешевского-Тернера. Крыловидные складки на шее "голова сфинкса"

Рисунок 16. Больная 13 лет. Синдром Шерешевского-Тернера. Низкий рост, отсутствие вторичных половых признаков

Рисунок 17. Больная 13 лет. Синдром Шерешевского-Тернера. Первичная аменорея, отсутствие вторичных половых признаков

Рисунок 14. Больная 14 лет. Синдром Шерешевского-Тернера. Крыловидные складки на шее "голова сфинкса", низкий рост волос

treatment of the patients

Reconstructive surgery (birth defects of the internal organs)

Plastic surgery (removal of the wing-folds, etc.)

hormonal treatments

psychotherapeutic

Feminizing testes syndrome syndrome (Morris)

46-XY

TESTIS

Testosterone

Absent of 5-∝-reductase

The lack of testosterone receptors

Women's-external sexual organs

Men's-testes

Рисунок 6. Больная 4 года. Синдром тестикулярной феминизации. Тестикулы ра
положены в губо-мошоночных складках

Primary hypofunction of ovaries (eunuchoidism)

Caused by such factors as infectious-toxic diseases, tumors.

Clinical presentation

Amenorrhea or hypomenstrual syndrome, underdevelopment of secondary sexual signs, hypoplasia of external and internal sexual organs.

Diagnostic

Estimation of gonadotropins in the blood and sexual steroids. Increase level of FSG and LG on the background of hypoestrogenia.

USE

Laparoscopy

Primary pathological true amenorrhea caused by extragonadal factors

1) The congenital adrenogenital syndrome
2) Lesions of CNS and hyp-hyp area
3) Destruction of endometrium

Adrenogenital syndrome

Is the disease that developed by reason of adrenal glands cortical layer hyperfunction. It is followed by increasing in fetal organism androgens and causes the formation of female genitals according to the masculine type.

Clinical presentation

The period of puberty begins at the age of 6- 7 and it is followed by virilization signs- hair growth, forming of skeleton and body building according to masculine type. Children are of a low height, lower extremities are short because of the early epiphysar cartilage closing.

Amenorrhea and infertility in girls.

Treatment are glucocorticoid hormones (Prednizolone, Cortisone, Dexametazone) are prescribed to decrease androgens production by adrenal gland.

Secondary true pathological amenorrhea

- ✓Hypothalamic
- ✓Hypophysial
- ✓Ovarian
- ✓Uterine

The Kiary-Frommel syndrome

- The Kiary-Frommel syndrome It is lesions of hypothalamic centres, producting Prolactin inhibiting releasing -factor. It causes the rise of Prolactin secretion that inhibits FSH production in its term. Due to this lowering of estrogens amount, amenorrhea, and further -atrophy of external and internal genitalia. The basic symptom is: galactorea that begins after delivery

Diagnosis is based on symptomatics

- X-ray examination of Turkish saddle
- CT
- Examination of acuity and field of vision
- Determining of sexual hormones in blood (rising Prolactin,lowering of Folitropin level)
- Cytological research of vaginal smear (lowering of estrogens amount)

Treatment

- Parlodel (Prolactin inhibitor) 2,5-5 mg per day during 6 months
- Camphora 0,1g three times a day
- Bromcamphora - 0,25-0,5g 2-3 times a day orally.

syndrome Shihena

postpartum hypopituitarism, an aggregation of pathological symptoms occurring as a result of necrosis / death / 50-90% of the anterior pituitary tissue / adenohypophysis / with massive blood loss (800 mL), or incomplete compensation of blood loss during childbirth and septic complications (sepsis, bacterial shock), accompanied by a spasm and thrombosis of the adenohypophysis.

