

MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY

Department of Obstetrics and Gynecology

APPROVED

Vice-rector for scientific and pedagogical work

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METHODOLOGICAL RECOMMENDATIONS
FOR PRACTICAL CLASSES
ON THE ACADEMIC DISCIPLINE
“OBSTETRICS AND GYNECOLOGY”
for 6th year students

Level of higher education: second (master's)

Field of knowledge: 22 "Healthcare"

Specialty: 222 "Medicine"


Specialization: "Obstetrics and Gynecology"

Educational and professional program: Medicine

Approved:

Meeting of the Department of Obstetrics and Gynecology of Odesa National Medical University

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Practical class № 24.

Disorders of the menstrual function in reproductive age. Neuroendocrine syndromes in Gynaecology. Age-associated physiological and pathological changes of reproductive system

LEARNING OBJECTIVE is to gain basic knowledge about etiology, pathogenesis of disorders of the menstrual function in reproductive age, pathogenesis and etiology of the neuroendocrine syndromes, classification of menstrual disorders and the scope of the examination and the treatment plan of patients. To determine etiological and pathogenetic factors in disorders of the reproductive system and menstrual function. Evaluate the results of the examination, make a preliminary diagnosis.

BASIC CONCEPTS: Classification of disorders of the reproductive system (menstrual function).

Amenorrhea: classification, diagnosis, tactics of a GP for amenorrhea.

Abnormal uterine bleeding: general classification by FIGO, diagnosis, tactics of a GP, emergency care.

Juvenile uterine bleeding: etiology, clinic, diagnosis, tactics of a general practitioner, emergency care.

Postmenopausal uterine bleeding: etiology, clinic, diagnosis, tactics of a general practitioner, emergency care.

Algodismenorrhea. Symptomatic, diagnosis and treatment.

Neuroendocrine syndromes in gynecology: general classification

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Normal menstrual function is due to the correct synchronous interaction of important parts of neuroendocrine regulation. This system include five levels of regulation and violation of any part of it leads to changes in a woman's menstrual function, varying in nature and severity - from abnormal uterine bleeding to amenorrhea. The following social questions as long incapacity for work, decrease in reproductive function that leads to infertility, high risk of development of precancerous diseases and endometrial cancer are closely connected with this pathology.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations

- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Postnatal obesity
- Neurometabolic syndrome
- Postnatal hypopituitarism (Sheehan's syndrome).
- Premenstrual syndrome.
- Polycystic ovary syndrome
- Hyperprolactinemia
- Adrenal hyperandrogenia (pubertal and post-pubertal forms of adrenogenital syndrome).
- Climacteric syndromes

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

Classification of disorders of the reproductive system (menstrual function).

Amenorrhea: classification, diagnosis, tactics of a GP for amenorrhea.

Abnormal uterine bleeding: general classification by FIGO, diagnosis, tactics of a GP, emergency care.

Juvenile uterine bleeding: etiology, clinic, diagnosis, tactics of a general practitioner, emergency care.

Postmenopausal uterine bleeding: etiology, clinic, diagnosis, tactics of a general practitioner, emergency care.

Algodismenorrhea. Symptomatic, diagnosis and treatment.

Neuroendocrine syndromes in gynecology: general classification.

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

- For the clinical manifestations of dysmenorrhea are not typical:
 - Headache
 - Nausea
 - Excessive blood loss
 - Abdominal pain
 - Irritability
- An 18-year-old girl with normal development of secondary sexual signs complains of primary amenorrhea. Examination revealed that the vagina is underdeveloped, the uterus is absent. Specify the type of amenorrhea:
 - Physiological amenorrhea.
 - Amenorrhea, caused by hyperandrogenia.
 - Hypogonadotropic amenorrhea
 - Eugonadotropic amenorrhea.
- A 24 year old patient complains of amenorrhea. She had labor 13 months ago. Delivery was by caesarian section due to premature detachment of a normally located placenta and intrauterine asphyxia of the fetus. Labor was complicated with a massive

blood loss of approximately 2000 ml due to coagulopathy. What test is indicated in this patient?

- A. Ultrasound of the organs of the small pelvis
- B. Testosterone blood test
- C. Progesterone test
- D. Gonadotropins test
- E. Computer tomography of the head

4. A 20 year old patient complains of periodic menstruation delays for 2-4 months during the last 2 years. She noticed excessive hair growth on the anterior abdominal wall, mammary glands, and lower extremities. During the last year she gained 14 kg weight. Speculum examination: cervix is conic, closed, epithelium is whole. Body of uterus is in anterflexio, small, mobile, painless. Ovaries are palpated on both sides of the uterus, 4x6 cm, painless, firm. Posterior fornix is deep. Discharge is mucous. What is the most probable diagnosis?

- A. Adrenogenital syndrome
- B. Itsenko-Cushing syndrome
- C. Adenoblastoma of ovaries
- D. Stein - Leventhal syndrome (Polycystic ovarian syndrome)
- E. Sheehan's syndrome

5. A 15 year old girl complains of bloody discharge from the vagina for 2 weeks, which began after a 3 month delay of menstruation. Menarche at 13 years. Irregular menstrual cycle. Blood analysis: Hb - 90 gr/l, erythrocytes - $2,0 \times 10^{12}/l$, leukocytes - $5,6 \times 10^9/l$. Rectal exam: the uterus has a normal size, the appendages are not palpated. What diagnosis is most probable?

- A. Juvenile bleeding
- B. Incomplete abortion
- C. Blood clotting disorder
- D. Polyp of the endometrium
- E. Cancer of the endometrium

6. A 27 year old patient complains of irregular menstruation, infertility for 4 years. Obesity, hypertrichosis. During bimanual examination: the uterus is small, the ovaries on both sides are enlarged, firm. Discharge - leucorrhoea. Examination showed that the basal temperature is monophasic. What is the diagnosis?

- A. Shihane syndrome
- B. Simmonds syndrome
- C. Polycystic ovarian syndrome
- D. Genital tuberculosis
- E. Asherman syndrome

7. The uterine form of amenorrhea can result from all specified below diseases, except:

- A. None of the below ovarian cyst
- B. Frequent curettage of the uterine cavity
- C. Genital infantilism
- D. Chronic inflammation nonspecific etiology
- E. Tuberculosis of endometrium

8. What is not used for diagnosis of disorders of the menstrual cycle?

- A. Tests of functional diagnostics
 - B. Investigation of the hormone levels in the blood
 - C. X-ray
 - D. Determining the level of TTH
 - E. Use all of the above
9. A 36 year old patient came to the female consultation with complaints of increased irritability, tearfulness, headache, and palpitation, edema of the hands and feet, decreased urination, engorgement of the mammary glands. These symptoms occur and gradually increase some days before menstruation and disappear at the beginning of menstruation. The menstruation cycle is not dysfunctional. The listed complaints began last year. What is the diagnosis?
- A. Climacteric syndrome
 - B. Shianne syndrome (postnatal hypopituitarism)
 - C. Premenstrual syndrome
 - D. Stein-Leventhal syndrome
 - E. Adrenogenital syndrome
10. A 35-year-old woman was addressed to the doctor 3 months ago with complaints of irregular profuse menstrual bleeding. The doctor administered oral contraceptives for 2 months. Despite of using oral contraceptives, bleeding continued. What is the conducting tactics?
- A. Curettage of the uterus mucous membrane
 - B. Combined oral contraceptives
 - C. Estrogen
 - D. Nonspecific anti-inflammatory treatment
 - E. Progestin.

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

- Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.
- Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

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3.2. Educational materials, recommendations (instructions) for performing tasks

Disorders of the menstrual cycle of the central genesis can be: cortico-hypothalamic, hypothalamo-hypophysial, hyperphysical. There are also disorders of the menstrual function that are caused by a change in the function of the secondary glands of inner secretion: adrenal glands, thyroid gland. The main tasks when examining patients with disorders of the menstrual cycle are the following: 1) presence or absence of organic

damage to the hypothalamus and hypophysis, ovaries and uterus, thyroid gland and adrenal gland, and also extragenital diseases; 2) determine the level of functional damage in the regulation of the menstrual function.

The examination is conducted in several stages:

I stage – pre-admission stage: collect the anamnesis, clarify the menogram, general and gynecological examination, blood test, urine test, coagulogram, blood test for RW and HIV. In this stage, functional diagnostic tests, roentgenography of the skull in two projections, check the field of vision and fundus of the eye, ultrasound of the organs of the small pelvis, the level of sugar in the blood and urine, cholesterol in the blood, research of the sex chromatin, toxoplasmin and tuberculin tests, functional tests of the liver, thyroid gland, determine 17-KS, 17-OKS, the level of hormones in the blood plasma are also performed; consultation with specialists is conducted (neurologist, endocrinologist, therapist, etc.).

II stage – this stage contains additional, the most difficult methods and is performed in the hospital: biopsy of the endometrium, endoscopy of the genitals (hysteroscopy, colposcopy, laparoscopy), Metrosalpingography.

III stage – focused examination: additional X-ray study of the skull, examination of the fundus of the eye and field of vision, quantitative determination of the hormones in the blood plasma in the dynamics of the menstrual cycle and in the dynamics of supervision, functional hormonal tests. As a result, the studies should give information about the state of the target organ; determine the level of disorder in the system.

The absence of menstruation in an adult woman for 6 months is called amenorrhea.

Amenorrhea.

Amenorrhea is the absence of menstruations during 6 months and longer in women aged 16–45 years.

Pathological amenorrhea is also classified depending on the level of affection of a certain part of the reproductive system. According to this there are differentiated hypothalamic-pituitary, ovarian, and uterine forms of amenorrhea, and also amenorrhea conditioned by pathology of the adrenal glands, thyroid gland, and the presence of extragenital diseases.

Such forms of amenorrhea are determined:

true amenorrhea – the absence of menstruation caused by a disorder in the production of the sexual organs;

false amenorrhea – the absence of menstruation because of a disorder in the cyclic changes in the ovaries and with the presence of obstacles in the outflow of menstrual blood;

Primary amenorrhea.

Primary amenorrhea with no sexual development: - gonadal dysgenesis (Shereshevsky–Turner syndrome, Swayer syndrome); - testicular feminization (Morris syndrome).

Primary amenorrhea with sexual development delay: - resistant ovary syndrome (in case it arises in the prepubertal period); - hypogonadotropic hypogonadism.

Primary amenorrhea without sexual developments: - Maldevelopments of the vagina and uterus (uterine and vaginal aplasia – Rokitansky–Kuestner syndrome; atresia of the hymen, vagina, and cervical canal of uterus).

Secondary amenorrhea:

Asherman's syndrome (intrauterine synechias as a consequence of traumatic injuries of the uterus);

hypergonadotropic hypogonadism;
hypogonadotropic hypogonadism;
emotional amenorrhea;
weight loss amenorrhea/

Secondary amenorrhea arises after a period of normal or disturbed menstrual cycle and makes up to 75 % in the structure of amenorrhea. This form of amenorrhea is not accompanied by sexual development derangement. Depending on the degree of reproductive system affection there are differentiated hypothalamic, hypophyseal, ovarian, and uterine forms of amenorrhea.

1) Hypothalamic amenorrhea: - emotional amenorrhea, including at anorexia nervosa; - amenorrhea at false pregnancy; - Chiari–Frommel’s syndrome – amenorrhea and galactorrhea, which arises as a complication of the puerperal period, often after an abnormal labor and pathological pregnancy; - Forbes–Albright’s syndrome – amenorrhea and galactorrhea, which arises as a consequence of a psychogenic trauma, a hypothalamic pituitary tumor, and also after intake of some medications, namely hormonal contraceptives, neuroleptics, hypotensive and antihistaminic preparations in nulliparous.

2) Hypophyseal amenorrhea is most often met in the following pathologies: - Sheehan’s syndrome (puerperal hypopituitarism); - amenorrhea against the background of Hyperprolactinemia as a consequence of pituitary micro- or macroadenoma; - Morphan’s syndrome (a hereditary disease, which is transmitted by the dominant type); - Itsenko–Cushing’s disease.

3) Ovarian amenorrhea: - resistant ovary syndrome; - ovarian exhaustion syndrome.

4) Uterine secondary amenorrhea: - Asherman’s syndrome (the presence of intrauterine synechias); - cervical canal stenosis.

Dysfunctional uterine bleedings (DUB) are the bleedings conditioned by disturbances of the cyclic secretion of ovarian hormones and not connected with organic diseases or extragenital pathologies. DUB incidence makes 15–20 % of all gynecological pathologies. DUB development is based on the dysfunction of the hypothalamo-pituitary-ovarian system, which leads to the disturbance of folliculo- and steroidogenesis. DUB may arise at any age. However, they have their peculiarities in different age periods. These differences are the basis of DUB classification. Every period in a woman’s life presents an imprint on the possibility of DUB occurring and requires individual approach in conducting the diagnostics and therapy. Therefore, the clinical practice the following are determined:

DUB of the pubescence period (juvenile bleeding);

DUB of the reproductive period;

DUB of the premenopausal period (climacteric bleeding) in women over 40.

DUB classification by the character of menstrual irregularities and functional-morphological changes:

Anovulatory DUB: a) short-term follicle persistence; b) long-term follicle persistence. c) Immature follicle atresia.

Ovulatory DUB. According to the estrogen level DUB divided into hyperestrogenic (most DUB) and hypoestrogenic (more frequent in the puberty, but may also be observed at the childbearing age).

The system has been approved by the FIGO Executive Board as a FIGO classification system.

There are 9 main categories, which are arranged according to the acronym PALM-COEIN (pronounced “pahm-koen”). PALM criteria:

Polyp (AUB-P) there seems to be little controversy regarding the inclusion of endometrial and endocervical polyps. These epithelial proliferations comprise a variable vascular, glandular, and fibromuscular and connective tissue. Component and are often asymptomatic, but it is generally accepted that at least some contribute to the genesis of AUB.

Adenomyosis (AUB-A) generally, these criteria have been based on histopathology evaluation of the depth of “endometrial” tissue beneath the endometrial–myometrial interface, as determined via hysterectomy.

Leiomyoma (AUB-L) Benign fibromuscular tumors of the myometrium are known by several names, including “leiomyoma,” “myoma,” and the frequently used “fibroid.” “Leiomyoma” is generally accepted as the more accurate term and was selected for use in the present system.

Malignancy and hyperplasia (AUB-M) Although relatively uncommon, atypical hyperplasia and malignancy are important potential causes of, or findings associated with, AUB and must be considered in nearly all women of reproductive age

Coagulopathy (AUB-C) The term “coagulopathy” encompasses the spectrum of systemic disorders of hemostasis that may be associated with AUB. High-quality evidence demonstrates that approximately 13% of women with HMB have biochemically detectable systemic disorders of hemostasis, most often von Willebrand disease.

Ovulatory dysfunction (AUB-O) Ovulatory dysfunction can contribute to the genesis of AUB, generally manifesting as a combination of unpredictable timing of bleeding and variable amount of flow (AUB), which in some cases results in HMB

Endometrial (AUB-E) When AUB occurs in the context of predictable and cyclic menstrual bleeding, typical of ovulatory cycles, and particularly when no other definable causes are identified, the mechanism is probably a primary disorder of the endometrium

Iatrogenic (AUB-I) There are several mechanisms by which medical interventions or devices can cause or contribute to AUB (AUB-I). These include medicated or inert intrauterine systems and pharmacologic agents that directly impact the endometrium, interfere with blood coagulation mechanisms, or influence the systemic control of ovulation.

In general, the components of the PALM group are discrete (structural) entities that can be measured visually with imaging techniques and/or histopathology, whereas the COEIN group is related to entities that are not defined by imaging or histopathology (non-structural).

Juvenile Uterine Bleedings

Juvenile uterine bleedings (JUB) are referred to the most frequent pubertal gynecological disorders, their incidence reaches 10 %. Etiology and pathogenesis. JUB pathogenesis is based on the functional immaturity of the hypothalamic pituitary structures in the puberty, which declares itself in the absence of a formed circroral rhythm of gonadoliberein secretion. This brings to a misbalance of gonadotropin

production, and in consequence of that follicle maturing is disturbed, more frequently by the type of immature follicle atresia, and then comes anovulation.

The etiologic factors, which promote JUB development, are very versatile. An important role is played by chronic and acute infectious diseases, hypovitaminoses, psychic traumas, overload, which violate the functioning of the hypothalamo-pituitary-ovarian system. As a result, against the background of low estrogen level a couple of follicles begin to grow to the antral condition. Further development of the follicles is taking place under the action of FSH, whose cyclic production is violated in this case. Owing to this the follicles do not mature completely and undergo atresia (immature follicle atresia). At that, steroidogenesis in the ovaries is disturbed. In immature follicle atresia in the ovaries insufficient amount of estrogens is produced, but their long-term action on the endometrium leads to the development of hyperplastic processes. Anovulation results in yellow body absence, and that accordingly leads to progesterone deficit. Progesterone deficit conditions the absence of the secretory transformation of the endometrium. In case of follicle involution there arises bleeding as a reaction to hormone decrease. Bleedings lead to anemia, which is the most marked in JUB.

Clinic diagnostic criteria of JUB:

Bleedings last up to 20–30 days, but usually they are not that voluminous in comparison with follicle persistence. Bleedings are preceded by 2–3-month menstruation delay (usually lasting longer than in case of follicle persistence);

anemia;

anovulation;

functional diagnostic tests: hypothermic single-phase character of the temperature profile, the basal rectal temperature does not reach 37° C; pupil phenomenon “±” or “+”;

the cariopicnotic index (CPI) in this pathology does not exceed 28–35 %;

pelvic ultrasound may show hypoplastic uterus or endometrium hyperplasia;

hormone research: low progesterone level in blood;

Dysfunctional Uterine Bleedings in the Premenopausal Period

DUB incidence in the premenopausal period makes 15 % in the structure of gynecological disorders. Etiology and pathogenesis. In most women of this age the main pathological mechanism of DUB is anovulatory dysfunction of the ovary with long-term follicle persistence. Long-term follicle persistence (2–6 weeks) with considerable menstruation delays (up to 1.5 months) followed by severe long-term bleedings is called metropathia hemorrhagica, or Shroeder's disease.

While JUB is a consequence of no steady cyclic function of the hypothalamo-pituitary-ovarian system, premenopausal bleedings are a consequence its involution disturbances. Age-related changes of the hypothalamic structures, which regulate the gonadotropin function, condition disturbance of the rhythm and amount of gonadotropins released. FSH formation and release prevail, the LH level also rises, acquires a monotonous character. The decrease of gonadotropin receptors amount in the ovaries leads to a disorder of the feedback mechanism. This is accompanied by disturbed folliculogenesis and anovulation.

Yellow body absence, decreased progesterone secretion lead to hyperestrogenism development (relative hyperestrogenism against the background of hypoprogesteronemia) and endometrial hyperplasia of different level. In consequence

of endometrium growth and insufficient trophism there develop dystrophic changes of the endometrium, which declare themselves with thrombosis, necrosis and irregular desquamation accompanied by long-term bleeding.

Clinico-diagnostic criteria:

Profuse long-term uterine bleedings with delays up to 1.5 months. It should be noted that menstruation delay is observed in the period of follicle growth and persistence; anovulation; - functional diagnostic tests: • hypothermal monophasic temperature profile; • the pupil phenomenon, colpocytology study shows a higher degree of estrogen saturation than in short-term follicle persistence; • a higher CPI – 80–100 %; gynecological examination and pelvic ultrasound show somewhat oversized uterus and endometrial hyperplasia;

Histological study of the endometrium scrape shows endometrial hyperplasia more often than at the childbearing age – glandular hyperplasia, endometrial polyps. In long-term bleeding accompanied by mucosa desquamation the scrape may be scanty, but secretion signs are also absent in it.