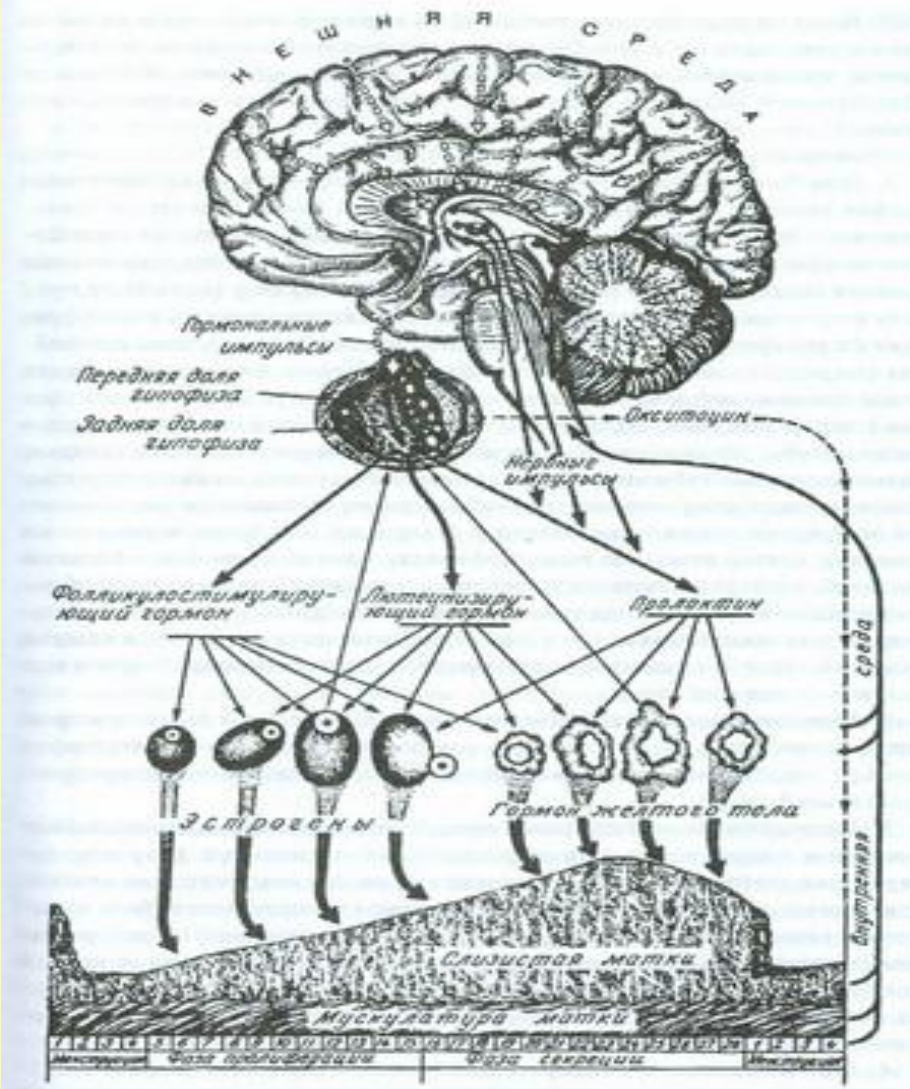


Схема 1.

symptoms

Symptoms of deficiency of the anterior pituitary: atrophy of the external and internal genitalia, amenorrhea, uterine hypoplasia, frigidity; decreases and disappears pubic and axillary hair growth, eyebrows fall out, it decreases the production of sweat and sebum, the skin becomes thinner, the thyroid gland atrophies decreased basal metabolic rate, and reduced body temperature (less thermolability with paroxysmal hyperpyrexia), spontaneous hypoglycemia, increased insulin sensitivity, psychological weakness, mild anemia, an increased amount of cholesterol in the blood, hypochloremia and hyponatremia, a reduced allocation of 17 -keto- and 11 - oxysteroids and gonadotropin in urine.