Treatment DUB is complex and depends on the character of the ovario-menstrual cycle irregularities, age, intensity and remoteness of the bleeding, the degree of anemia severity, the data of the laboratory methods of investigation, particularly hormonal status before the initiation of treatment. The treatment is provided in three stages:

Hemostasis.

Pathogenetic treatment aimed at rebreeding prevention (hormonal disorder correction, menstrual cycle restoration, or achieving menopause).

After treatment (recovery of the reproductive function in women of the childbearing age). Hemostasis (the 1st treatment stage). In order to achieve hemostasis one takes surgical, hormonal, and symptomatic measures.

Surgical hemostasis.

Hemostasis (the 1st treatment stage). In order to achieve hemostasis one takes surgical, hormonal, and symptomatic measures. DUB treatment at the childbearing and premenopausal age is begun with diagnostic and therapeutic dilatation and curettage of cervical and uterine mucous membranes. Under modern conditions surgical hemostasis may be conducted using the so-called little-invasive surgical procedures, which are applied under endoscopic control: cryodestruction, laser ablation, and thermal balloon ablation of the endometrium.

In JUB surgical hemostasis is carried out according to the following indications: - profuse uterine bleeding, which threatens the patient's life; - Hb 70 g/L and less, Ht below 25 %; - Suspected pathological changes of the endometrium structures (an endometrial polyp shown by pelvic ultrasound); - In patients with frequent rebreeding's and disease duration exceeding 2 years.

Hormonal hemostasis. For hormonal hemostasis one most often uses estrogens, gestagens and monophasic combined estrogen-gestagen preparations, androgens, gonadoliberein agonists, gonadotropin antagonists. The choice of preparations depends on the pathogenetic variety of DUB, the patient's age, and contraindications. The action of the preparations is based on the inhibition of pituitary gonadotropic hormones and maintenance of the steroid hormone concentration at a high level.

Monophasic combined oral contraceptives (COCs) are used for hormonal hemostasis the most often. Hemostasis regimen: on the first day 1 COC pill per hour is administered up to 4–6 pills (at the age of 14–15 years – up to 3 pills), then the

preparation dosage is reduced daily to 1 pill a day. The preparation is taken during 21 days.

Hormonal hemostasis with COCs is not provided in the premenopausal period. Estrogens have a quick and rather high hemostatic effect.

For hormonal hemostasis one may use preparations of natural estrogens (non-synthetic), for example, progynova (estradiol valerate), and estraferm (17 β -estradiol). These preparations are administered in the same way as oral contraceptives, but after hemostasis and intake of these preparations for 2 more weeks one should necessarily administer gestagens during 10 days.

Estrogens may be used for hemostasis at any age, but in the premenopausal period their use must be limited and conducted after a histological study of the endometrium. Gestagens have a hemostatic effect at the expense of influencing the endometrium transformation. They block proliferative processes and shift the endometrium into the secretory phase.

For hormonal hemostasis one uses gestagens of two classes: derivatives of 17-OH-progesterone (Dydrogesterone – duphaston 10 mg twice a day, medroxyprogesterone acetate – Depo-Provera 200–400 mg i.m. once a week; 17-oxypregesterone capronate 2 ml 12.5 % i.m., etc.) and derivatives of 19-nortestosterone (levonorgestrel, norgestrel, lynestrenol – orgametryl, norethisterone acetate – primalut-nor, norcalut – 10 mg twice a day, etc.). Unlike estrogen hemostasis, gestagen introduction does not produce a quick bleeding arrest. In 1–2 days after the cessation of gestagen action there is always noted intensive bleeding of the menorrhagia type. Taking into account the ability of gestagens to cause endometrium atrophy and central effect inhibition in the juvenile age, it is not advisable to administer them at this age.

For hormonal hemostasis one may also use antagonists of pituitary gonadotropic hormones: - danazol (danoval, danogen, danol) – 200–400 mg/day, treatment duration makes 3–6 months; - gestrinone (nemestran) – 2.5 mg twice a week during 6 months, etc.

DUB may also be treated with gonadoliberein agonists: - goserelin (zoladex) – 1 injection (3.6 mg) during 28 days subcutaneously; - triptorelin (decapeptyl, dipherelin) – 3.75 mg i.m. once in 28 days. It should be added that androgen hemostasis is resorted to very rarely nowadays because of numerous contraindications and also in connection with pronounced virilization effects. One should remember that administration of hormonal treatment in teenager girls requires special caution and systematic control of the hormonal status of the organism with 3–6-month intervals. The doses of hormonal preparations in the period of menstrual function formation must be rationally limited. In girls one may use estrogens or combined estrogen-gestagen preparations for hormonal hemostasis. In all DUB types there are administered symptomatic hemostatic and uterotonics preparations. There is used sodium etamsylar, ϵ -aminocaproic acid, tranexamic acid, 10 % calcium chloride solution.

Among uterotonics preference is given to ergot preparations, since unlike oxytocin they do not cause tonic contractions of the uterus (methylergometryl). The doctor also administers vitamin therapy, tinctures of nettle, water pepper, and buckthorn.

The 2 -nd treatment stage foresees recovery of the menstrual cycle and recurrent bleeding prevention. At this stage there are administered general health improving

preparations, hemostimulating and vitamin therapies are continued. Hormonal correction is carried out depending on the patient's age and is determined by the defined goal (menstrual cycle recovery, pregnancy planning, or menopause onset).

At this stage gestagens and COCs are used more often. The 2 -nd treatment stage is aimed at the recovery of the reproductive function in women of the childbearing age. When the rhythmical menstrual cycle is recovered, ovulation is induced with the application of direct (clomiphene, anastrozol, letrozol) and indirect ovulation inductors (gonadoliberein agonists, recombinant gonadotropins, human menopausal gonadotropins, etc.).

Neuroendocrine syndromes.

1. Postnatal obesity
2. Neurometabolic syndrome, unrelated to pregnancy.
3. Postnatal hypopituitarism (Sheehan's syndrome).
4. Premenstrual syndrome.
5. Polycystic ovaries (polycystic ovaries, primary polycystic ovaries, polycystic ovary syndrome, Stein-Leventhal syndrome – secondary polycystic ovaries).
6. Hyperprolactinemia.
7. Adrenal hyperandrogenia (pubertal and post-pubertal forms of adrenogenital syndrome).
8. Algomenorrhea.
9. Postcastration syndrome.
10. Menopausal disorders

Post-delivery hypopituitarism (Sheehan's disease).

Pathogenesis. Sheehan's syndrome develops as a result of necrotic changes in hypothalamus, which follow the revulsion, intravascular coagulation in the frontal part of hypothalamus or bacterial shock in delivery or abortion. Specifics of hypothalamus blood supply, the weight of frontal part of which during pregnancy becomes 2 times larger, as well as belladonna preparations widely used in the process of labor and hemorrhages contribute to these changes. The frequency of gestosis in woman with Sheehan's disease in pregnancy period makes it possible to think that they are the factor. The frequency of gestosis in the period of pregnancy in women with Sheehan's syndrome, which is the gestosis-predisposing factor, as a tendency to intravascular coagulation in pregnant with severe form of gestosis is well-known. Furthermore, the fact that physiological decrease of ACTH discharge occurs after pregnancy, also contributes to hypothalamus ischemia. Clinical manifestations of Sheehan's disease directly depend on the level of hypothalamus injury level. A lot of scientists consider a marked disease to develop if 80% of adenohypothalamus tissue is damaged. But in several cases post-mortem examination showed about 5mm of hypothalamus frontal part to be damaged, but there was no clinical symptomatology while alive. In addition there is information about patients which had marked post-delivery pituitarism, and post-mortem examination showed only slight injury of hypothalamus.

Repetitive labors are considered to cause Sheehan's disease (the interval not less than 2 years).

Clinico-diagnostic criteria - it may be characterized by various level of endocrine glands hypofunction – first of all of that of thyroid, renal and sex. There are such forms of Sheehan's disease, depending on the insufficiency of hypophysial tropic hormones:

- 1) Global form – with clinical manifestations of TTH, gonadotropin, AKTH. The course of the disease may be slight or severe;
- 2) Partial form – with gonadotropic, thyrotrophic, adrenocorticotrophic function insufficiency;
- 3) combined gonadotropic and thyrotrophic function insufficiency; combined thyrotrophic and adrenocorticotrophic.

Differentiated diagnosis is differentiated with nervous anorexia, hypophysial tumor, Addison's disease, and myxedema. Characteristic anamnesis of patients – bleeding or septic shock - helps a lot in making the diagnosis.

Treatment. Substitutive therapy, glucocorticoid and thyrotrophic drugs in clinical implications of the hypofunction of the same glands are prescribed. There exists an opinion, that it is better to use cortisone and prednisolone than dexamethasone and dexamethasone, as the last ones have a marked anticorticotrophic property, in such a way inhibiting the production of ACTH by hypothalamus, which has already been decreased. Prednisolone is recommended twice a day in 5mg doses during 2-3- weeks, one course of treatment per 2-3 months, with regard to the clinical picture. In amenorrhea or oligomenorrhea cyclic hormonotherapy is recommended to women before 40. After 40 androgens are used, due to their anabolic effect: methyl testosterone in once a day in 5mg, one course of treatment per 2-3 months; androgens are quite effective in anti-plethoric therapy. Such anabolic drugs as retabolil, methylandrostenediol and etc. turned to be effective. B, E, PP -group vitamins; biostimulators – aloe, Fibs (20-30 intramuscular injections) are necessary. Nutrition must be complete, with no protein deficiency. Anemia oriented iron drugs controlled by the blood analysis are indicated.

Patients with severe form of Sheehan's disease are ultimately treated in endocrinological dispensary. The prophylaxis of the disease includes professional therapeutically management of pregnant with gestosis, timely therapy, professional labor management with the bleeding prevention, and finally adequate resuscitation in labor bleedings, abortions and septic shock.

Premenstrual syndrome (PMS).

It is a complicated complex of symptoms, occurring in premenstrual days and is performed in form of CNS malfunctioning, caused by exo- or endogenic factors secondary to gained or inherited liability of hypothalamo-hypophysial-ovarian system. Usually the PMS symptoms develop 2-3 days before menses and pass just after menses onset or on its first days.

PMS frequency ranges differently in different age periods. At the age of 19-20 this syndrome occurs nearly in 20% of patients, after 30 it's grow up to 47%, and after 40-49 in women with regular menstruations – up to 55%. It is more common in women of intellectual work.

Pathogenesis. A great number of grounding theories (hormonal, "hydrointoxication", psychosomatic dysfunction) reflect the fact that it is difficult and poorly studied.

PMS classification

Classification after ICD-I0

N94 – pain and other conditions, connected with female genitals and menstrual cycle, premenstrual syndrome

PMS classification by clinical complex of symptoms and clinical manifestations of premenstrual dysfunction

- premenstrual syndrome
- Genuine premenstrual syndrome
- premenstrual dysphoretic dysfunctions
- Premenstrual magnification

Classification by the stage of severity:

-Light – development of 3-4 symptoms 2-10 days before menstruation with 1-2 brightly marked:

-Severe form – 5-12 symptoms, 3-14 days before, with 2-5 brightly marked

Classification by stages of development of PMS

- Compensated stage- PMS symptoms development in lutein phase of menstrual cycle and their neutralizing after menstruation onset without progressing with time;

- Sub compensated stage – the course of the disease is worsened with time, symptoms develop till the end of menstruation;

- Decompensated stage – severe course – PMS clinics still persists after the end of menstruation, the spans between patient's normal condition and symptoms become shorter.

Clinico-diagnostic criteria: PMS is a complicated complex of symptoms, characterized by various psychopathologic, vegeto-vascular and endocrine metabolic dysfunctions, developing in the lutein phase of MC.

Depending on the symptoms prevailing in the clinical picture four main forms of PMS are distinguished: neuropsychic, hydroptic, cephalic, critical. Although such definition is nominal to some extent, anyway in the clinical practice it is quite important both for short characteristics of PMS specific symptoms and for therapeutic correction management.

In most cases symptoms develop in the second phase of menstrual cycle, 7-10 days before menstrual bleeding.

Syndrome has several names:

-Premenstrual tension (PMT);

Premenstrual syndrome (PMS);

Premenstrual tension syndrome(PMTS);

Cyclic syndrome (CS).

Cyclic syndrome is the most exact definition, as it is known the complex of symptoms characteristic for premenstrual syndrome may replace cyclic course in women with irregular menstruations, as well as in the prepubertal, postmenopause period. But the term PMS is the most widespread both in native and foreign literature.

Any system and organ of women's' organism may dysfunction in premenstrual days. But the most common symptoms are:

Tension, hydroids and pain in mammary glands; Headaches; Dizziness; Body weight decrease; Abdominal discomfort: abdominal distention, diarrhea, constipation; Thirst; Nausea, vomiting; Change of appetite: hunger for alcohol, spicy food, sweets; Pains throughout the body or in limbs, back, joints, lumbar region; Hyperesthesia of different parts of the body; Lethargy; Sleeplessness; Depression; Exhaustion; Aggression.

As a rule all the symptoms progress up till the onset of menstruation and stop with the beginning of bleeding or few hours before it. When classifying the symptoms by disorder of function of certain system the next symptoms may be distinguished:

Psychological dysfunction:

- Frequent changes of mood;
- Irritability;
- Inability to concentrate;
- Loss and deterioration of memory;
- Unfriendliness and aggression;
- Fatigue;
- Lethargy;
- Sleeplessness;
- Fear;
- Melancholy;
- Reasonless crying or laugh;
- Suicidal thoughts;
- Libido change.

Neurological symptoms:

- Headaches, migraine;
- Dizziness;
- Lurch;
- Hyperesthesia;
- Dysmenorrhea;
- Asthma;
- Rhinitis;
- Increase or development of cerebral seizures;
- Electric encephalogram shows increased irritability.

Dermatologic symptoms:

- Acne;
- Hives;
- Fever;
- Pruritus;
- Pigmentation of face and trunk;
- Dryness or abnormally fatty skin of face and scull;
- Pain in bones, joints, back;
- Anemia of muscles;
- Symptoms of arthritis - pains, edema;

Gastrointestinal symptoms:

- Deterioration of appetite, even bulimia and anorexia;
- Nausea, vomiting;
- Abdominal distention;
- Evacuation disorders

Renal symptoms:

- Accumulation of liquid as a result of renal dysfunction;
- Change of urine amount

Anti PMS treatment includes:

Medicated and non-medicated therapy:

Non-medicated therapy:

work and rest regimen normalization;

dosed physical activity;

psychotherapy;

physiotherapy, massage;

Dietary pattern normalization: The principles of healthful and dietary meals in PMS:

1. Controlled daily caloric intake - 1200 -1500 kilocalories:

30 % proteins;

20 % -fats;

50 % -carbohydrates

2. Dietary regimen: meals in small portions, 5-6 times per 24 hours. This regimen lets fat tissue metabolism be normalized and prevent the decrease the amount of blood sugar level.

3. The next products must be excluded: salt, tinned foods, frozen fruits and vegetables, strong cheese, smoked meats, pickled products, chips; simple carbohydrate; saturated fatty acids, animal fats; alcohol, which reduces vitamins and minerals reserves and disturbs carbohydrate metabolism in organism; tea, coffee, cacao, cola - coffeincontaining products, that may cause anxiety, irritation, tension in mammary glands.

4. It is useful to include such products to the diet:

A, B, C, E group vitamins (for every day intake)

-vitamin A-10-15mg; vitamin B -25 -50 mg; (without B6 vitamin); vitamin E -100 -600 mg; vitamin C -100 mg; vitamin D -100 mg; Mg, K, Ca- macroelements, which take part in the nervous system regulation (including CNS), in water-electrolytic balance maintenance and in processes of microrelaxation; Zn, Se microelements, acting as antioxidants; sunflower, peanut oils, pout liver, unsalted roe; juices, carrot and lemon first of all; herbal teas.

Drug therapy of PMS is differentiate and is carried out depending on the level of severity and disease course. The groups of drugs are enumerated in order of prescription recommended to apply.

3.3. Requirements for the results of work.

Show the phantom method of physical examination on organ systems.

Show on phantom gynecological examination.

Demonstrate phantom performance tests of functional diagnostics, fractional diagnostic curettage of the uterus/

Collect special gynecological history, assess the results of laboratory studies (general and biochemical analyzes of blood, urine, blood coagulation system, etc.).

In gynecology department: to take the history, perform an objective and gynecological examination of the patient, to appoint examination

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. For the clinical manifestations of dysmenorrhea are not typical:

A. Headache

- B. Nausea
 - C. Excessive blood loss
 - D. Abdominal pain
 - E. Irritability
2. An 18-year-old girl with normal development of secondary sexual signs complains of primary amenorrhea. Examination revealed that the vagina is underdeveloped, the uterus is absent. Specify the type of amenorrhea:
- A. Physiological amenorrhea.
 - B. Amenorrhea, caused by hyperandrogenia.
 - C. Hypogonadotrophic amenorrhea
 - D. Eugonadotropic amenorrhea.
3. A 24 year old patient complains of amenorrhea. She had labor 13 months ago. Delivery was by caesarian section due to premature detachment of a normally located placenta and intrauterine asphyxia of the fetus. Labor was complicated with a massive blood loss of approximately 2000 ml due to coagulopathy. What test is indicated in this patient?
- A. Ultrasound of the organs of the small pelvis
 - B. Testosterone blood test
 - C. Progesterone test
 - D. Gonadotropins test
 - E. Computer tomography of the head
4. A 20 year old patient complains of periodic menstruation delays for 2-4 months during the last 2 years. She noticed excessive hair growth on the anterior abdominal wall, mammary glands, and lower extremities. During the last year she gained 14 kg weight. Speculum examination: cervix is conic, closed, epithelium is whole. Body of uterus is in anteflexio, small, mobile, painless. Ovaries are palpated on both sides of the uterus, 4x6 cm, painless, firm. Posterior fornix is deep. Discharge is mucous. What is the most probable diagnosis?
- A. Adrenogenital syndrome
 - B. Itsenko-Cushing syndrome
 - C. Adenoblastoma of ovaries
 - D. Stein - Leventhal syndrome (Polycystic ovarian syndrome)
 - E. Sheehan's syndrome
5. A 15 year old girl complains of bloody discharge from the vagina for 2 weeks, which began after a 3 month delay of menstruation. Menarche at 13 years. Irregular menstrual cycle. Blood analysis: Hb - 90 gr/l, erythrocytes - $2,0 \times 10^{12}/l$, leukocytes - $5,6 \times 10^9/l$. Rectal exam: the uterus has a normal size, the appendages are not palpated. What diagnosis is most probable?
- A. Juvenile bleeding
 - B. Incomplete abortion
 - C. Blood clotting disorder
 - D. Polyp of the endometrium
 - E. Cancer of the endometrium
6. A 27 year old patient complains of irregular menstruation, infertility for 4 years. Obesity, hypertrichosis. During bimanual examination: the uterus is small, the ovaries on both sides are enlarged, firm. Discharge - leucorrhoea. Examination showed that the basal temperature is monophasic. What is the diagnosis?