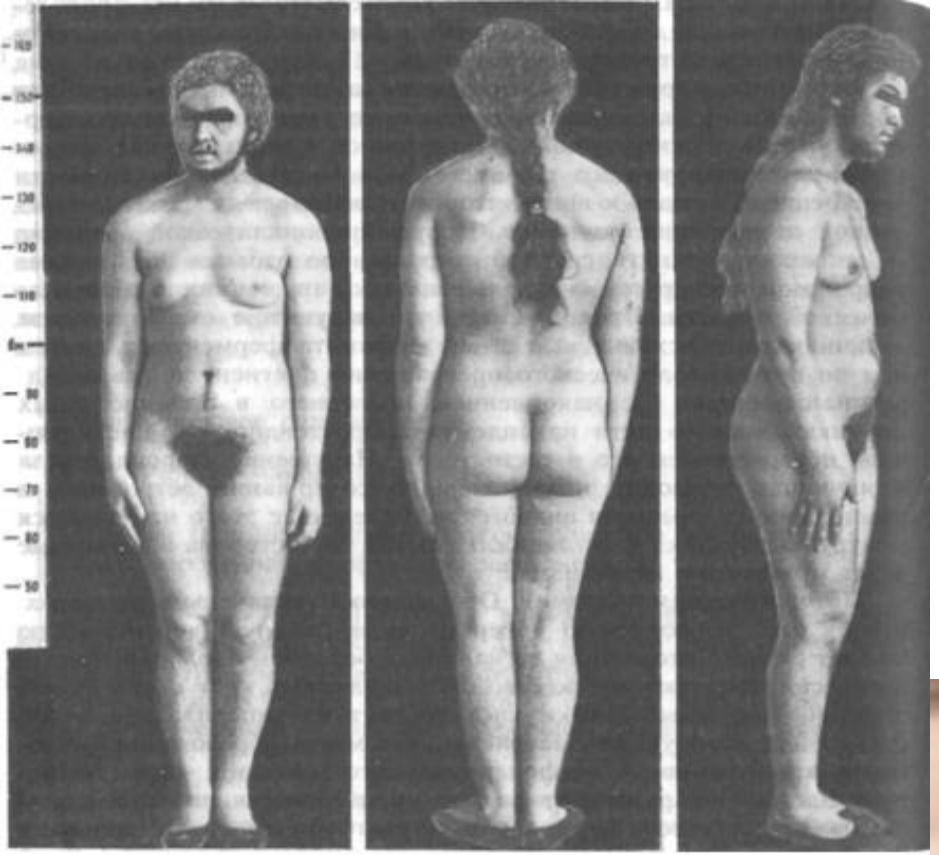


Рис. 61. Синдром Штейна—Левентала у девушки 16 лет.

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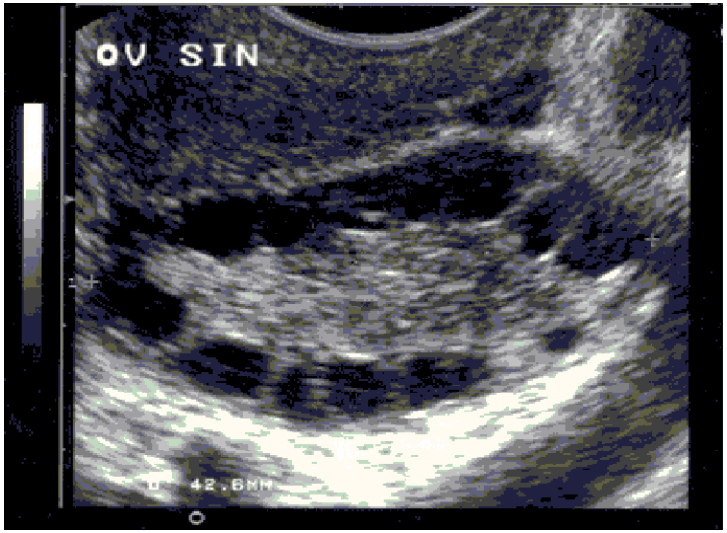
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CLINICAL DIAGNOSTIC CRITERIA:

- TIMELY menarche (12-13 years)
- Menstrual irregularities: Oligomenorrhoea with menarche)
- Hirsutism with menarche
- OBESITY
- Primary infertility

DIAGNOSIS:

1. Macroscopic characteristics:

a) The enlargement of the ovaries in 2-6 times
with multiple cyst follicles

b) the smoothed surface of the ovary,
dense capsule, whitish, pearl
shades

c) tree-like small vessels on the capcule

d) on the cut: CAPSULE thickened, STROMA TIGHT
With the peripheral location of
small follicles

DIAGNOSIS:

2. Morphological criteria:

a) HYPERPLASIA of the stroma
b) HYPERPLASIA of the theca cells in the follicle

DIAGNOSIS:

3. Hormone tests:

a) ↑ LG 10 IU / l
b) ↑ LH / FSH> 2.5

c) ↑ 17-KS in the urine (slightly)

Antiandrogen therapy in treatment of PCOS

Anti-androgens
PREPARATIONS

cyproterone
Anrokur
Diane-35

spironolactone
veroshpiron

dienogest
Janine (Valletta)

drosperinone
Yasmin (Yasmin)

INDICATIONS

hirsutism
±
menstrual Dysfunction

TREATMENT:

2 . Stimulation of ovulation :