- A. Shihane syndrome
 - B. Simmonds syndrome
 - C. Polycystic ovarian syndrome
 - D. Genital tuberculosis
 - E. Asherman syndrome
7. The uterine form of amenorrhea can result from all specified below diseases, except:
- A. None of the below ovarian cyst
 - B. Frequent curettage of the uterine cavity
 - C. Genital infantilism
 - D. Chronic inflammation nonspecific etiology
 - E. Tuberculosis of endometrium
8. What is not used for diagnosis of disorders of the menstrual cycle?
- A. Tests of functional diagnostics
 - B. Investigation of the hormone levels in the blood
 - C. X-ray
 - D. Determining the level of TTH
 - E. Use all of the above
9. A 36 year old patient came to the female consultation with complaints of increased irritability, tearfulness, headache, and palpitation, edema of the hands and feet, decreased urination, engorgement of the mammary glands. These symptoms occur and gradually increase some days before menstruation and disappear at the beginning of menstruation. The menstruation cycle is not dysfunctional. The listed complaints began last year. What is the diagnosis?
- A. Climacteric syndrome
 - B. Shianne syndrome (postnatal hypopituitarism)
 - C. Premenstrual syndrome
 - D. Stein-Leventhal syndrome
 - E. Adrenogenital syndrome
10. A 35-year-old woman was addressed to the doctor 3 months ago with complaints of irregular profuse menstrual bleeding. The doctor administered oral contraceptives for 2 months. Despite of using oral contraceptives, bleeding continued. What is the conducting tactics?
- A. Curettage of the uterus mucous membrane
 - B. Combined oral contraceptives
 - C. Estrogen
 - D. Nonspecific anti-inflammatory treatment
 - E. Progestin.

Practical lesson № 25.

Genitourinary infections and inflammations in women. Diagnosis, treatment and prevention of sexually transmitted diseases.

LEARNING OBJECTIVE is to acquaint the students with the issues of clinics, diagnostics and treatment of inflammatory diseases of female genital organs.

BASIC CONCEPTS:

Anatomy of female genital tract.

The signs of inflammation.

Bacteriological investigation.

Definition, etiology, and frequency of inflammatory diseases.

Diagnostics of inflammatory diseases.

Differential diagnosis

Treatment of inflammatory diseases.

EQUIPMENT

- Multimedia equipment (computer, projector, screen), TV.
- Obstetric models and obstetric instruments (pelvimeter, obstetric stethoscope, centimeter tape).
- Professional algorithms, structural-logical schemes, tables, videos.
- Results of laboratory and instrumental researches, situational tasks, patients, medical histories.

EDUCATIONAL TIME – 4 h

A. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

The rate of inflammatory diseases is over 60% of all gynecologic diseases and about 30% patients of female hospitals have the inflammatory processes of genital organs. Especially the quantity of the inflammatory diseases has enlarged because of the increased sexual activity at the young age, permissive sexual attitude, prostitution. Those at the highest risk are young unmarried women with multiple sex partners. Primarily inflammatory diseases affect human fertility because of infections of the female upper genital tract and their sequel. Women with persistent virus infection are at particular risk for cervical dysplasia and intrauterine fetal death.

B. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

1. Inflammation of the external genital organs:

- Vulva - vulvitis
- Genital warts (wart-like skin formation of viral etiology)
- Bartholin's gland - bartholinitis;

2. Inflammation of the internal genital organs:

- Vagina - colpitis, vaginitis;
- Cervix - endocervicitis (inflammation of the vaginal cervix covered with stratified squamous epithelium);
- endocervicitis (inflammation of the mucous membrane, facing into the cervical canal and covered with columnar epithelium);
- Cervicosis (the defeat of all layers of the cervix);
- Erosion (pseudo - ectopia of columnar epithelium to a multilayered, this erosion - multilayered epithelial defect, existence of erosion is supported by the lack of hormonal function of the ovaries);
- The body of the uterus - endometritis (inflammation of the mucous membrane of the uterus);
- Metroendometrit (inflammation of the mucous and muscular layer of the uterus)
- Panmetrit (inflammation of all layers of the uterus);
- perimetry (inflammation of the peritoneum, which covers the body of the uterus);
- The appendages of the uterus - salpingitis (inflammation of the fallopian tubes);
- oophoritis (ovarian inflammation);
- salpingoophoritis (inflammation of the fallopian tubes and ovaries), or adnexitis;
- Adnextumor (inflammatory swelling of the fallopian tubes and ovaries);
- hydrosalpinx (inflammatory swelling of the fallopian tube with the accumulation of serous fluid in the lumen);
- Piosalpinx (inflammatory saccular tumor of the uterine tube to the accumulation of pus in the lumen);
- Piovarum (inflammatory tumor of the ovary with purulent fusion of its fabric);
- Perisalpingitis (inflammation of the peritoneal cover of the fallopian tube);
- Fiber pelvis - parametria (inflammation of the tissue that surrounds the uterus) - side, front and rear;
- pelvic peritoneum - pelvioperitonitis (inflammation of the pelvic peritoneum);
- The overall peritonitis (diffuse or diffused)

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

Which areas of the upper genital tract may become infected in pelvic inflammatory disease ?

Women with PID who are treated with long-term aromatase inhibitor therapy are recommended to undergo bone mineral density screening?

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

Urogenital candidiasis in this case is confirmed by the following data:

- complaints of discomfort, itching, itching of the external genitalia.
- examination in mirrors: severe redness and swelling of the mucous membrane of the vagina and cervix. In the posterior vault of the vagina there are secretions of

syrupey, milky white. The same discharge is present in the external pharynx of the cervix and urethra.

- microbiological examination: the analysis of the microflora of the vagina, cervical canal and urethra revealed many leukocytes, mixed microflora and a fungus of the genus *Candida*.

Treatment: the main place in the pharmacotherapy of urogenital candidiasis belongs to antifungal drugs, which must be prescribed taking into account the identified type of candidiasis and data on sensitivity to essential drugs. Treatment should be carried out with antifungal drugs of both general and local action (fluconazole, clotrimazole, nystatin)

6.3. Control materials for the final stage of the lesson:

1. A 30-year-old patient was hospitalized in the gynecological department with complaints of pain in the lower abdomen, radiating to the lower back, fever up to 37.30C. Objectively: the cervix is cylindrical, the pharynx is closed. The body of the uterus is normal, painless, mobile. The appendages are slightly enlarged, limited in mobility, painful. The vaults are free. Highlights - white. What is the most likely diagnosis?

- A. Ovarian cyst.
- B. Endometritis.
- + C. Chronic salpingo-oophoritis in the acute stage.
- D. Polycystic ovary disease.
- E. Pelvioperitonitis.

2. A 17-year-old woman complained of fever up to 38 degrees, pain in the lower abdomen. Complaints appeared 3 days after the next menstruation, which began on time. The abdomen is soft, painful in the lower parts. At bimanual research the uterus without features, appendages are slightly increased, pasty, limited mobility, painful at a palpation, excursions of a neck of uterus are painful. Your diagnosis?

- A. Ovarian cystoma.
- + B. Acute salpingo-oophoritis.
- C. Ovarian cancer.
- D. Endometritis.
- E. Endometriosis.

3. A 32-year-old woman complained of pain in the lower abdomen, fever, chills, profuse discharge from the genital tract. A medical abortion was performed 4 days ago. On examination, the abdomen is soft, painful on palpation in the lower parts, the symptoms of peritoneal irritation are negative. The uterus is slightly enlarged, painful on palpation, inhomogeneous consistency. Appendages without features, discharge from the genital tract serous-purulent. Probable diagnosis:

- A. Acute salpingo-oophoritis.
- + B. Acute endometritis.
- C. Endometriosis.
- D. Bacterial vaginosis.
- E. Urogenital candidiasis.

4. A 26-year-old woman went to a women's clinic with complaints of mucopurulent discharge from the genital tract, dull intermittent pain in the lower abdomen, accelerated, painful urination. Examination of the cervix in the mirrors reveals

hyperemia around the external pharynx, mucosal edema, as well as abundant mucopurulent discharge. Previous diagnosis:

A. Cervical erosion.

B. Colpit.

S. Cervicitis.

+ D. Endocervicitis.

E. Endometritis.

5. A 33-year-old patient was admitted to the gynecological hospital with complaints of sharp pain in the lower abdomen, fever up to 38°C, vaginal discharge of a purulent nature. There were no births or abortions. Sex life is chaotic. At bimanual research the cervix of a conical form, a throat is closed. The uterus is not enlarged, painful on palpation. The appendages are enlarged, painful on both sides. The vaults of the vagina are painless. Vaginal discharge is abundant, purulent. To establish the diagnosis it is shown:

+ A. Bacteriological examination of secretions from the genital tract.

B. Colposcopy.

C. Probing the uterus.

D. Scraping of the uterine mucosa.

E. Puncture of the abdominal cavity through the posterior vault of the vagina.

6. A 46-year-old patient was taken to the hospital with complaints of intense lower abdominal pain, nausea, vomiting, body temperature of 39.5 °C. Has been using the IUD for contraception for the past 12 years. Condition of moderate severity, pulse 120 per 1 min, blood pressure 120/80 mm Hg. Art. The tongue is dry, covered with white plaque. The abdomen is swollen, sharply painful in all departments, the symptom of Shchitkin-Blumberg is sharply positive. At bimanual research in a small pelvis the sharply painful, motionless conglomerate in the sizes of 12-14-18 cm is palpated; the posterior vault of the vagina overhangs, sharply painful. Which diagnosis is most likely?

A. Endometritis on the background of the use of the IUD; suppuration of ovarian cysts.

B. Endometritis on the background of IUD use, acute bilateral salpingitis; pelvioperitonitis.

+ C. Endometritis on the background of the use of the IUD; perforation of tuboovarian abscess; diffuse peritonitis.

D. Uterine fibroids with necrosis of one of the nodes; acute purulent salpingitis; diffuse peritonitis.

C. E. Ovarian cancer stage IV.

FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

- Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.
- Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple- choice questions select the lettered answer that is the one best response in each case.

1. For the clinical manifestations of dysmenorrhea are not typical:
 - A. Headache
 - B. Nausea
 - C. Excessive blood loss
 - D. Abdominal pain
 - E. Irritability
2. An 18-year-old girl with normal development of secondary sexual signs complains of primary amenorrhea. Examination revealed that the vagina is underdeveloped, the uterus is absent. Specify the type of amenorrhea:
 - A. Physiological amenorrhea.
 - B. Amenorrhea, caused by hyperandrogenia.
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3. A 24 year old patient complains of amenorrhea. She had labor 13 months ago. Delivery was by caesarian section due to premature detachment of a normally located placenta and intrauterine asphyxia of the fetus. Labor was complicated with a massive blood loss of approximately 2000 ml due to coagulopathy. What test is indicated in this patient?
 - A. Ultrasound of the organs of the small pelvis
 - B. Testosterone blood test
 - C. Progesterone test
 - D. Gonadotropins test
 - E. Computer tomography of the head
4. A 20 year old patient complains of periodic menstruation delays for 2-4 months during the last 2 years. She noticed excessive hair growth on the anterior abdominal wall, mammary glands, and lower extremities. During the last year she gained 14 kg weight. Speculum examination: cervix is conic, external os is closed, epithelium is whole. Body of uterus is in anterflexio, small, mobile, painless. Ovaries are palpated on both sides of the uterus, 4x6 cm, painless, firm. Posterior fornix is deep. Discharge is mucous. What is the most probable diagnosis?
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 - B. Itsenko-Cushing syndrome
 - C. Adenoblastoma of ovaries
 - D. Stein - Leventhal syndrome (Polycystic ovarian syndrome)

- E. Sheehan's syndrome
5. A 15 year old girl complains of bloody discharge from the vagina for 2 weeks, which began after a 3 month delay of menstruation. Menarche at 13 years. Irregular menstrual cycle. Blood analysis: Hb - 90 gr/l, erythrocytes - $2,0 \times 10^{12}/l$, leukocytes - $5,6 \times 10^9/l$. Rectal exam: the uterus has a normal size, the appendages are not palpated. What diagnosis is most probable?
- A. Juvenile bleeding
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 - C. Blood clotting disorder
 - D. Polyp of the endometrium
 - E. Cancer of the endometrium
6. A 27 year old patient complains of irregular menstruation, infertility for 4 years. Obesity, hypertrichosis. During bimanual examination: the uterus is small, the ovaries on both sides are enlarged, firm. Discharge - leucorrhoea. Examination showed that the basal temperature is monophasic. What is the diagnosis?
- A. Sheehan syndrome
 - B. Simmonds syndrome
 - C. Polycystic ovarian syndrome
 - D. Genital tuberculosis
 - E. Asherman syndrome
7. The uterine form of amenorrhea can result from all specified below diseases, except:
- A. None of the below ovarian cyst
 - B. Frequent curettage of the uterine cavity
 - C. Genital infantilism
 - D. Chronic inflammation nonspecific etiology
 - E. Tuberculosis of endometrium
8. What is not used for diagnosis of disorders of the menstrual cycle?
- A. Tests of functional diagnostics
 - B. Investigation of the hormone levels in the blood
 - C. X-ray of Turkish saddle
 - D. Determining the level of TTH
 - E. Use all of the above
9. A 36 year old patient came to the female consultation with complaints of increased irritability, tearfulness, headache, and palpitation, edema of the hands and feet, decreased urination, engorgement of the mammary glands. These symptoms occur and gradually increase some days before menstruation and disappear at the beginning of menstruation. The menstruation cycle is not dysfunctional. The listed complaints began last year. What is the diagnosis?
- A. Climacteric syndrome
 - B. Sheehan syndrome (postnatal hypopituitarism)
 - C. Premenstrual syndrome
 - D. Stein-Leventhal syndrome
 - E. Adrenogenital syndrome
10. A 35-year-old woman was addressed to the doctor 3 months ago with complaints of irregular profuse menstrual bleeding. The doctor administered oral contraceptives

for 2 months. Despite of using oral contraceptives, bleeding continued. What is the conducting tactics?

- A. Curettage of the uterus mucous membrane
- B. Combined oral contraceptives
- C. Estrogen
- D. Nonspecific anti-inflammatory treatment
- E. Progestin.

3.2. Educational materials, recommendations (instructions) for performing tasks

Etiology and Pathogenesis

Chronic inflammation of the genitals

If acute inflammation of the microbial factor is essential and unique etiological role, then the chronic inflammation that it does not matter. Etiological point of chronic inflammation may be any non-specific factor: the exacerbation of inflammation may be triggered by hypothermia, physical or psychological and emotional stress. But microbial factor. Knowledge of these characteristics of the etiology of chronic inflammation has radically changed approaches to the treatment of a large number of women who suffer from this disease, and led primarily to the refusal of antibacterial therapy in chronic inflammation. However, despite the uniqueness of the relationship to determine the place of the microbial factor in the pathogenesis of chronic inflammation, which characterizes the level of present knowledge, we must remember the possible formation of inflammation in the heart of L-forms of microbes, which under favorable conditions, can be converted into an active form.

In chronic VZG come to the fore the complex changes in the body, which gradually acquire polysystem character. Chronic inflammation of genitals should be understood as polysystem disease. There are changes in the nervous, endocrine, cardiovascular, immune, enzyme and other systems of the body.

Changes in the central and peripheral nervous system has a lead role in the pathogenesis of common reactions inherent inflammation of uterine appendages. Center for inflammation in the genitals is a source of abnormal impulses in the cerebral cortex, in subcortical structures to form in them the pain of the dominant. Clinical manifestations of functional disorders of the nervous system, the doctor sees, especially in astenonevroticheskoy syndrome, emotional disorders. Changes in the function of the peripheral nervous system manifest themselves neuralgia, especially the pelvic nerves, persistent ganglionevritami that underlie persistent pelvic pain syndrome.

It is very important for the understanding and knowledge of proper treatment of changes that are obtained in the vascular system. These changes relate to general and local, local reactions. Observed significant violations of the regional blood circulation in the form of shortages of blood supply and vascular dystonia small pelvis, more pronounced in those places, where a connective tissue that is in the spines, scars. Vienna Tubo-ovarian plexus have uneven diameter, they are mutilated, narrowed, sclerotic, dilated varicose. If acute inflammation of the penetration of vessels into the center of inflammation increased, then the chronic process it, on the contrary, decreased. This feature of chronic inflammation explains the ineffectiveness of drug therapy in these diseases, which are related to the difficulty of penetration of therapeutic substances into the center of inflammation through changes in vascular walls. Changes in regional blood circulation are accompanied by slowing blood flow, the formation of thrombosis, which can cause persistent pelvic pain syndrome. Venous

outflow is assisting the development of varicose veins of the small pelvis. On the other hand poor micro-circulation promotes the progression of syndrome disseminated intravascular coagulation. Lack of blood supply to the development of chronic tissue hypoxia, in the end, turns the center of chronic inflammation in the center of the potential cancer prognosis. Understanding this point, the pathogenesis of chronic VZG forced to abandon the tactics of a prolonged conservative treatment for patients with inflammatory tumors. Total vascular reactions occur in the vascular dystonia, vascular spasm with headache, pain in the heart.

Marked disorders observed in the regulation of menstrual function, ie, in the hypothalamus-hypophysis-ovaries. Dysfunction of this system is manifested in changes in production of gonadotropic hormones (folikulostimuliruyuschego, LH), increased basal secretion, which will reduce production of sex hormones (estradiol and progesterone). Depressed function of the cortex of adrenal glands.

In recent years, a large place in the pathogenesis of chronic disease assigned to dysfunction of immune systems. Inhibition of T-and B-lymphocyte systems, their functional activity, the development of incomplete phagocytosis assist retsidutsirovaniyu processes. Of great importance not only inhibition of reactivity, but also its damage - a phenomenon develops autoallergii: the body no longer recognizes its own protein, modified microbial toxins, and produces antibodies to it organic. Circulating antibodies to organic tissues fallopian tubes, ovaries include antigen-antibody reaction, which assists the further destruction of cells of the affected organ (pipes, uterus etc.).

Much of the forth moments of the pathogenesis of chronic inflammatory processes is the result of research in recent years. This greatly changed the attitude to treatment of patients on chronic VZG, namely one of the most frequent of them - chronic adnexitises. It has become clear unreasonableness, and even harmful use of antibiotics, calcium preparations, the need to stimulate or regulate the function of immune systems, hazardous polipragmazii, especially against the background of chronic autoallergii VZG.

Clinical picture

Inflammatory genital diseases

In modern conditions VZG have some features that significantly distinguish them from clinical disease 20 years ago. They are characterized by:

- erased clinical symptoms of acute stage of disease;
- advantage of chronic processes, and in recent years, the emergence of primary chronic disease;
- stable during chronic relapsing processes;
- the most frequent localization of the inflammatory process in the appendages of the uterus;
- a rare defeat parametrial tissue,
- development of rare purulent processes.

For the classical picture of an acute inflammatory process characterized by the five classical signs of inflammation: calor, dolor, tumor, rubor, which are described Galen, and funktia laesa, described Celsius. For inflammation of the uterine appendages, the most common site of genital inflammatory process characterized by increasing temperature to 38-39 C, abdominal pain radiating to the inner thighs, in the back. At vaginal examination appendages defined enlarged, painful, swollen.

The presence of these signs of acute inflammation pathognomonic, and the absence of one of them should make the doctor think about the possibility of other pathology and more thoroughly differentiate diagnosis.

Bartholinitis

Bartholinitis is an inflammation of Bartholin's gland (large gland of vaginal vestibule). It may be caused by Staphylococcus, E.coli and N. gonorrhea. Any type of the pathogen initiates ductal inflammation and obstruction that can lead to Bartholin's abscess. There can be serous, serous-purulent, or purulent inflammation.

Obstruction of the opening of the main duct into the vestibule leads to abscess formation. Infection of Bartholin's glands can lead to secondary infections, abscess or cyst formation. When the gland becomes full and painful, incision and drainage is appropriate. Patients with abscess usually require abscess incision with insertion of the catheter in abscess cavity. Recurrent infection from vaginal flora and mucous cyst formation are common sequelae of Bartholinitis. If the infection of gland is caused by N.gonorrhea specific antibacterial treatment is prescribed.

Vulvitis

Vulvitis is a vulvar inflammation. It may be primary and secondary. Primary vulvitis is caused by local irritants (including feminine hygiene sprays, deodorants, tight-fitting synthetic undergarments in women with obesity or diabetes mellitus. Secondary vulvitis are caused by accompanying discharge from vagina.

Reduced estrogens levels in reproductive age women, and more frequent in girls and menopause women may lead to vulvitis.

Clinic. Erythema, edema of vulva and skin ulcers are all indices of the infection.

Patient's complaints are itching or burning. Excoriation caused by the patient's scratching of the skin of vulva are often seen in vulvar irritation.

To relieve inflammation and itching the main suspected cause must be removed. The therapy includes local application of boric acid solution or KMnO₄ solution. Candidiasis is treated with Gyno-pavent 150mg in suppositories — 3 days, or Orungal 100mg twice a day during 6-7 days orally, and then one capsule per day every first day of menstrual cycle during 3-6 cycles. Treatment with local antibiotics and steroids is successful.

Vaginitis (colpitis)

Vaginitis (colpitis) is an inflammation of vagina. It is the most frequent cause of visits to gynecologists. It may be caused by Staphylococcus, Streptococcus, E. coli and other. Excessive vaginal discharge is associated with an identifiable microbiologic cause in 80% to 90% of cases. Hormonal or chemical causes account for most of the remaining cases. Vaginitis may be acute, subacute and chronic. There are two forms of vulvitis: purulent and granulosa-diffusional.

The main symptom is the increased, gray-white or yellow discharge, generally serous or purulent with rancid odour. The patients complain of dysuria, vulvar itching, burning and dyspareunia. Examination may reveal edema or erythema of vulva and vagina, petechia or patches in the upper vagina or on the cervix. In case of chronic vaginitis all these signs are not so expressed. The cultures from vagina, cervix, urethra, ductus of Bartholin's gland should be microscopically examined.

Treatment of nonspecific vaginitis is complex:

- using of antiinflammatory medicines
- treatment of neuroendocrinologic and immunodeficiency conditions

- treating of male sexual partner; patients should avoid sexual contacts while therapy

Local treatment includes using of syringing with antiseptic fluid (KMnO₄, furacilin, chlorhexidin) no more than 3-4 days. In case of acute or chronic vaginitis laser therapy may be used.

Metronidazol (vaginal suppositories), chlorhinaldin, terginan, betadin, gyno-paveril may be prescribed. For normalization of vaginal ecosystem solkotry-chovac, vagilak, Lactobacterin and Bifidumbacterin are used.

Bacterial Vaginosis

10-25% of all gynecologic patients have this disease. Among sexually transmitted diseases, bacterial vaginosis is diagnosed in 60-65% of women. Bacterial vaginosis is a result of an overgrowth of both anaerobic bacteria and the aerobic bacteria *Gardnerella vaginalis*. Anaerobes and *G. vaginalis* are normal inhabitants of vagina, but these bacteria overgrowth dominant of the normal *Lactobacillus* flora results in the appearance of a thin, fishy odor, gray vaginal discharge that adheres to the vaginal walls.

A small amount of vaginal discharge may be normal (2ml) particularly at the midcycle. Bacterial vaginosis causes an increased vaginal discharge (15-20ml), vulvar irritation, pruritus, dysuria and foul odour.

The diagnosis of bacterial vaginosis is based on the presence of the following characteristics of the discharge:

- pH is higher than 4,5
- a homogeneous thin appearance
- a fishy amine odour produced by anaerobes when 10% KOH is added
- presence of clue cells (vaginal epithelial cells to which organisms are attached)

Cultures aren't helpful because anaerobes and *Gardnerella vaginalis* can be recovered from normal flora of healthy women, but the concentration of both bacteria is higher in patients with bacterial vaginosis. Factors that lead to overgrowth of *G.vaginalis* and anaerobes have not been identified.

Treatment includes elimination of anaerobic agent of microflora, inducement of local and general immunity and then the normal microflora should be renewed.

Oral using of metronidazol (Flagyl) 500mg twice a day for 7 days or by intravaginal Metrogel 0,75% cream twice a day for 5 days, 2% Clindamycin cream (Cleocin) once daily for 7 days.

For normalization of vaginal microflora the local bifidumbacterin insertion or 2-3% solution of Lactic acid is used. The treatment of the male partner with Metronidazol can be advocated only when bacterial vaginosis recurs, but effectiveness is not proven.

Endocervicitis

Endocervicitis is the inflammation of mucosa layer of the endocervix. Bacteria cause infection of the columnar epithelium. Chlamidia trachomatis, Mycoplasma, Trichomonada vaginalis, N. Gonorrhoeae, viruses, Candida, E.coli, Staphylococci cause endocervicitis.

Cervix is constantly exposed to trauma during childbirth, abortion. The abundant mucus secretion of the endocervical glands both with the bacterial ascend from the vagina creates a situation that is advantaging to infection.

The inflammatory process is chiefly confined to the endocervical glands. The squamous epithelium of the exocervix may be involved into the process called acute

exocervicitis. The extent of endocervical involvement as compared with exocervical one appears to have some relation to the infecting agent.

Chronic cervicitis manifestation is cervical erosion. Erosion indicates the presence around the cervical os a zone of infected tissue that has a granular appearance. It implies the loss of superficial layers of the stratified squamous epithelium of the cervix and overgrowth of infected endocervical tissues.

The inflammatory process stimulates a reparative attempt in the form of an upward growth of squamous epithelium, causing some of the ducts of the endocervical glands to be obstructed. Retention of mucus and other fluid within these glands results in the formation of Nabothian cysts. These cysts are endocervical glands filled with infected secretion. Their ducts become secondarily included into the inflammation and reparative processes.

The most important in the diagnosis of chronic cervicitis is the exclusion of the malignant process. Before the beginning of treatment, examination with colposcope should be carried out. The cervicitis may appear as a reddish granulation raised above the surrounding surface, giving the impression of being papillary.

A Papanicolaou smear should be obtained and suspicious areas should undergo biopsy.

Treatment. Acute cervicitis is treated with appropriate antibiotics (it depends on bacterial agent). Local treatment of acute phase is a real danger of dissemination of infection. Laser therapy is used in treatment of acute and chronic cervicitis.

Electrocauterization is the traditional treatment of chronic cervicitis, especially with erosion, cervical ulcers or ectropion. Nowadays cryosurgery or laser surgery has replaced electrocauterization.

Acute endometritis

Acute endometritis is an inflammation of endometrium (mucus layer of uterine). It may occur in such cases as: endometritis after uterine curettage or suction and puerperal endometritis. Endometritis is caused by bacteria, viruses, mycoplasmas. The most frequent the associations of 3-4 anaerobic bacteria and 1-2 aerobic are the main reason of endometritis.

Anaerobic bacteria compose a part of the normal cervicogenital flora. There are two known mechanisms which cause anaerobic infection: antibiotic selection that preferentially inhibits aerobic bacteria and tissue trauma that occurs after surgery which reduces the redox potential. Anaerobes produce odorous metabolic products.

Uterus has endometrium factors of local immunity. There are T-lymphocytes and other factors of cellular immunity in endometrial stroma. Lymphocytes and neutrophils normally appear in the endometrium in the second half of menstrual cycle; their presence does not necessarily constitute endometritis. The appearing of plasma cells represents immune response, usually to foreign bacterial antigen. The organism should be cultured before applying of antimicrobial therapy. As anaerobes compose a part of normal flora, deep tissue cultures not contaminated by surface bacteria are required. Forty eight or more hours are required for anaerobe recovery, and treatment usually is based on clinical signs. There are nonspecific and specific endometritis. Specific endometritis is caused by M. Tuberculosis, N. Gonorrhea, Chlamidia trachomatis, Actinomyces.

Clinic. Fever is the characteristic feature in the diagnosis of endometritis, and it may be accompanied by uterine tenderness. If the infection has spread to the parametrium and adnexa, tenderness may be present there as well. Temperature elevation is probably

proportionate to the extent of the infection and when confined to the decidua, the cases are mild and there is minimal fever. Chills may accompany fever. Women usually complain of abdominal pain. There is tenderness on one or both sides of the abdomen and parametrial tenderness is elicited upon bimanual examination. The uterus is lightly enlarged.

A leukocytosis and increased erythrocyte's sedimentation rate is revealed in patient's blood test. In some cases acute endometritis may become a chronic one.

Treatment. Various choices of initial antibiotic therapy are used. Most of them are successful. Single-agent therapy has the benefit of easy administration; Cephalosporins such as Cefotetan and Cefoxitin are commonly used. A combination of Ampicillin and Aminoglycoside is also popular. The combination of Clindamycin with Gentamicin or Metronidazole with Unasyn (Ampicillin with Sulbactam) and Gentamicin is applied. It is desirable to provide additional antibiotic coverage if there has been no response within 48 to 72 hours. Intravenous antibiotic therapy is continued until the patient is asymptomatic and afebrile period lasts for at least 24 hours.

Local uterine douching with antiseptic solution of chlorhexidine or furacilin has a good effect. In some cases uterine curettage is performed after temperature normalization.

Chronic endometritis

Chronic endometritis is a sequela of untreated acute endometritis or nonadequate treatment of postabortion or puerperal endometritis. The chronic endometritis sometimes is associated with the use of intrauterine device (IUD). In some cases it may occur without acute stage.

Clinic. The chronic endometritis results from organisms that are normally in lower genital tract (Proteus, E. Coli, Staphylococcus, Mycoplasma). Bacteria that can be recovered are usually of low pathogenicity, but more virulent intrauterine bacteria occasionally cause the serous purulent discharge, abnormal uterine bleeding and moderate uterine tenderness. Diagnosis is based on anamnesis and clinical manifestation. It could not be diagnosed unless plasma cells are found in the endometrium. Ultrasonography can identify gas vesicles in uterine cavity, hyperechoic places (local fibrosis, sclerosis) in basal layer of endometrium.

Treatment. A complex treatment is used. It includes medicines for curing of accompanying diseases, desensibilising medicines and additional general health measures, vitamins.

Physiotherapy has an important role. It improves pelvic hemodynamics. Diathermy on lower abdomen, electrophoresis with copper, zinc, ultrasound, inductothermy, laser radiation are used. If during physiotherapy the process becomes strained antibiotic therapy is recommended. While remission antibiotic using is not proved.

Physiotherapy promotes to activation of hormonal ovarian function. If effect is not enough then a hormonal therapy is used (taking into account the patient's age, term of diseases, degree of ovarian hypofunction). Health resort treatment is effective (balneologic therapy, mudcure resort).

Salpingoophoritis

Salpingoophoritis is the inflammation of the uterine tubes and the ovaries. Salpingoophoritis is the most frequent among all pelvic inflammatory diseases. Most cases of oophoritis are secondary to salpingitis. The ovaries become infected by the purulent material that escapes from fallopian tube. If the tubal fimbriae are adherent to

the ovary, the tube and ovary together may form a large retort-shaped tubo-ovarian abscess.

Most patients with salpingoophoritis have lower abdominal, adnexal tenderness (unilateral or bilateral) purulent cervical exudate or purulent vaginal discharge (fig. 88).

Clinic. There are four stages of salpingoophoritis. The first— salpingitis without irritation (inflammation), of the peritoneum, the second— with signs of peritonitis, the third with occlusion of uterine tubes and tuboovarian abscess and the fourth is the rupture of tuboovarian abscess. During bimanual examination adnexal inflammatory mass is revealed.

The diagnosis of salpingoophoritis is based on the history, physical examination and laboratory tests. Besides that additional ultrasonography and laparoscopy can be used. Laparoscopy provides the most accurate way to diagnose the inflammatory process and its stage. It should be used in cases when the diagnosis is unclear, especially in patients with severe peritonitis, to exclude a ruptured abscess and appendicitis. Besides diagnostic laparoscopy is used to provide treatment procedures.

Ultrasound can be used to distinguish the presence of an abscess from an inflammatory mass within the adnexal mass. It may also be helpful in defining mass in the obese patient or if the bimanual examination is unsatisfactory because of the excessive tenderness.

Treatment. All patients with acute salpingoophoritis should be hospitalized. Adequate therapy of salpingitis includes the assessment of severity, antibiotic treatment, additional general health measures.

Before the culture test performing the antibiotic therapy is provide with broad spectrum antibiotics. The most effective is the combination of Clindamicin with Chloramphenicol, Gentamicin and Lincomycin, Doxycyclin, Clacid, Cefobid, Cyfran, Claforan, Dalacin C and Unasyn.

When anaerobic agents are suspected metronidazol should be used, in severe cases intravenously. After temperature normalization and cessation of peritonitis signs antibacterial therapy is continued for 5 days. Detoxication is indicated and is provided by using of 5% glucose solution, polyglucin, reopolyglucin, solutions of proteins, correction of pH balance by using of 4% solution of Sodium bicarbonates. Among physical methods of treatment cold on the lower part of the abdomen is used. Appropriate antibacterial treatment is combined with laparoscopy active drainage. The tuboovarian abscess is drained of pus by puncture and rinsed with bacteriostatic solution and local application of antibiotics. In subacute stage aloe, ultraviolet radiation, autohaemotherapy is used. They prevent the chronic processes.

Chronic salpingoophoritis. In most cases chronic salpingoophoritis is the sequelae of non treated acute process. Chronic stage of the process is characterized by tubal occlusion with periovarial adhesions, tubal dysfunction.

Clinic. The main complaints of the patient are: mild tenderness in lower part of abdomen that becomes severe during menstruation. Pelvic nerves have more painful sensitivity (pelvic plexitis, ganglionevritis due to chronic inflammation). In some cases menstrual dysfunctions such as oligomenorrhea, polymenorrhagia, algodismenorrhagia occur. Changing in uterine tubes and hypofunction of ovaries lead to infertility or miscarriage. Secretory dysfunction like vaginal discharge or cervical exudate may be observed as a

clinical finding of colpitis or endocervitis. Some patients complain of low libido, painful coitus, dysfunction of urinary bladder, liver tenderness.

Menstrual dysfunction (menorrhagia or metrorrhagia) is the most frequent symptom of chronic salpingoophoritis as a sequel of disorders of neurohumoral regulation of menstrual function. Metrorrhagia often occurs after cessation of menstruation and then the differential diagnosis should be made in case of ectopic pregnancy.

Diagnosis. Correct history taking (reveal of inflammation after abortion, delivery or dilatation and curettage) makes it possible to suspect the chronic inflammatory process. Primary chronic salpingoophoritis is found in more than 60% of cases. Some information gives physical examination and laboratory tests. Bimanual examination gives nonspecific information. Enlargement, consistency and degree of adnexa mobility should be examined. Sometimes because of peritubal and periovarian adhesions the sizes and mobility of adnexa are changed.

Additionally, ultrasound and laparoscopy, hysteroscopy should be held. Tomography or endoscopy may be used. Laparoscopy is the most informative diagnostic method to differentiate salpingoophoritis, external endometriosis, uterine myoma with inflammatory changes, cysts. Disorders of adjacent organs (bladder, intestine) while serous inflammation is present without structural changes. But women with disorders of urinary tract, gastro-intestinal tract must be additionally examined (urography, irrigoscopy).

Treatment of chronic salpingoophoritis is provided with minding of pathogenesis and clinic. Antibiotics are indicated in acute period, when there are signs of inflammation. Nonsteroidal antiinflammatory drugs (Voltaren, Butadion) are prescribed. To stimulate immune system immunomodulators are used: (Decaris, T-activin). FIBS, aloe, autohaemotherapy are also used. Analgesia both by medicines and by reflextherapy is of great importance. Physiotherapy is conducted in hospital while in case of acute process and remission it can be used in ambulatory conditions. Ultrasound has analgetic and fibrinolytic influence and is prescribed in sinusoid and modulate of high frequency. Laserotherapy is also used. To escape chronic salpingoophoritis the acute salpingoophoritis must be treated in proper way and the quantity of abortion should be reduced.

Parametritis

Parametritis is an inflammation of parametrium. Inflammation of the whole pelvic cellular is called pelviocellulitis. According to international statistics these diseases are classified as acute parametritis or pelvic phlegmona.

Infection agents may be staphylococcus, streptococcus, E.coli, etc. It can be caused by one microbic agent or microbe association. It occurs after pathologic delivery, abortion, operation on genitals. The main way of infection spreading is lymphogenic. Morphologically parametritis is characterized by all signs of inflammation: dilation of blood and lymphatic vessels, peripheral edema, exudation. There are 3 stages in course of parametritis (infiltration, exudation, firming). Exudation may be serous, and very rarely it is purulent. Sometimes it undergo resorbition and dissolves, sometimes a fibrose connective tissue grows and leads to uterine dislocation to the side of previous inflammatory process.

Clinic. Moderate tenderness in lower parts of abdomen, in back, high body temperature (38-39°C), tachicardia are found. Signs of peritoneal irritation and diminished or absent bowel sounds, especially associated with ileus, indicate more serious infection,

including the possibility of abscess formation. Fever is a characteristic feature in the diagnosis of metritis and it is accompanied by uterine tenderness. Bimanually before or behind on left or right side of the uterus infiltration may be palpated. It is firm and immovable. Infiltration is classified into anterior, posterior and lateral.

Treatment begins from using antibiotic of broad coverage against a variety of common microorganisms and is usually prescribed without cultures.

Various choices of initial antibiotic therapy are used. Most of them are successful. Cephalosporins such as Cefotetan and Cefoxitin are commonly used. A combination of Ampicillin and Aminoglycoside and also the combination of Clindamycin with Gentamicin are used.

A bottle with ice on the lower part of abdomen is used in case of infiltrative stage of disease. Biostimulators should be prescribed. Management of a persistent pelvic abscess includes drainage by colpotomy, or laparotomy. Intraabdominal rupture of pelvic abscess is a surgical emergency. Sepsis may occur in association with pelvic infection, with or without frank abscess formation. Physiotherapeutic procedures are used for rehabilitation.

Tuboovarian abscess

Tuboovarian abscess (TOA) may occur as a complication of salpingoophoritis. It begins from acute purulent salpingitis when all layers of uterine tubes are involved into the process. The tubes characteristically become swollen and reddish as the muscularis and serosa are inflamed. If exudate drips from the fimbriated ends of the tubes a pelvic peritonitis is produced then it can give rise to peritoneal adhesions. The swollen and congested fimbriae may adhere to one another and produce tubal occlusion. The fimbriae may occlude tubes producing permanent tubal infertility. The swollen and congested fimbriae may adhere to ovary, trapping the exudate in the tube and giving rise to pyosalpinx or if the ovary becomes infected, a tuboovarian abscess. The mucosal folds may adhere to one another forming gland-like spaces that are filled with exudate. If the infection subsides after agglutination of the fimbria and closure of the peripheral end of the tube, secretion accumulates and distends the tube, forming pyosalpinx. Each recurrence of chronic salpingoophoritis has more clinical manifestation and is treated with difficulty. TOA is associated with IUD, microbe association, chronic salpingoophoritis.

Intoxication in case of TOA leads to liver disorders. Decreasing of albumin-globulin index is observed while the level of general proteins is normal for a long time. The degree of these disorders depends on the time of duration of the process.

Clinic. Clinic of TOA depends on the volume of purulent damage of adnexa, duration of the process, disorders of adjacent organs. There are some syndromes which are divided into local syndrome (pain, purulent discharge, peritoneal symptoms and palpation of tuboovarian mass).

Inflammatory-intoxicative syndrome includes fever, tachycardia, nausea, vomiting. Leucocytosis, decreasing of albumin-globulin index, C-reactive protein are observed in blood. Immune syndrome (decreasing of lymphocytes and monocytes in blood) is found.

Syndrome of adjacent organs disorders (dysuria, urinary frequency, menstrual disorders) is also possible.