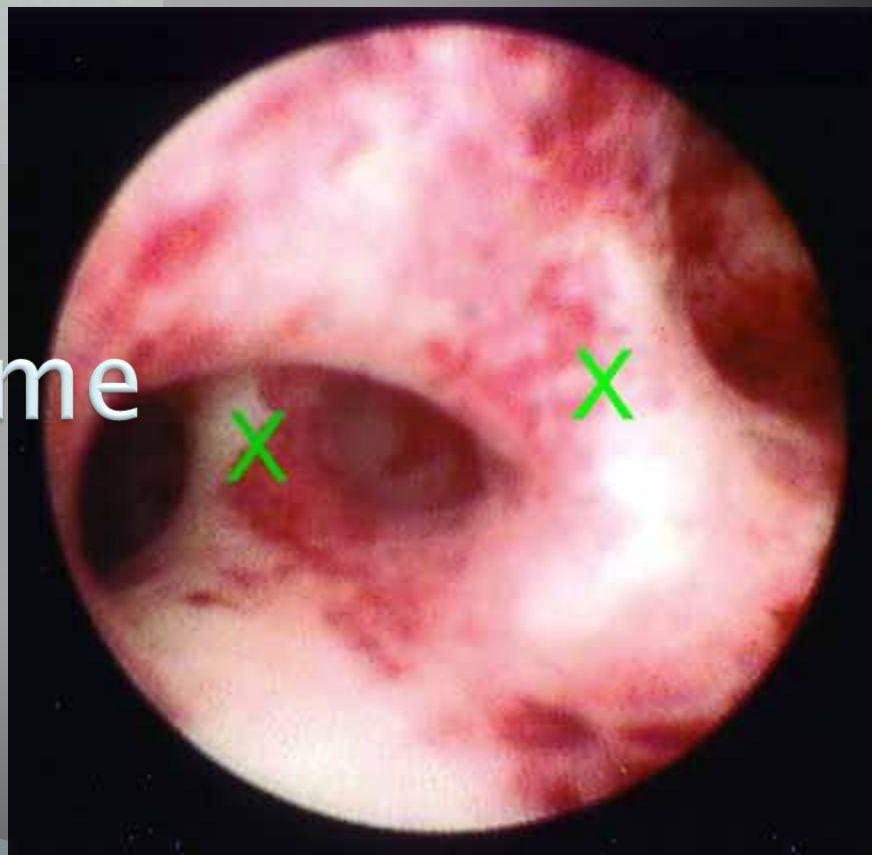
a) Clomiphene (ovulation in 40-80 % pregnancy
2 times lower)

b) gonadotrophin preparations (3.75 IU menogon
on day 2 of the menstrual cycle , increasing
daily at 37.5 (6 days) , the maximum dose of 225 IU
When a mature follicle - Pregnil 5000 IU or
HORAGON 5000 IU

c) aGnRH , then ovulation induction

d) Surgical stimulate ovulation -
Resection , cautery of the ovaries (ovulation
from 64 to 92 % , pregnancy 55-85 %).

Asherman's syndrome



uterine bleeding

Pubertal uterine bleeding

Dysfunctional uterine bleeding in the reproductive age

menopausal bleeding

II. uterine bleeding

Anovulatory (metropathia), appearing in the middle of the menstrual cycle with the absence of ovulation – release of an egg; Meyer's disease, Schroeder disease

Ovulatory (metrorrhagia): persistence of the corpus luteum, luteal phase defect

III. Algomenorrhea – painful menstruation.

painful menstruation, accompanied by general vegetative neurotic disorders.

Menopause

- There are pathological symptoms that develop as a result of estrogen deficiency due to the fading of hormone ovarian function.

- Climacteric syndrome occurs usually during perimenopause, but sometimes prolong for 10 to 20 years after menopause. It occurs in 80% of women.

Premenstrual syndrome

collection of pathological symptoms cyclically occurring before menstruation and disappear within a few days after it.

Classification PS ,Smetnik (1987) distinguish four forms of PMS

- Neuropsyphic;
- Edematous;
- Cephalgic;
- Crisis form.

post-castration syndrome

Combination of pathological symptoms that develop as a result of estrogen deficiency after the removal of the ovaries. At its reason for the same as menopausal syndrome, but arising after 1-2 years (depending on the age of the woman) after surgery.

Neuroendocrine syndromes:

- Neurometabolic-endocrine syndrome
- Premenstrual syndrome (PMS)
- Menopausal syndrome
- Post-castration syndrome
- Shikhane's syndrome
- Virile (adrenogenital and the Stein-Levental's syndrome)
- The Kiary-Frommel syndrome

Thank you for your attention!