Severe lower abdominal pain occurs, pelvic peritonitis may be present. Pain can irradiate to back, pelvic bottom, in the chest. In such cases the examinations should be

performed to exclude pneumonia, pancreatitis, cholecystitis. Muscular defence which prevents abdominal palpation in the lower quadrants, adnexa are tender to various degrees and cervix movement may cause pain in case of bimanual examination. The adnexa often are either adherent to the posterior aspect of the uterine or prolapsed in cul-de-sac, which may pull the uterine into a retroverted position. TOA is characterized by pain and tenderness, fever or chills, temperature rises up 39°C, blood pressure decreases. Abdomen takes part in breathing, and it is painful in lower parts. In blood analysis elevated white blood count ($9-10 \times 10^9/l$) erythrocytes' sedimentation rate more than 30mm/hour, positive C-reactive protein, decreasing of albumin-globulin index till 0,8 are observed.

Sometimes there can be urinary syndrome with proteinuria, leucocyturia. There may be disorders of filtrative kidney' function, even unuria. Changing of albumin-globulin index and hypofibrinogenemia characterizes the liver dysfunction.

Diagnosis is based on clinic, bimanual examination, laboratory analyses and additional methods of investigation (ultrasound, laparoscopy).

Treatment. Tuboovarian abscess is treated by antibiotics, desensibilisative and nonsteroidal antiinflammatory medicines, detoxication and immunostimulation. Best of all one should combine taking of penicillin with tetracyclins. When anaerobic infection is suspected metronidazole is used. Daily punctions of tuboovarian abscesses are indicated to remove purulent contents.

Indications to surgical removal of tuboovarian abscess are:

- absence of efficiency of complex treatment with usage of punctions during 2-3 days
- suspicion on tuboovarian abscess perforation; volume of surgical intervention depends on process' spreading, woman's age and extragenital pathology

Peritonitis

Pelvioperitonitis is an inflammation of pelvic peritoneum. The polymicrobial infection such as Escherichia coli and other aerobic, enteric, gramnegative rods, group of β -hemolytic staphylococci, anaerobic, streptococci, Bacteroides species, staphylococci, mycoplasmas cause the process. Pelvioperitonitis occurs secondary. Primary process is in uterine tubes, ovaries, uterus and parametrium. In most cases purulent damage of uterine adnexa lasts with pelvioperitonitis. Infection can be spread by lymphogenic or blood vessels, and from uterine tubes in case of salpingitis, especially gonococcal infection.

Clinic characterizes the acute inflammation. High temperature, severe lower abdominal pain, fever or chills, tachycardia are common. There can be nausea and sometimes vomiting. Muscular defence and rebound tenderness are the symptoms of peritoneal irritation. Anterior abdomen wall takes part in breathing act. Tender adnexa are present at bimanual examination. Cervical motion causes pain. Posterior fornix is painful.

Laboratory tests reveal increasing of white blood cell count and erythrocyte sedimentation rate. C-reactive protein levels may appear. General blood test should be done 4-5 times per day to diagnose transformation of pelvioperitonitis to peritonitis.

Treatment. All the patients should be hospitalized. Ideally, the antibiotic should be selected according to the organism present in the fallopian tube or uterus, but in most cases empiric therapy must be used. Treatment includes intravenous doxycycline and either cefoxitin or cefotetan or intravenous clindamycin and gentamicin for at least 4 days followed by oral clindamycin or tetracyclin for 10-14 days. Hospitalized patients

who have peritonitis but do not have adnexal abscess usually respond rapidly to the regimens. In the presence of an adnexal abscess, even if the systemic manifestations are mild, antibiotics which eliminate *B. fragilis* should be selected because most pelvic abscesses contain this organism. Clindamycin, Metronidazol, Cefoxitin, or Imipenem should be used to treat pelvic abscess. If there is an intrauterine device it should be removed as soon as therapy is started. Surgery is indicated in the case of ruptured pyosalpinx or ovarian abscess. Colpotomy drainage usually is preferable when unruptured midline cul-de-sac abscess is present. Laparotomy is required for such problems as unresolved abscess or adnexal mass that does not subside, surgery should be limited to the most conservative procedures that will be effective. Unilateral abscess respond to unilateral salpingoophorectomy.

INTRAUTERINE INFECTIONS. TORCH - COMPLEX.

Intrauterine infections – diseases, occurring as a result of the infection of the fetus from the woman during pregnancy or birth. The fetus is characterized by delay in mental and physical development. In 1971, WHO distinguished TORCH - COMPLEX - group of viruses, bacterial infections causing persistent structural changes:

T - TOXOPLASMOSIS

O - OTHER

R – RUBELLA

C - CYTOMEGALOVIRUS INFECTION

H - HERPETIC INFECTION.

The group OTHER includes syphilis, clamidiosis, enterovirus infections, hepatitis A, B, gonorrheal infection, listeriosis; this group probably also includes measles, epidemic parotitis. Hypothetical infections - flu A, lymphocytic choriomeningitis, human papilloma virus.

The frequency of the given pathology is not known. The perinatal death rate is 28%.

In the structure of the death rate the following are most frequently seen:

Mycoplasmosis 12%

Herpes 10%

Clamidiosis 8%

Acute respiratory viral infections 8%

Cytomegalovirus infection 6%

Candida 2-3%

Hepatitis B

Listeriosis 1-2%.

Pathogenesis.

There is a complex of influences, rendering direct indirect influences:

- hyperthermia
- pathological action of microorganisms and their toxins
- disorder of the placentation process
- disorder of the exchange processes

Concrete character of the disorder of the fetus depends on: type of pathogen, its number and virulence.

There is no parallelism between virulence and affect. Character of the infectious process. Also there is no direct dependence between the severity of the process and the character of the infectious process (latent, acute, chronic).

The greatest dangers are infections, with which a woman comes in contact with during the pregnancy for the first time. A chronic process is not dangerous for the fetus if the mother does not immune deviancy.

Ways of penetration from the mother to the fetus:

- transplacental
- ascending (from the vagina)
- descending (from the fallopian tubes)
- from the endometrium into the deciduous membrane (by contact) - transmural.

The ascending way of distribution of an infection is the most often. It is characteristic for infections sexually transmitted. Contamination occurs antenatal, intrapartum.

Infection of the amniotic fluid syndrome (conditioned pathogenic microorganisms - clamidia, fungi, mycoplasma, enterococcus). The amniotic fluid has protective properties, but they only delay the growth of the microorganisms. Four hours after the membrane ruptures, there can already be Gram-negative microorganisms. The amniotic fluid is an environment for the accumulation of microorganisms. Contamination by the amniotic fluid is probable by swallowing, aspiration, by direct contact of the fluid with the mucous and skin, by passage through infected birth canal, and also hematogenous. If the latter occurs, contamination of practically all the organs is possible, more often centers occur in the kidneys; secondary contamination of the fluid occurs, that is a vicious circle. By hematogenous (transplacental) ways of infection, certain conditions are necessary: bacteriemia, viremia, parasitemia. More often centers are formed in the placenta with subsequent infection of the fetus. Only viruses penetrate the fetus immediately. Gestosis, cardiovascular diseases promote intrauterine infection, during these diseases an increase in the permeability of tissues occurs.

Term of the pregnancy. Infectious embryopathy occurs from the 3rd through the 12th weeks. The fetus does not have immunity, disorder in the laying of the organs and systems will cause teratogenic and embryotoxic effect. More often it is caused by viruses. Teratogenic effect - developmental anomalies and deformities of the fetus. Embryotoxic effect – affection of the chorion, as a result the embryo dies.

Infectious fetopathy occur from the 16th week and till birth. The fetus possesses specific reactions to certain stimuli. Developmental anomalies can occur (early fetopathy): endocardial fibroelastosis, cystic disease, micro- and hydrocephaly. Late fetal period is from the 6th month. The fetus during this period can react with a leukocytic reaction; encephalitis, hepatitis, pneumonia, interstitial neuritis can occur. The influence of viruses primarily in the late fetal period can cause functional disorders: attributes of immaturity, disembrionogenic stigma, decrease in the adaptability of the fetus, delay in mental and physical development.

The fetus's ability of the immune reaction. The fetus has a physiological immunodeficiency and an absence of its own microflora.

Protective reserves from the mother.

The clinic depends on the factors described above. Infectious affection of the mother are various:

- complicated pregnancy and birth
- disorder of the embryo and fetus
- diseases of the newborns

Complications:

- threat of disruption of the pregnancy and miscarriages
- gestosis
- anemia
- anomalies of attachment of the placenta
- premature detachment of the normally located placenta
- anomalies of labor

Disruption of the pregnancy. As microorganisms render tonomotor action on the uterus (establishing the generality of antigens of microorganisms and the organism for bacteroidosis, mycoplasma, etc. which possess phospholipids - triggers for labor). Phospholipids of the bacterial origin start the synthesis of prostaglandin (E2, F2 alpha), which results in the beginning of labor.

Complications of the pregnancy also act upon the condition of the fetus. Clinical displays of the fetus and newborn: hypotrophy, hypoxia, for the newborn there are a lot of displays and they are nonspecific: hypoxia, respiratory distress-syndrome, hyaline membrane disease, sluggish, decrease in muscular tone, reflexes, jaundice, hydrops fetalis, disseminated intravascular coagulation syndrome. Gastrointestinal tract: regurgitation, rejecting food, maybe massive decrease in body weight.

Virus infections are characterized by: a delay in intrauterine development, encephalitis, hepatitis, nephritis, pneumonia, disorders of the GIT.

All of the displays are similar to hypoxia or traumatic affection of the fetus. A part of the children are born without displays of infection, however the virus persists - for example, the Coxsackie virus causes hydrocephaly, the rubella virus causes progressing cataracts.

T, R, C and listeriosis have nonspecific syndromes.

Rubella:

1. Absence of development, retinitis, cataract, sometimes glaucoma.
2. Congenital heart diseases such as an open arterial duct, stenosis of the pulmonary arteries.
3. Deafness.
4. Mental deficiency.

Cytomegalovirus infection:

1. Hepatosplenomegaly.
2. Jaundice.
3. Hemorrhagic rash.
4. Microcephaly.
5. Bilateral periventricular calcification.
6. Disorders of the eyes: chorioretinitis, microphthalmia.

Toxoplasmosis.

1. Widespread necrotic changes – necrotic meningoencephalitis - micro- and hydrocephaly.
2. Changes in the eyes - chorioretinitis - atrophy of the optic nerve, cataract, microphthalmia, paresis of the oculomotor muscles.

Listeriosis.

1. Numerous rashes, papula with bullos-like heads, millet grain with a red band in the basis, located on the back, buttocks, extremities, on the mucous of the esophagus, pharunx, conjunctiva, mucous of the intestines, bronchial tubes, etc.

2. Granulomatous sepsis with the rupture of these papula.

Diagnostics of intrauterine infections: performed in 3 stages:

1. Diagnostics during the intrauterine period.

2. Diagnostics during birth.

3. Diagnostics with the display of clinical attributes.

METHODS OF DIAGNOSTICS DURING THE INTRAUTERINE PERIOD.

The direct methods are directed on finding the pathogen (cultural, histological, etc.). Indirect methods are based on studying the condition of the mother: diagnostics of infections of the mother, determining the immunological status, metabolic shifts. Material for study – aspirate of the chorion during chorion-biopsy, amniotic fluid during amniocentesis, fetus's blood during a puncture of the umbilical cord. Material for study from the mother - saliva, discharge from the nose and pharunx, blood, urine, discharge from the cervix uterus, uterine pharunx. Immunoglobulin G, M in seronegative pregnant women specifies of a primary infection (that most dangerously). Immunoglobulin G in a small titre specifies of the immunization of the pregnant woman in the past. An increase in the titre of IgG in dynamics or the appearance IgM specifies a relapse of an infection during the pregnancy. Material from the newborn – aspirate, blood, meconium, urine, cerebrospinal fluid. Thus, the primary criterion of diagnostics – identifying the microbe in various materials.

Treatment. Principles:

1. Antibiotic therapy (taking into account the pathogen, its sensitivity, pharmacokinetics, term of the pregnancy. Access of antibiotics to the intestines, lungs of the fetus should be minimal).

2. Desensitizing therapy.

3. General restorative therapy.

4. Immune modulating therapy.

5. Disintoxication therapy.

6. Prophylaxis of complications.

Prophylaxis.

- Treatment of extragenital diseases of the mother
- Treatment of urinogenital diseases
- Observing personal hygiene, hygiene of sexual life
- Sanitation of the centers of infection
- Careful conducting of birth
- Limited contact with animals
- Observing sanitary-hygienic mode in the maternity hospital.

3.3. Requirements for the results of work.

Show the phantom method of physical examination on organ systems.

Show on phantom gynecological examination.

Demonstrate phantom performance tests of functional diagnostics, fractional diagnostic curettage of the uterus

Collect special gynecological history, assess the results of laboratory studies (general and biochemical analyzes of blood, urine, blood coagulation system, etc.).

In gynecology department: to take the history, perform an objective and gynecological examination of the patient, to appoint examination

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. A 30-year-old patient was hospitalized in the gynecological department with complaints of pain in the lower abdomen, radiating to the lower back, fever up to 37.30C. Objectively: the cervix is cylindrical, the pharynx is closed. The body of the uterus is normal, painless, mobile. The appendages are slightly enlarged, limited in mobility, painful. The vaults are free. Highlights - white. What is the most likely diagnosis?

- A. Ovarian cyst.
- B. Endometritis.
- + C. Chronic salpingo-oophoritis in the acute stage.
- D. Polycystic ovary disease.
- E. Pelvioperitonitis.

2. A 17-year-old woman complained of fever up to 38 degrees, pain in the lower abdomen. Complaints appeared 3 days after the next menstruation, which began on time. The abdomen is soft, painful in the lower parts. At bimanual research the uterus without features, appendages are slightly increased, pasty, limited mobility, painful at a palpation, excursions of a neck of uterus are painful. Your diagnosis?

- A. Ovarian cystoma.
- + B. Acute salpingo-oophoritis.
- C. Ovarian cancer.
- D. Endometritis.
- E. Endometriosis.

3. A 32-year-old woman complained of pain in the lower abdomen, fever, chills, profuse discharge from the genital tract. A medical abortion was performed 4 days ago. On examination, the abdomen is soft, painful on palpation in the lower parts, the symptoms of peritoneal irritation are negative. The uterus is slightly enlarged, painful on palpation, inhomogeneous consistency. Appendages without features, discharge from the genital tract serous-purulent. Probable diagnosis:

- A. Acute salpingo-oophoritis.
- + B. Acute endometritis.
- C. Endometriosis.
- D. Bacterial vaginosis.
- E. Urogenital candidiasis.

4. A 26-year-old woman went to a women's clinic with complaints of mucopurulent discharge from the genital tract, dull intermittent pain in the lower abdomen, accelerated, painful urination. Examination of the cervix in the mirrors reveals hyperemia around the external pharynx, mucosal edema, as well as abundant mucopurulent discharge. Previous diagnosis:

- A. Cervical erosion.
- B. Colpit.
- S. Cervicitis.
- + D. Endocervicitis.
- E. Endometritis.

5. A 33-year-old patient was admitted to the gynecological hospital with complaints of sharp pain in the lower abdomen, fever up to 38°C, vaginal discharge of a purulent nature. There were no births or abortions. Sex life is chaotic. At bimanual research the cervix of a conical form, a throat is closed. The uterus is not enlarged, painful on palpation. The appendages are enlarged, painful on both sides. The vaults of the vagina are painless. Vaginal discharge is abundant, purulent. To establish the diagnosis it is shown:

- + A. Bacteriological examination of secretions from the genital tract.
- B. Colposcopy.
- C. Probing the uterus.
- D. Scraping of the uterine mucosa.
- E. Puncture of the abdominal cavity through the posterior vault of the vagina.

6. A 46-year-old patient was taken to the hospital with complaints of intense lower abdominal pain, nausea, vomiting, body temperature of 39.5 ° C. Has been using the IUD for contraception for the past 12 years. Condition of moderate severity, pulse 120 per 1 min, blood pressure 120/80 mm Hg. Art. The tongue is dry, covered with white plaque. The abdomen is swollen, sharply painful in all departments, the symptom of Shchitkin-Blumberg is sharply positive. At bimanual research in a small pelvis the sharply painful, motionless conglomerate in the sizes of 12-14-18 cm is palpated; the posterior vault of the vagina overhangs, sharply painful. Which diagnosis is most likely?

- A. Endometritis on the background of the use of the IUD; suppuration of ovarian cysts.
- B. Endometritis on the background of IUD use, acute bilateral salpingitis; pelvioperitonitis.

+ C. Endometritis on the background of the use of the IUD; perforation of tuboovarian abscess; diffuse peritonitis.

D. Uterine fibroids with necrosis of one of the nodes; acute purulent salpingitis; diffuse peritonitis.

E. Ovarian cancer stage IV.

7. A 46-year-old patient was taken to the hospital with complaints of intense lower abdominal pain, nausea, vomiting, body temperature of 39.5 ° C. Has been using the IUD for contraception for the past 12 years. Condition of moderate severity, pulse 120 per 1 min, blood pressure 120/80 mm Hg. Art. The tongue is dry, covered with white plaque. The abdomen is swollen, sharply painful in all departments, the symptom of Shchitkin-Blumberg is sharply positive. At bimanual research in a small pelvis the sharply painful, motionless conglomerate in the sizes of 12-14-18 cm is palpated; the posterior vault of the vagina overhangs, sharply painful. Tactics and scope of surgery?

A. Removal of the IUD with the next combined. antibacterial and infusion transfusion therapy for 7 days. In the absence of effect -

Pfanenshtil's peritoneum, bilateral adnexectomy.

B. Drainage of the pathological formation under the control of transvaginal ultrasound with

followed by antibacterial and infusion therapy.

C. Therapeutic and diagnostic laparoscopy; rehabilitation and drainage of the abdominal cavity.

+ D. Emergency peritoneum; lower median laparotomy; pangysterectomy; drainage of the abdominal cavity.

E. Emergency laparotomy; peritoneum after Joel-Cohen; supravaginal amputation uterus with fallopian tubes.

8. In a 36-year-old woman at cytological examination of a smear-imprint of the vaginal part of the cervix found atypical cells on the background of colpitis. Colposcopic examination and histological examination of the scraping of the mucous membrane of the uterus and cervical canal did not reveal pathological changes. Define medical tactics:

- A. Anti-inflammatory therapy.
- B. Does not require additional observation.
- C. Repeat fractional diagnostic scraping of the uterine mucosa.
- + D. Repeat cytological examination after anti-inflammatory therapy.
- E. Carry out diathermocoagulation of the cervix.

9. In the gynecological department there is a 32-year-old patient with acute bartholinitis. Body temperature 38.2°C, blood leukocytes 10.4 T / l, ESR 24 mm / h. In the area of the large gland the day before - skin redness, a symptom of fluctuation, sharp pain. What is the most correct tactic for a doctor?

- A. Antibiotic therapy.
- B. Antibiotics + sulfonamides.
- C. Opening, drainage of gland abscess
- + D. Disclosure, drainage of gland abscess + antibiotics.
- E. Antibiotics + detoxification + biostimulants.

10. A 22-year-old woman was hospitalized in the gynecological department with complaints of lower abdominal pain, fever up to 39.5°C. Objectively: pulse 108 beats / min, blood pressure 120/80 mm Hg The abdomen is moderately swollen, sharply painful in the hypogastric area. The Schitkin-Blumberg symptom is positive in the hypogastric region. Vaginal examination: the uterus and appendages are not palpable due to the tension of the anterior abdominal wall, the posterior vault of the vagina overhangs, sharply painful. What is the most likely diagnosis?

- A. Acute adnexitis.
- B. Ectopic pregnancy.
- C. Ovarian apoplexy.
- D. Acute endometritis.
- + E. Pelvioperitonitis.

Select from the text laboratory data confirming the diagnosis and prescribe treatment.

Reply:

Urogenital candidiasis in this case is confirmed by the following data:

- complaints of discomfort, itching, itching of the external genitalia.
- examination in mirrors: severe redness and swelling of the mucous membrane of the vagina and cervix. In the posterior vault of the vagina there are secretions of syrupy, milky white. The same discharge is present in the external pharynx of the cervix and urethra.
- microbiological examination: the analysis of the microflora of the vagina, cervical canal and urethra revealed many leukocytes, mixed microflora and a fungus of the genus *Candida*.

Treatment: the main place in the pharmacotherapy of urogenital candidiasis belongs to antifungal drugs, which must be prescribed taking into account the identified type of

candidiasis and data on sensitivity to essential drugs. Treatment should be carried out with antifungal drugs of both general and local action (fluconazole, clotrimazole, nystatin)

Practical lesson № 26.

Benign tumours of the female reproductive system. Benign breast disorders. Endometriosis.

LEARNING OBJECTIVE is to acquaint the students with the issues of clinics, diagnostics and treatment of benign tumors of the female genitalia. To know the classification of kinds of benign tumors of the female genitalia. To acquaint the students with the issues of clinics, diagnostics and treatment of endometriosis.

BASIC CONCEPTS:

Definition of cyst and tumor of ovary.

Cyst of Bartholin gland: clinics, diagnostics, complications, treatment.

Tumor-like masses in ovaries: clinics, diagnostics, complications, treatment, tactics of GP.

Benign tumors of ovaries (epithelial, tumors of genital cord stroma, lipid-cellular, germ cell tumors): clinics, diagnostics, complications, treatment, tactics of GP.

Benign tumors of uterus: clinics, diagnostics, complications, treatment, indications to surgical treatment, tactics of GP.

Endometriosis: etiology, pathogenesis, classification, clinics, diagnostics, modern treatment methods, tactics of GP, methods of rehabilitation of reproductive function.

A. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Now there is a significant increase in the incidence of fibroids. Thus, the incidence of all, who goes to the clinic amounts to 15-17%. In recent years become common cases of uterine cancer disease in women of childbearing age (30-35 years). Increased incidence of uterine cancer bind with the influence of environmental factors, work svyazanoy hazardous production factors, neuropsychiatric surge. Second tumors of the female genital tumors of the ovaries is second only to cervical cancer. The diversity of the structure and origin of ovarian tumors due to their participation in the structure of different histological structure, origin and embryogenesis cells with different hormone and secretion.

Endometriosis is marked in 7-50% of menstruating women, during menopause it does not always regress and in 1-2% of the cases it continues as malignant. The frequency of recurrence of endometriosis changes from 2% up to 47%. At the same time, endometriosis in healthy women is observed in 5-20% of the cases and in more than 60% of patients with infertility and/or pelvic pains.

CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.
Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

1. The etiology and pathogenesis of uterine fibroids;
2. Classification of uterine fibroids and their frequency;
3. The basic principles of diagnosis, treatment and prevention of uterine fibroids;
4. The classification of benign ovarian tumor they differ from ovarian tumors and malignant tumors;
5. The role of preventive examinations in a timely diagnosis and follow-up features for patients with tumors of the ovaries.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

1. If necessary, determine the cervical canal, uterine cavity length, presence of tumor in it, use:
 - A. Cervical Biopsy
 - B. colposcopy
 - C. laparoscopy
 - + D. Sounding the uterus
2. Benign tumor of epithelial tissue:
 - A. fibroma
 - B. Hidradenoma
 - C. Lipoma
 - + D. Papilloma
 - E. Carcinoma
3. In 40 women during routine inspection at a bimanual examination revealed a tumor of the ovary. The disease is not accompanied by clinical manifestations. What additional methods are needed to confirm the diagnosis?
 - + A. Ultrasound examination of the pelvis
 - B. Functional diagnostic tests
 - C. Pnevmooperitoneografiya
 - D. Measurement of basal temperature
 - E. Puncture the abdominal cavity through the posterior vaginal vault
4. Urgent received patient complaining of acute abdominal pain that arose during exercise, fever, general weakness. From history we know that during the medical examination revealed a tumor of the ovary left. Objectively: skin pale, pulse 120 beats / min., BP 90/60 mm Hg When bimanual and ultrasound in tumor appendages found. In Douglas space defined by a large amount of free fluid. What is the possible diagnosis?
 - A. Polycystic ovarian disease

- B. Impaired tubal pregnancy
- C. Torsion stem tumor of the left ovary
- + D. Rupture of ovarian cysts
- E. Apoplexy left ovary

5. The patient '30 complaining of pain in the left iliac region, which began after the sudden movements 5 hours ago. Menses 3 weeks ago. Palpation stomach pain in the lower, more to the left. Symptom Pasternatskogo negative on both sides. The uterus is a normal size, anteflexio, displacement occurs when pain in the left appendages. Right appendages are not clearly palpable. To the left of uterine tumor formation is determined sharply painful on palpation. The most likely diagnosis?

- + A. Torsion legs cystoma left ovary
- B. Ectopic pregnancy
- C. Left-sided renal colic
- D. Necrosis subserous fibromatous unit
- E. Apoplexy left ovary

6. In mothers 40 years with full-term pregnancy and izlivshimisya 8 hours ago amniotic fluid in the vaginal examination revealed myoma node, which comes from the front wall of the lower uterine segment, performing pelvic cavity. Above the head node is highly fetus. Made of delivery by caesarean section followed by hysterectomy without appendages. What was the determining factor in choosing the tactics of delivery and amount of surgery done?

- A. Age of mothers
- + B. The localization of the tumor and its size
- C. Burdened obstetric history
- D. The total duration of anhydrous period
- E. Term pregnancy

7. The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth surface texture tuhoelastichnoyi, movable, painless smooth; deep vault; mucus. What is the most likely diagnosis?

- A. exacerbation of chronic salpingo of education left tuboovarialnogo
- B. Uterine fibroids underbelly of a single node
- + C. Cystoma left ovary
- D. Ovarian Cancer
- E. endometrioid ovarian cysts left

8. The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth surface texture tuhoelasticheskoy, movable, painless smooth; deep vault; mucus. What research shows an outpatient basis?

- A. Ultrasound of organs
- B. X-ray or endoscopic research – of the stomach and intestines
- C. Extended colposcopy
- + D. All of the above

E. None of the above

9. The patient ' 38 years with the complaint – we have to recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth poverhniyu, tuhoelasticheskoy texture, movable, painless smooth; deep vault; mucus. Prenatal doctor's tactics?

A. Refer patients in Oncology Center to decide on a treatment strategy

B. Ask the sick in clinical records, recommended re-examination after 1 month

C. a course of antibiotic therapy in the absence of effect - hospitalization

D. urgently hospitalize the patient to perform surgery

+ E. Planned hospitalization for surgical treatment

10. Metrorrahiya is pathognomonic symptom at:

A. subserous uterine myoma

+ B. submucous uterine myoma

C. interstitial version of uterine fibroids

D. Inflammatory diseases genital

E. ovary apoplexy.

FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

– Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.

– Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests

– Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple- choice questions select the lettered answer that is the one best response in each case.

1. For the clinical manifestations of dysmenorrhea are not typical:

A. Headache

B. Nausea

C. Excessive blood loss

D. Abdominal pain

E. Irritability

2. An 18-year-old girl with normal development of secondary sexual signs complains of primary amenorrhea. Examination revealed that the vagina is underdeveloped, the uterus is absent. Specify the type of amenorrhea:
- A. Physiological amenorrhea.
 - B. Amenorrhea, caused by hyperandrogenia.
 - C. Hypogonadotrophic amenorrhea
 - D. Eugonadotropic amenorrhea.
3. A 24 year old patient complains of amenorrhea. She had labor 13 months ago. Delivery was by caesarian section due to premature detachment of a normally located placenta and intrauterine asphyxia of the fetus. Labor was complicated with a massive blood loss of approximately 2000 ml due to coagulopathy. What test is indicated in this patient?
- A. Ultrasound of the organs of the small pelvis
 - B. Testosterone blood test
 - C. Progesterone test
 - D. Gonadotropins test
 - E. Computer tomography of the head
4. A 20 year old patient complains of periodic menstruation delays for 2-4 months during the last 2 years. She noticed excessive hair growth on the anterior abdominal wall, mammary glands, and lower extremities. During the last year she gained 14 kg weight. Speculum examination: cervix is conic, external os is closed, epithelium is whole. Body of uterus is in anteflexio, small, mobile, painless. Ovaries are palpated on both sides of the uterus, 4x6 cm, painless, firm. Posterior fornix is deep. Discharge is mucous. What is the most probable diagnosis?
- A. Adrenogenital syndrome
 - B. Itsenko-Cushing syndrome
 - C. Adenoblastoma of ovaries
 - D. Stein - Leventhal syndrome (Polycystic ovarian syndrome)
 - E. Sheehan's syndrome
5. A 15 year old girl complains of bloody discharge from the vagina for 2 weeks, which began after a 3 month delay of menstruation. Menarche at 13 years. Irregular menstrual cycle. Blood analysis: Hb - 90 gr/l, erythrocytes - $2,0 \times 10^{12}/l$, leukocytes - $5,6 \times 10^9/l$. Rectal exam: the uterus has a normal size, the appendages are not palpated. What diagnosis is most probable?
- A. Juvenile bleeding
 - B. Incomplete abortion
 - C. Blood clotting disorder
 - D. Polyp of the endometrium
 - E. Cancer of the endometrium
6. A 27 year old patient complains of irregular menstruation, infertility for 4 years. Obesity, hypertrichosis. During bimanual examination: the uterus is small, the ovaries on both sides are enlarged, firm. Discharge - leucorrhoea. Examination showed that the basal temperature is monophasic. What is the diagnosis?
- A. Sheehan syndrome
 - B. Simmonds syndrome
 - C. Polycystic ovarian syndrome
 - D. Genital tuberculosis

E. Asherman syndrome

7. The uterine form of amenorrhea can result from all specified below diseases, except:

- A. None of the below ovarian cyst
- B. Frequent curettage of the uterine cavity
- C. Genital infantilism
- D. Chronic inflammation nonspecific etiology
- E. Tuberculosis of endometrium

8. What is not used for diagnosis of disorders of the menstrual cycle?

- A. Tests of functional diagnostics
- B. Investigation of the hormone levels in the blood
- C. X-ray of Turkish saddle
- D. Determining the level of TTH
- E. Use all of the above

9. A 36 year old patient came to the female consultation with complaints of increased irritability, tearfulness, headache, and palpitation, edema of the hands and feet, decreased urination, engorgement of the mammary glands. These symptoms occur and gradually increase some days before menstruation and disappear at the beginning of menstruation. The menstruation cycle is not dysfunctional. The listed complaints began last year. What is the diagnosis?

- A. Climacteric syndrome
- B. Shihane syndrome (postnatal hypopituitarism)
- C. Premenstrual syndrome
- D. Stein-Leventhal syndrome
- E. Adrenogenital syndrome

10. A 35-year-old woman was addressed to the doctor 3 months ago with complaints of irregular profuse menstrual bleeding. The doctor administered oral contraceptives for 2 months. Despite of using oral contraceptives, bleeding continued. What is the conducting tactics?

- A. Curettage of the uterus mucous membrane
- B. Combined oral contraceptives
- C. Estrogen
- D. Nonspecific anti-inflammatory treatment
- E. Progestin.

3.2. Educational materials, recommendations (instructions) for performing tasks

Definition of cyst and tumor of ovary.

Ovarium is place, where mass lesions occur very often, and as a rule its growth is connected with physiological cysts or tumors.

Classification you can find in your text-books. Turn your attention to the functional cysts of ovarium: follicular cysts and corpus luteum cyst.

Follicul becomes cystic as an answer to the stimulation of gonadotropin hormones. If ovulation didn't happen as a rule takes place atresia of follicle. Follicular cyst appears when ripe follicul doesn't burst open and thus ovulation cannot take place. Such state slows follicular phase of the cycle and can lead to oligomenorrhea and secondary amenorrhea.

If the cyst in ovarium is lesser than 2 cm it is called cystic follicle, if it is bigger than 2 cm it is called follicular cyst.

As a rule, there are no symptoms and follicular cysts involute by themselves during 2 months.

But follicular cysts can also grow up to 5 cm and more and cause mild stomach ache and interrupt menstrual cycle.

Apoplexia of follicular cyst is a severe complication that causes acute pain in abdomen and clinical picture of acute abdomen. The patient needs emergency surgery.

Corpus luteum cysts appear after ovulation if there were no regression of corpus luteum during lutein phase of the cycle. Clinical picture: menstruation delay from a couple of days to a couple of weeks, menstrual blotches and pain in the low regions of abdomen. (Here we should have differential diagnosis with gravidas extra uterine – ectopic pregnancy).

Corpus luteum cysts can also grow until spontaneous hemorrhage under cystic capsule takes place.

Diagnostics:

- bimanual examination
- ultrasound
- CT and MRI

As a rule functional cysts have no symptoms and cysts involute by themselves during 2 months.

Also cysts regression can be caused by proscriptio of combined oral contraceptives daily for 4-8 weeks.

If the cyst doesn't regress for 3 months it should be operated.

1. Tumors of the Ovary

1.1 Sex cord-stromal (gonadostromal) tumors

1.1.1 Granulosa cell tumor (granulosa-theca cell tumor)

1.1.2 Thecoma (theca cell tumor)

1.1.3 Interstitial cell tumor (luteoma, lipid cell tumor, steroid cell tumor)

1.2 Germ cell tumors

1.2.1 Dysgerminoma

1.2.2 Teratoma

1.2.3 Embryonal carcinoma

1.3 Epithelial tumors

1.3.1 Papillary adenoma, papillary cystadenoma

1.3.2 Papillary adenocarcinoma

1.3.3 Rete adenoma

1.4 Mesenchymal tumors

1.4.1 Hemangioma

1.4.2 Leiomyoma

2. Tumors Metastatic to the Ovary

3. Tumorlike Lesions of the Ovary

3.1 Adenomatous hyperplasia of the rete ovarii

3.2 Papillary hyperplasia of the surface epithelium

3.3. Stromal hyperplasia

3.4 Vascular hamartoma

4. Cysts in and around the Ovary

- 4.1 Cysts in the ovary
 - 4.1.1 Graafian follicle cysts
 - 4.1.2 Luteinized cysts
 - 4.1.3 Epithelial inclusion cysts in the mare (fossa cysts)
 - 4.1.4 Cysts of the subsurface epithelial structures in the bitch
 - 4.1.5 Cystic rete ovarii
- 4.2 Cysts around the ovary
 - 4.2.1 Cysts of wolffian (mesonephric) tubules and ducts
 - 4.2.2 Cysts of müllerian (paramesonephric) duct
- 5. Tumors of the Uterine Tube (Oviduct)
 - 5.1 Epithelial tumors
 - 5.1.1 Adenoma
 - 5.1.2 Adenocarcinoma
 - 5.2 Mesenchymal tumors
 - 5.2.1 Lipoma
- 6. Tumors of the Uterus
 - 6.1 Epithelial tumors
 - 6.1.1 Adenoma of the endometrium
 - 6.1.2 Adenocarcinoma of the endometrium
 - 6.2 Mesenchymal tumors
 - 6.2.1 Fibroma
 - 6.2.2 Leiomyoma
 - 6.2.3 Leiomyosarcoma
- 7. Gestational Trophoblastic Disease
 - 7.1 Subinvolution of placental sites in the bitch
- 8. Tumorlike Lesions of the Uterus
 - 8.1 Adenomyosis of the uterus
 - 8.2 Cystic endometrial hyperplasia
 - 8.3 Endometrial cysts
 - 8.4 Endometrial polyp
 - 8.5 Lymphangiectasia
 - 8.6 Wolffian (mesonephric duct cysts)
 - 8.7 Serosal cysts
- 9. Tumors Metastatic to the Uterus
- 10. Tumors of the Cervix
- 11. Tumors of the Vagina and Vulva
 - 11.1 Epithelial tumors
 - 11.1.1 Papilloma
 - 11.1.2 Fibropapilloma of cattle
 - 11.1.3 Squamous cell carcinoma of the vulva
 - 11.1.4 Urothelial carcinoma involving the canine vestibule
 - 11.2 Mesenchymal tumors
 - 11.2.1 Leiomyoma
 - 11.3 Transmissible venereal tumor
- 12. Tumorlike Lesions of the Vulva and Vagina
 - 12.1 Cysts
 - 12.2 Edema of the vulva

Classification of ovarian tumors:

1. epithelial tumors: papillary adenoma; papillary adenocarcinoma; cystadenoma; undifferentiated carcinoma;
2. germ cell tumors: dysgerminoma; teratoma;
3. sex cord-stromal tumors: granular cell tumors; thecoma; luteoma;
4. connective tissue tumors;
5. secondary (metastatic) tumors;
6. unclassified tumors;
7. tumor-like lesions: adenomatous hyperplasia of the rete ovarii; papillary hyperplasia of the ovarian serosae; vascular hamartoma; ovarian cysts.

Epithelial tumors develop from the surface epithelium of the ovary, which is coelomic mesothelium. Papillary adenoma, papillary cystadenoma, is a frequently bilateral tumor, usually on the surface of the ovary, developing from the surface epithelium, infiltrating as a tubular invagination in subepithelial structures.

Papillary adenoma, ovary.

Microscopically, the tumor develops under a papillary and cystadenomatous form, having small polygonal, cuboid or cylindrical cells, sometimes with cilia. The stroma is discrete but well vascularized, being distributed around the cells ranged in a single layer, under a pseudoglandular form, delimiting small spaces, irregular cavities, having a fluid protein content.

Cystadenoma has been diagnosed in dogs, being frequently found in association with cystic endometrial hyperplasia. Papillary cystadenomas in bitches may contribute to the appearance of ascites, by the secretion of tumor cells. Tumor formations develop bilaterally, with variable sizes: they can be small, difficult to detect, or they may appear as irregular masses more than 10 mm in diameter.

Cystadenoma

Adenoma of subsurface epithelial structures. Ovary

Cystadenoma located in the ovarian bursa has a cauliflower-like aspect and frequently disseminates by implantation in the peritoneum. The cystic aspect of the tumor is also maintained in section.

Papillary adenocarcinoma, ovary.

Papillary adenocarcinoma is a tumor frequently found in the canine ovary, usually bilateral, being histologically similar to the benign form, papillary adenoma. The characteristics that differentiate the malignant and benign forms are: tumor size; the mitotic index; invasion of ovarian stroma and extension in the ovarian bursa, in the peritoneum, frequently with metastases by implantation. Cells have a cuboid shape, lying on fine stromal septa, frequently with digital projections in the cystic microcavities, having a clear or slightly pink protein content. More rarely, tumor cells contain mucin or a squamous change (adenocarcinoma). Undifferentiated carcinoma is a form of carcinoma composed of poorly differentiated cells whose type is difficult to establish.

Germ cell tumors originate from primordial ovarian germ cells, similar to testicular germ cells. Embryonic carcinomas have not been described in animals. Dysgerminomas and teratomas have. Metastases represent 20–30%, with locations in abdominal viscera, lymph nodes, bones and lungs. Dysgerminoma, which is also known as embryonic carcinoma, large cell carcinoma and ovarian seminoma, is

relatively frequent. Metastases are found in 10–20% of cases, and hormone secretory activity is absent, generally appearing in old bitches.

Dysgerminoma.

Microscopically, the tumor is formed by a uniform cell population, large round or polygonal cells, with poorly colored cytoplasm, similarly to seminoma. Nuclei are of variable sizes, vesicular, with 1–3 nucleoli, similar to spermatogonia. Giant cells and mitotic forms are frequently identified. Cells are diffuse or arranged in islands or layers. The connective stroma is variable, but is frequently in a low amount. Lymph node or perivascular formations are frequently noted, and large histiocytes, with clear cytoplasm, occasionally appear

Teratoma

These tumors are well differentiated and benign. A tumor thought to arise from totipotential germ cells that have undergone somatic differentiation and given rise to two or more of the embryonic layers with a variety of tissues being present. Embryonal carcinoma, a germ cell tumor composed of embryonic multipotential cells that are capable of further differentiation, producing a varied histologic pattern. Normal tissues can be structurally identified along with neoplastic tissues, with solid and cystic areas, containing sebaceous material and hair, sometimes skin, cartilage, bone, teeth and muscles, at other times neural, adipose tissue or respiratory epithelium. A reasonable explanation for the appearance of teratoma could be heterozygosity, as a result of meiotic division. Evidence for this is provided by a number of biochemical and cytogenetic studies showing that ovarian teratoma tissues are unique, in the sense that they are formed by XX diploid cells, but are homozygous in chromosomal loci for which the host is heterozygous.

Sex cord-stromal (gonadostromal) tumors are formed from the gonadal, medullary or cortical stroma, from granulosa cells and theca interna cells. These neoplasms have the capacity to secrete hormonally active steroids (estrogen and/or progesterone). The classification of sex cord-stromal tumors depends on the type predominance and cell origin. Clinically, cows and mares with sex cord-stromal tumors may have an unchanged behavior or they can present the signs of an oversecretion of estrogens and androgens. The manifestation of abnormal signs can last for several months, one year or more. Mares' manifest nymphomania or behave like stallions, and cows have the same behavior. The behavior of animals with ovarian sex cord-stromal tumors is deeply changed. Macroscopically, the tumor ranges between 4 and 16 cm in diameter, it has a soft to dense nodular consistency. In section, dense areas, cysts and frequent hemorrhages and/or necroses are found, of white-gray or yellow color.

Granulosa cell tumor with luteinization.

Granulosa - theca cell tumor.

Microscopically, cells are similar to normal granulosa cells, appearing as a uniform population, with poorly colored cytoplasm, poorly delimited, with round or ovoid eccentric nuclei, few or no mitoses.

Neoplasms formed by granulosa cells have a microfollicular structure, with follicles of variable sizes, lined by cells similar to follicular epithelium, to normal de Graaf follicle [6]. Cells are arranged in one, two or more layers. The lumen of microfollicles contains acidophilic homogeneous or granular material. Follicular cells can appear in the lumen, suggesting a cumulus oophorus aspect (Fig. 10.9), or proliferations can be of papillary

type, similar to a cystic papillary carcinoma. Tumor cells under the form of solid masses or small rosettes have been noted, suggesting embryonic follicles. Neoplastic cells are round or ovoid, fusiform, similar to normal follicular cells. Sizes are variable, with round or ovoid hyperchromatic nuclei, the cytoplasm is vacuolated. Mitoses are present, sometimes in a high number.

Granulosa - theca cell tumor. Sertoli-like tumor.

Sertoli cell tumors are formed by elongated cells, frequently with sharp tips, with foamy or clear cytoplasm, with small uniform nuclei. Mitoses are in a low number. Cells are arranged in tubular columns, bundles or clusters, separated by fine connective tissue septa. Non-specific gonadal tumors are formed by cells similar to granulosa cells. Mitoses are rare and anaplastic foci appear. In cats, granulosa cell tumors are predominant. Cells are small, with eccentric hyperchromatic nuclei; cells form microfollicles or Call Exner bodies with tumor cells arranged radially around eosinophilic material. Mitoses and cellular atypias are obvious. In this species, a tumor with lipid, round, uniform and well delimited cells can appear, some of which are similar to Leydig cells.

Tecoma

Thecoma or theca cell tumor is exclusively composed of theca cells, which are fusiform or stellate, well delimited, arranged in bundles. Nuclei are ovoid, elongated or fusiform, the cytoplasm is pale, with lipid drops. Usually, thecoma is a benign tumor with expansive growth, without metastases. Macroscopically, the tumor is large, of yellow-brown color. Microscopically, it is formed by a population of large, uniform lutein cells, similar to those of the corpus luteum. Lipid cell tumors and Leydig cell tumors have been identified. Lipid cell tumors are known in cats. Histologically, they are formed by large cells, loaded with lipids, similar to those of the adrenal cortex, with small nuclei and well delimited margins.

Leydig cell tumors have a low incidence. Cells are uniform in shape and size, polygonal, well delimited, with dark, granular cytoplasm, with numerous lipid vacuoles. Nuclei are small, ovoid and hyperchromatic, with small nuclei and numerous mitoses. The connective stroma is fine, with numerous capillaries, delimiting in some tumors pseudolobular forms.

Benign tumors of uterus. Clinics, diagnostics, complications, treatment, prophylaxis.

Myoma of the uterus is a benign tumor that proceeds from unstriated muscles of the uterus and is the most widespread tumor of female reproductive system.

Etiological factors of myoma genesis are still unknown for sure, but it is stated that myoma grows under estrogen influence.

Classification. 95% of myoma origin from uterus itself, 5% - from cervix. 80% of women have multiple myomas.

- subserous myoma – grows under serous tunic. Subserous myomas can be pedunculated.

- intramural myoma grows in the body of uterus. Being small this myomas don't usually deform uterus, but by growing they change outlines of uterus and it becomes asymmetrical and can obtain nodulated form. Big myomas can grow up to serous and mucous tunics.

- submucous myoma is quite rare but is very dangerous because it can cause severe hemorrhage or be infected with succeeding infection spread in the other layers or the whole uterus. Submucous myomas as a rule grow after 40-years age. In anamnesis such women may have abortions or intrauterine procedures, that disturb normal receptorial work in myometrium. Submucous myomas can be pedunculated and protrude into vagina through the cervical channel (aborting myoma).
- intraligamentary myoma is characterized by lateral growth or origin from lig. latum uteri
- cervical myoma as a rule grows on the rear side of cervix and don't have much symptoms. But if cervical myoma grows of the front side of cervix it causes symptoms of urine bladder compression.

Clinical picture varies and depends upon the term of the disease, age of a patient, size and localization of myomas.

The most often complaints are:

- pain, including algodismenorrhea
- bleeding (menorrhagia with the growth of period and volume of bleeding)
- compression symptoms as a result of huge or multiple myomas
- laboratory studies: anemia as a result of menorrhagia, leucocytosis and erythrocyte sedimentation rate increase as a result of infection.

Diagnostics

The main role in diagnostics holds bimanual examination (because you can palpate enlargement of the uterus and often the outlines of myomas) and ultrasonography (that enables to visualize myoma and shows its real size and location).

Besides we use CT (computerized tomography), MRI, diagnostic curettage and hysteroscopy.

Treatment

Treatment can be conservative or surgical.

Patients with myoma receive follow-up care (dispensary observation). All patients are recommended rational diet (fresh fruits and vegetables, restriction of carbohydrates and fats), vitamins, especially B1, B6, B12, C and E.

Conservative treatment is recommended to patients with intramural and subserous myomas, when the size of the uterus is lesser than 12 weeks of pregnancy size, and if women don't have meno- or metrorrhagia.

The goal of drug treatment is to normalize hormone level in patients with myoma. They are prescribed progestagens (norkolut, depo-provera), antigonadotropins (danazol), agonists of GnRH (zoladeks).

If the size of myoma is over 12 weeks of pregnancy size, or woman develops severe symptoms we use surgical treatment.

Absolut surgical indications are:

- big size of myoma and uterus size is over 12 weeks of pregnancy
- symptoms (severe pain)
- annexa dysfunction (dysfunction of neighboring organs)
- anemia (as a result of profuse bleeding)
- quick growth (more than 5 weeks of pregnancy size for a year)

Surgical treatment can be conservative myomectomy or radical (that is used if woman has other pathology of the uterus, have huge, multiple or cervical myomas).

The most important complications of myoma is necrosis and aborting myoma (protruding into vagina through cervix channel). These pathologies have a clinical picture of acute abdomen and must be operated as soon as possible.

Cyst of Bartholin gland: clinics, diagnostics, complications, treatment.

If there is a sharp narrowing (stenosis) or complete closure of the Bartholin gland duct disrupted normal flow continuously formed secret. Naturally, the secret begins to accumulate in the breast cavity and throughout the channel. There is swelling and inflammation of the prostate, its walls are sealed - a cyst is formed. Sizes can vary from small (1-2 cm) to large (5-8 cm).

Usually gland cyst occurs when: - infection of the prostate ducts and sexually transmitted diseases (such as gonorrhea, chlamydia, ureaplasma, mycoplasma and trichomonas); - with vaginal candidiasis (thrush) - with rapid reproduction of conditionally pathogenic flora due to a weak immune system (E. coli, streptococcus or staphylococcus). Development of Bartholin's gland cyst helps: - Violation of personal hygiene, - Skin injury and labia with hair removal, shaving; - Wearing tight underwear and breathable; - Abortion, or other gynecological procedures and interventions; - Irregular, but very intense sexual intercourse, multiple, with grated and injuries. If the conditions are unfavorable existence of cysts can form infection, pus accumulation and the formation of an abscess.

Clinics. If a Bartholin gland cyst is not complicated, it usually looks like a round, painless swelling of the hearth in the labia majora, closer to the anus. With a small amount, for a cyst may not be visible, it detects a gynecologist at the next inspection. If a Bartholin gland cyst grows to a significant size, possible discomfort when walking, wearing tight clothing during intercourse. The cyst may be complicated by suppuration, then there is the formation of a painful abscess. At its formation fever, symptoms of poisoning (nausea, weakness) appear, health deteriorates. At the site of a cyst formed tumor formation up to 10 cm, it is sharply painful, can pulsating, it gives a feeling of fullness in the perineal area. In all movements the pain intensifies. When spontaneous dissection gland abscess, leaking pus comes out, in parallel, signs of genital infections - vulvitis, vaginitis, abnormal vaginal discharge.

Diagnostics. Diagnosis and treatment of Bartholin gland cyst is engaged gynecologist, in complicated forms can be connected to a surgeon for an operation. Initial diagnosis is based on examination in the gynecological chair. When a Bartholin's gland cyst is carried out from the vagina smear microscopy and culture to determine the microbial composition, with the exception of infections transmitted through sexual contact. According to the results of sowing is carried out selection of antibiotics for treatment. Treatment. When cysts are small, 1-2 cm, causing physical discomfort and inflamed, do not use active methods of treatment, especially surgery. You can select the observation tactics - often completely resolve the cyst due to spontaneous outflow of establishing secret. Such cysts are removed by the patient's desire, especially with frequent relapses or aesthetic purposes. If the cyst sizes are large enough, there is discomfort when driving or sexual intercourse, need surgical correction. It is aimed at restoring the normal outflow of fluid from the prostate gland. Applied methods: Opening and drainage of the cyst (setting a special drainage tube, with the creation of conditions for draining secretions). The method has low efficiency, frequent relapses (re-formation of cysts). Often, after several relapses have to remove the gland itself. Bartholin gland cyst puncture - puncture needle with suction contents. This type of

operation is carried out in pregnant women and during temporary inability operation. All these methods do not give full guarantee of cure, recurrence of the cyst with resorting to the complete removal of the entire gland. When festering Bartholin's gland cyst, abscess formation, it is a compulsory autopsy, removing the pus and drainage. Only after this can be carried out one of the above methods for forming duct. After surgery, treatment is supplemented by physical therapy techniques, thorough elimination of sexually transmitted infections and immunotherapy. Complications. Major complications include chronic Bartholinitis - inflammation of the Bartholin gland. Another serious complication is the abscess cyst with abscess formation. Purulent focus can break out and formed a fistula, or may be a breakthrough in the pelvic area and internal genital organs. Even with careful treatment of Bartholin's gland cyst and carrying out of operative treatment relapse can occur, and cysts are formed again and again.

Endometriosis. Etiology and pathogenesis. Classification. Diagnostics. Clinics. Modern treatment methods. Medical rehabilitation in women with endometriosis.

Endometriosis – is a “mysterious disease” with unknown etiology and pathogenesis with many faces. By classic definition says that – endometriosis is a progressive, usually degenerative hormone-dependent pathology nature of which is in presence of epithelial and stromal elements, which are characteristic for endometrium, in ectopic place (outside between mucus tunic of uterus body). In endometrium foci tissues occurs more or less expressed changes according to the menstrual cycle phases.

Nowadays exist 8 theories of origin and development of endometriosis. Endometriosis most-time appears in reproductive age – fro 25 till 40 years. Middle age of patients with endometriosis cysts usually is 30, internal endometriosis – 40 y.o. Very rarely endometriosis can be observed in menopause and before menarche.

It is considered, that after inflammatory diseases of the female genitals and myoma of the uterus, endometriosis takes third place in the structure of gynecologic pathology. By the material of western sources, endometriosis in frequency of occurrence concedes only to myoma of the uterus.

There is a number of theories about the origin and development of endometriosis. The most popular of them today is the Sampson's implantation theory, which assumes that during menstruation the viable cells of the endometrium retrograde penetrate through the fallopian tubes and are implanted onto the neighboring pelvic structures. Due to the similar mechanism, the viable cells of the endometrium can be implanted onto open wounded surfaces during cesarean section or along the birth canal. Detecting foci of extra-genital endometriosis, Halban's vascular transport theory explains that during menstruation the viable cells of the endometrium get in the open lymphatic and blood vessels of the basal endometrium, by which they are transported to remote ectopic centers.

The metastatic theory of origin of endometriosis proves to be true by a number of factors: 1) position of pelvic endometriosis, first of all on the surface of the ovaries and fallopian tubes; 2) high frequency of retrograde distribution of menstrual endometrium through the fallopian tubes; 3) viability of desquamated menstrual endometrium and its ability to grow in a tissue culture; 4) frequent development of endometriosis during congenital atresia of the cervix uterus and vagina; 5) frequent development of endometriosis in the wall of uterine-pelvic and uterine-abdominal

fistulas in experimental animals and people; 6) development of endometriosis after ligating the fallopian tubes in the upper section of the proximal segment of the tube. The metaplastic (aberration) theory is based on the genetic relationship of the pelvic peritoneum with mesoepithelium and the Muller's ducts which develop from it.

Confirmation of this theory:

- 1) Presence of endometriosis in women with congenital hypoplasia of the uterus and amenorrhea;
- 2) Presence of endometriosis in men with its primary location in the urogenital areas;
- 3) Experimental supervision of endometrioid metaplasia of the peritoneum;
- 4) Presence of other metaplastic tissue (smooth muscle, epithelium of the endocervical and tubal type in the foci of endometriosis);
- 5) Comparable disseminated forms of endometriosis with other similar affects of the peritoneum of the metaplastic type, for example, disseminated leiomyomatosis or endosalpingiosis of the peritoneum.

It is also possible the combination of metastatic and metaplastic processes, when the metastasis of a section of tissue of the endometrium causes a corresponding metaplastic answer of the local tissue.

The theory of the embryonic origin of endometriosis, introduced at the end of the last century, finds supporters at the present time. According to this theory, endometrioid heterotopia occurs from the remains of the paramesonephral (Muller's) ducts or embryonic material from which the genitals, including the tissue of the endometrium, are formed. The occurrence of the development of endometriosis in children and teenagers (11-12 years), and also a combination of the given pathological process with developmental anomalies of the urogenital organs, gastrointestinal tract testifies for the benefit of the given theory.

The hypothesis about retrograde menstruation, developed by Koninckx P.R., reflects the popular belief that endometrioid foci in the abdominal cavity are physiological and almost a general phenomenon, since the living cells of the endometrium are found in the peritoneal liquids more than in 70% of women. Thus, all women sometimes have retrograde menstruations and the minimal degree of the disease ("minor forms"). Under normal conditions, the protective system of the peritoneum can surely cope with the reflux of menstrual material: early implants are suppressed and destroyed by the inflammatory reaction initiated by microintroduction. Women with more significant retrograde reflux or suffering from anovulatory follicle syndrome, or with insufficient function of macrophages, decrease in the activity of the natural killer cells in the peritoneal liquid have more chances of disorders in the processes of "self-purification" of the peritoneum and the development of endometriosis into "endometrioid disease". Contamination of the abdominal cavity with menstrual discharge can be caused also by short menstrual cycles, menorrhagia, or by disorders of outflow in patients.

Epidemiological researches have shown that one of the primary risk factors for the occurrence of endometriosis as a disease is a long period of regular menstruations, without pregnancy. So, the number of menstruations during the reproductive age increased from 30-50 for our grandmothers up to 450 for women of the present generation.

On the other hand, endometriosis is an illustration of a dysfunction of the immune system, which can be hereditary. Numerous researches established a decrease in the activity of the T-cellular link of immunity, its change in receptor device, oppression of

the function of the T-suppressor cells, increase in the activity of B-lymphocytic systems with an increase in the amount of G and A immunoglobulin, occurrence of auto-antibodies to tissue of the endometrioid foci.

The studies of western scientists testify about the possible cause and effect relationship of air pollution by dioxin and polychlorinated diphenylam and the occurrence and development of endometriosis.

A majority of the patients with endometriosis find mental disorders: alarm, stress, frustration, emotional instability, depression, the depth which is determined by the duration and severity of disease. While studying the structure of a person, constitutional features, characterizing autisation, affective rigidity, "courage", high vulnerability shown in a low pain threshold sensitivity are revealed.

The correlation of the degree of immune suppression, dysfunction of the ovaries and steroidogenesis and severity of the course of the disease allowed Startsevoj N.V. and co-authors (1996) to consider endometriosis as a psychosomatic disease.

Endometriosis is seen more often in the reproductive period - 25 to 40 years of age. The average age of patients with endometrioid cysts is about 30, internal endometriosis - 40. Rarely does endometriosis have a place in postmenopause and before menarche.

CLINICAL SIGNS OF ENDOMETRIOSIS:

- Character is long, quite often progressive course of disease. Involuntary regress can be in postmenopause period;
- Most constant symptom are pains, which appear or sudden become stronger in premenstrual days; under severe and long course of endometriosis pain can disturb and after menstruation. Painful sense is non-typical for endometriosis of vaginal part of uterus neck, sometimes they were not evident under small foci of endometriosis peritoneum of small pelvis.
- A slight size increase of affected organ or extragenital endometriosis foci can be observed (uterus, ovary) before and after menstruation;
- Character abnormalities of menstrual function, which can often be expressed by algomenorrhea. Under internal and external endometriosis can be observed other abnormalities - menorrhages, pre- and post- menstrual bloody discharges, menstrual rhythm disturbance etc. patients often complain on dyspareunia;
- Infertility – often satellite of internal and external endometriosis. By different authors data, frequency of infertility compound 46-60% under endometriosis. Its reasons are different and depend on foci localizations. Under internal endometriosis infertility is caused by expressed morphological changes of endo- and myometrium.

Endometriosis is subdivided into:

- Genital;
- Extragenital;

Genital is subdivided into:

- Internal (endometriosis of uterus body);
- External (endometriosis of uterus neck, vagina, retrocervical area, ovariums, uterus tubes, peritoneum, rectal-uterus space)

Extragenital endometriosis include endometriosis of intestine, lungs, urinary bladder, etc.

DIAGNOSTICS

From anamnesis data diagnostic meaning have:

- A. Indications on disease origin after pathologic (operative) delivery, artificial and involuntary abortions, which ended with endometrectomy, diagnostic endometrectomy, other intrauterine intervention or diathermo-coagulation of uterus neck;
- B. Character of pain syndrome, increment of it before and during menstruations;
- C. Unsuccessful long treatment of inflammatory diseases of internal genital organs;
- D. Origin of increase cyclic pain syndrome in juvenile and girls, which appeared after menstruation start;
- E. Abnormality of menstrual function by metrorrhagia type, pre and post menstrual bloody discharges;
- F. Sterility with pain syndrome, which is cyclic type.

Bimanual examination before and in first days after menstruations admit palpation of sacral-uterus ligament and retrouteral area. Some informative importance can have uterus and its uterine appendages increase, especially under expressed affection by endometriosis. Under palpation of sacral-uterus ligaments and retrouterine area. Profundus endometriosis can be suspected under presence one of three signs: under revealing nodes which were palpated during gynaecological examination; - local sensitivity during gynaecological examination; - node palpation can be provide only under anesthesia.

Transvaginal and transabdominal USD which is done with the next days before menstruation detected pathognomonic signs of internal endometriosis:

- Appearance in myometrium separated parts with increased echogenicity;
- Crenation and irregularity of the endometrium basal layer;
- Dominant increase of frontal-back uterus size and non-central thickening one of its walls;
- Presence in increased echogenicity zones anechogenic inclusions diameter 2-5mm and also liquid cavities diameter 6-33mm, which contain highly dispersed suspension;
- Increased echogenicity in zone of frontal front of formation and reduction – in distant area;
- Detection of closely situated raised and decreased echogenicity lines, which are situated perpendicularly to scan area;

Hysteroscopy is done on 5-7th day of menstruation cycle. Under abnormality – in any day before and after diagnostic curettage and let us determine next criteria: dilatation of gland excretory ducts; uneven, tuberosity of uterus cavity walls; endometriosis “goggles”, wide sinus tracts; multiple dilated gland ducts in all walls of uterus cavity.

Laparoscopic visualization of the pelvis is done at second part of the cycle, but not later than 3-4th day before menstruation. Patognomonic signs of endometriosis are presence of hemorrhagic exudates in abdominal cavity and revealing of foci on small pelvis peritoneum. Typical signs are black foci (“gunpowder burns”), white scars, red polypoid transparent or brown foci and also star-shaped damages, surrounded red-blue implants on ovaries or peritoneal surfaces of uterus, urine bladder or small intestine. Atypical endometriosis was described like pure vesicles, pink implants or white-erythematous areas on all abdominal cavity. During laparoscopy is recommended biopsy of any visible pathologic centers, further display of foci on picture-scheme and final verification of diagnosis under histological examination of biopsy material.

X-ray and MR-image can be used after USD for more exact diagnostic, differential diagnostic of endometrioid cysts from other tumor-like formations of small pelvis organs. Under internal endometriosis are observed: increased sizes of uterus, mostly in frontal-back line, roundedness of its form and determination in myometrium anomaly zones of single or multiply foci with low intensity and different sizes. This method let us diagnose diffusive, node-like forms, and also stage of disease extension.

Hysterosalpingography can be done on 5-7th cycle day, under this can be observed increase of uterus sizes, contrasting substance situates beyond uterus cavity circuit, and shadows of heterotypes look like tubules, lacunas, diverticulum (internal endometriosis).

Colposcopy can be done by standard method in 2 phase of the cycle – foci were covered with multilayer flat epithelium blue-red color, have hemisphere form, in the place of outpouching of thin epithelium is situated foramen, from which flows dark blood.

Also, examination of the patients with endometriosis must contain estimation of hormone level in blood serum and examination of immune status.

That's why, endometriosis must be supposed in any patient with clinic triad: dysmenorrhea, dyspareunia and sterility. First choice diagnostic must be laparoscopy with histological examination of the tissue sampling.

TREATMENT

Treatment of endometriosis is presented with two variants - hormonal therapy and operative intervention. Combined treatment - operative and conservative, including hormonal, in various combinations is most justified. Medicamentous treatment, mainly, is based on hormonal therapy with use of a whole spectrum of sexual steroids, used independently or in combination, and directed, on the elimination of pain and an increase of fertility.

Age features of endometriosis, its maximal development during the reproductive age and frequent reduction of displays of the disease during postmenopause, and also a decrease of the semiology during pregnancy, allow to formulate some preconditions to hormonal treatment. The effects of sexual steroids on the tissue of the endometrium are presented in table 3. You should not forget the basic property of the cells of the endometrium: they can persist on the background of hyperestrogenia, but after the influence of gestagen the cells die, as though having executed their function.

Effects of sexual steroids on the tissue of the endometrium

According to the data from literature, the only valid indications for hormonal therapy are pelvic pains. Thus, the main principle should be treatment of the patient, instead of the disease. In each case of the use of hormonal preparations, a small number of the patients, who do not react to the therapy, exist. The latter is explained by a distinct difference between the level steroids in the blood serum and the levels of steroid receptors, and also the degree of differentiation of tissue of the endometrioid foci. In the case of inefficiency of the given method of hormonal influence, there is reason to "switch" to another. In each case it is important to choose the suitable preparation having the minimum number of side-effects, being the least dangerous to the patient and being inexpensive. Therapy of the future is oligonucleotide therapy during which there is an opportunity to switch off separate paracrine factors.

Data from some researches have shown that GRG-analogues, danazol and provera are equally effective. The complexity of choosing a specific hormonal preparation can

consist of the fact that the marketing for some preparations is very aggressive. Gradually combined estrogen-gestagen preparations are excluded from the therapy of endometriosis, because high-dosed preparations are necessary, which can cause severe metabolic and system disorders.

Monotherapy with gestagen – norsteroids (norcolut) is quite often cancelled and are not used because of the side androgen effects. Medroxyprogesteron-acetate is widely used; in a dose of 100-200 mg (I injection) can cause amenorrhea for 3 months and more. The basic problem during treatment with Provera, depot-Provera - long restoration of the menstrual cycle. The mechanism of action of gestagen during endometriosis is insufficiently clear, therefore further supervision is required.

Serious side-effects frequently limit the use of danazol: increase in body weight, increase in the atherogenic index, decrease in the sizes of the mammary glands, hypertrophy of the clitoris, emotional lability, acne, congestions, lowering of the voice timbre, increase in appetite, spasms of the skeletal muscles, retaining liquid, headaches, and also atherosclerotic affection of the heart and liver damage.

With the appearance of analogues of GnRG, the spectrum of the therapeutic influence has expanded. Their one-time introduction stimulates the excretion of gonadotropic hormones of the hypophysis with subsequent increase of steroidogenesis in the ovaries. With repeated introduction of the preparations, the reaction to the stimulation gradually decreases, in 3-4 weeks it results in a weak secretion of gonadotropic hormones of the hypophysis with subsequent suppression of the formation of sexual hormones and inhibition of the function of tissue, viability which depends on the influence of sexual hormones.

Zoladex is 100 times more active than native GnRG, decapeptil - 36 times, buserelin - 50 times. These preparations are not prescribed orally, because they are easily broken down to inactivation in the gastrointestinal tract.

The majority of side-effects of agonists are caused by the development of hypoestrogen conditions: congestion, hyperhidrosis, headache, dryness of the vagina, mood changes, depression and so forth. During the duration of the treatment 6-8 months, a decrease in the density of bone tissue by 6-7% is marked. By limited data, it is possible to assume, that insignificant restoration occurs during 12 months after the treatment is finished. It is known, that the risk of breaks increases with the loss of bone weight of more than 10%.

Taking into account the presence of changes in the hormonal status and disorders of cerebral, vegetative, and emotional mechanisms in patients with endometriosis, it is necessary to individualize the choice of this or that sexual steroid by taking into consideration the following supervisions. Analogues of LH-RH increases the processes of internal synchronization in the CNS, reduces the tone and reactance of the sympathico-adrenal part of the VNS, both for the account of the neuromediator, and due to the hormonal parts. Gestrinon, danoval provide less expressed influences on the VNS, in some patients on the background of treatment some increase in the tone and reactance of the VNS is marked. These preparations provide activating influence on the CNS, reducing the processes of synchronization on the EEG. Therefore, with the inclination for hypotonia and bradycardia, the presence of mixed crisis or vagoinsular, unconscious conditions in a stuffy room or transport in the anamnesis, an increase in the activity of the synchronizing structures of the brain stem, the presence of paroxysmal activity and epileptoid signs or data on convulsive attacks in the past or

epilepsy should not be prescribed analogues LH-RH; in these cases it is more preferable to use gestrinon or danoval. On the contrary, in patients with inclination for tachycardia or increase in BP, presence of EEG with attributes of medium-stem dysfunction, the use of analogues of LH-RH is more preferable, than gestrinon or danoval.

The positive about using sinarela is the simplicity of use of endonasal insufflations and the opportunity of fast cancellation, insignificant influence of the preparation on metabolism, absence of virilizing actions, and restoration of the menstrual cycle after finishing the treatment. However, absorption of the preparation varies individually. Besides, infection in the nasopharynx, colds and so forth can cause insignificant absorption of the preparation, as a result it should be cancelled.

For the syndrome of chronic pelvic pains, accompanying varicose veins of the pelvis, there is experience in the use of gestrinon 2,5 mg twice a week for 6 months. In parallel, patients receive disaggregation therapy: teonicol 0,15 x 3\day for 1st week, 2 tablets a day for the 2nd week, 1 tablet a day for the 3rd week, 2 tablets a day for the 4th week. In addition, aspirin at a dose of 250 mg in 48 hours for the 4 weeks is prescribed.

Today, regimes for additional use of replaceable hormone therapy (natural hormones) are being developed in case continuations treatment with agonists is needed. With this purpose, estradiol-valeriat (1 mg a day) or premarin (0,3-0,625 mg a day) for 3 weeks with addition gestagen for the last 10 days (acetomepregenol - 5 mg a day or provera - 5 mg a day) is recommended. This treatment can be prescribed 6-8 weeks after the beginning of treatment with agonists. There are also indications of a positive effect of adding only depot-Provera at 10 mg a day for 7 days after every 4-week course of treatment. This can promote a decrease in the frequency of vegetovascular symptoms and the prophylactics of osteoporosis.

Conservative medicamentous complex also includes preparations of calcium, ascorutin, iodine - containing preparations, hepato-protectors, immunomodulators.

Surgical treatment is presented by electrocoagulation and laser vaporization of heterotopia, cryoendoscopic influence, if indicated – laparotomy in this or that volume.

3.3. Requirements for the results of work.

1. Definition of cyst and tumor of ovary.
2. Cyst of Bartholin gland: clinics, diagnostics, complications, treatment.
3. Tumor-like masses in ovaries: clinics, diagnostics, complications, treatment, tactics of GP.
4. Benign tumors of ovaries (epithelial, tumors of genital cord stroma, lipid-cellular, germ cell tumors): clinics, diagnostics, complications, treatment, tactics of GP.
5. Benign tumors of uterus: clinics, diagnostics, complications, treatment, indications to surgical treatment, tactics of GP.
6. Endometriosis: etiology, pathogenesis, classification, clinics, diagnostics, modern treatment methods, tactics of GP, methods of rehabilitation of reproductive function.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. A 30-year-old patient was hospitalized in the gynecological department with complaints of pain in the lower abdomen, radiating to the lower back, fever up to 37.30C. Objectively: the cervix is cylindrical, the pharynx is closed. The body of the uterus is normal, painless, mobile. The appendages are slightly enlarged, limited in

mobility, painful. The vaults are free. Highlights - white. What is the most likely diagnosis?

- A. Ovarian cyst.
- B. Endometritis.
- + C. Chronic salpingo-oophoritis in the acute stage.
- D. Polycystic ovary disease.
- E. Pelvioperitonitis.

2. A 17-year-old woman complained of fever up to 38 degrees, pain in the lower abdomen. Complaints appeared 3 days after the next menstruation, which began on time. The abdomen is soft, painful in the lower parts. At bimanual research the uterus without features, appendages are slightly increased, pasty, limited mobility, painful at a palpation, excursions of a neck of uterus are painful. Your diagnosis?

- A. Ovarian cystoma.
- + B. Acute salpingo-oophoritis.
- C. Ovarian cancer.
- D. Endometritis.
- E. Endometriosis.

3. A 32-year-old woman complained of pain in the lower abdomen, fever, chills, profuse discharge from the genital tract. A medical abortion was performed 4 days ago. On examination, the abdomen is soft, painful on palpation in the lower parts, the symptoms of peritoneal irritation are negative. The uterus is slightly enlarged, painful on palpation, inhomogeneous consistency. Appendages without features, discharge from the genital tract serous-purulent. Probable diagnosis:

- A. Acute salpingo-oophoritis.
- + B. Acute endometritis.
- C. Endometriosis.
- D. Bacterial vaginosis.
- E. Urogenital candidiasis.

4. A 26-year-old woman went to a women's clinic with complaints of mucopurulent discharge from the genital tract, dull intermittent pain in the lower abdomen, accelerated, painful urination. Examination of the cervix in the mirrors reveals hyperemia around the external pharynx, mucosal edema, as well as abundant mucopurulent discharge. Previous diagnosis:

- A. Cervical erosion.
- B. Colpit.
- S. Cervicitis.
- + D. Endocervicitis.
- E. Endometritis.

5. A 33-year-old patient was admitted to the gynecological hospital with complaints of sharp pain in the lower abdomen, fever up to 38°C, vaginal discharge of a purulent nature. There were no births or abortions. Sex life is chaotic. At bimanual research the cervix of a conical form, a throat is closed. The uterus is not enlarged, painful on palpation. The appendages are enlarged, painful on both sides. The vaults of the vagina are painless. Vaginal discharge is abundant, purulent. To establish the diagnosis it is shown:

- + A. Bacteriological examination of secretions from the genital tract.
- B. Colposcopy.

C. Probing the uterus.

D. Scraping of the uterine mucosa.

E. Puncture of the abdominal cavity through the posterior vault of the vagina.

6. A 46-year-old patient was taken to the hospital with complaints of intense lower abdominal pain, nausea, vomiting, body temperature of 39.5 ° C. Has been using the IUD for contraception for the past 12 years. Condition of moderate severity, pulse 120 per 1 min, blood pressure 120/80 mm Hg. Art. The tongue is dry, covered with white plaque. The abdomen is swollen, sharply painful in all departments, the symptom of Shchitkin-Blumberg is sharply positive. At bimanual research in a small pelvis the sharply painful, motionless conglomerate in the sizes of 12-14-18 cm is palpated; the posterior vault of the vagina overhangs, sharply painful. Which diagnosis is most likely?

A. Endometritis on the background of the use of the IUD; suppuration of ovarian cysts.

B. Endometritis on the background of IUD use, acute bilateral salpingitis; pelvioperitonitis.

+ C. Endometritis on the background of the use of the IUD; perforation of tuboovarian abscess; diffuse peritonitis.

D. Uterine fibroids with necrosis of one of the nodes; acute purulent salpingitis; diffuse peritonitis.

E. Ovarian cancer stage IV.

7. A 46-year-old patient was taken to the hospital with complaints of intense lower abdominal pain, nausea, vomiting, body temperature of 39.5 ° C. Has been using the IUD for contraception for the past 12 years. Condition of moderate severity, pulse 120 per 1 min, blood pressure 120/80 mm Hg. Art. The tongue is dry, covered with white plaque. The abdomen is swollen, sharply painful in all departments, the symptom of Shchitkin-Blumberg is sharply positive. At bimanual research in a small pelvis the sharply painful, motionless conglomerate in the sizes of 12-14-18 cm is palpated; the posterior vault of the vagina overhangs, sharply painful. Tactics and scope of surgery?

A. Removal of the IUD with the next combined. antibacterial and infusion transfusion therapy for 7 days. In the absence of effect -

Pfanenshtil's peritoneum, bilateral adnexectomy.

B. Drainage of the pathological formation under the control of transvaginal ultrasound with

followed by antibacterial and infusion therapy.

C. Therapeutic and diagnostic laparoscopy; rehabilitation and drainage of the abdominal cavity.

+ D. Emergency peritoneum; lower median laparotomy; pangysterectomy; drainage of the abdominal cavity.

E. Emergency laparotomy; peritoneum after Joel-Cohen; supravaginal amputation uterus with fallopian tubes.

8. In a 36-year-old woman at cytological examination of a smear-imprint of the vaginal part of the cervix found atypical cells on the background of colpitis. Colposcopic examination and histological examination of the scraping of the mucous membrane of the uterus and cervical canal did not reveal pathological changes. Define medical tactics:

A. Anti-inflammatory therapy.

B. Does not require additional observation.

- C. Repeat fractional diagnostic scraping of the uterine mucosa.
- + D. Repeat cytological examination after anti-inflammatory therapy.
- E. Carry out diathermocoagulation of the cervix.

9. In the gynecological department there is a 32-year-old patient with acute bartholinitis. Body temperature 38.2°C, blood leukocytes 10.4 T / l, ESR 24 mm / h. In the area of the large gland the day before - skin redness, a symptom of fluctuation, sharp pain. What is the most correct tactic for a doctor?

- A. Antibiotic therapy.
- B. Antibiotics + sulfonamides.
- C. Opening, drainage of gland abscess
- + D. Disclosure, drainage of gland abscess + antibiotics.
- E. Antibiotics + detoxification + biostimulants.

10. A 22-year-old woman was hospitalized in the gynecological department with complaints of lower abdominal pain, fever up to 39.5°C. Objectively: pulse 108 beats / min, blood pressure 120/80 mm Hg The abdomen is moderately swollen, sharply painful in the hypogastric area. The Schitkin-Blumberg symptom is positive in the hypogastric region. Vaginal examination: the uterus and appendages are not palpable due to the tension of the anterior abdominal wall, the posterior vault of the vagina overhangs, sharply painful. What is the most likely diagnosis?

- A. Acute adnexitis.
- B. Ectopic pregnancy.
- C. Ovarian apoplexy.
- D. Acute endometritis.
- + E. Pelvioperitonitis.

Select from the text laboratory data confirming the diagnosis and prescribe treatment.

Reply:

Urogenital candidiasis in this case is confirmed by the following data:

- complaints of discomfort, itching, itching of the external genitalia.
- examination in mirrors: severe redness and swelling of the mucous membrane of the vagina and cervix. In the posterior vault of the vagina there are secretions of syrupy, milky white. The same discharge is present in the external pharynx of the cervix and urethra.
- microbiological examination: the analysis of the microflora of the vagina, cervical canal and urethra revealed many leukocytes, mixed microflora and a fungus of the genus *Candida*.

Treatment: the main place in the pharmacotherapy of urogenital candidiasis belongs to antifungal drugs, which must be prescribed taking into account the identified type of candidiasis and data on sensitivity to essential drugs. Treatment should be carried out with antifungal drugs of both general and local action (fluconazole, clotrimazole, nystatin)

Practical lesson № 27.

Precancerous diseases of the female genital tract. Malignant tumours of the female reproductive system. Modern methods of diagnosis, management and prevention.

Learning objective Among the persistent problems are questions of practical gynecology careful selection of patients with an increased risk of cervical cancer and monitoring of their condition as cervical cancer is the second place in the structure of cancer incidence in women, it also accounts for 60% of cancer incidence among sex organs.

Basic concepts:

1. Background and precancerous diseases of cervix: etiology, classification, clinics, diagnostics, treatment.
2. Hyperplastic processes of endometrium: etiology, pathogenesis, classification, diagnostics, treatment methods, tactics of GP.
3. Prophylaxis of background and precancerous diseases of female genitalia

A. organizational stage

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

In the structure of oncologic sickness rate, tumours of the female genitals make up 20-30%. The data, published by the Committee on cancer of the International Federation of Obstetricians-Gynecologists, confirms that among the revealed patients the 1 stage was determined only in 20%, the other 80% of patients consulted the doctor with more widespread stages of the process, when radical treatment is fraught with many relapses and metastases or is in general impracticable. For the initial stages of cancer treatment results in recovery in 98-100% of the cases, in a part of the patients the generative function can be kept. Therefore, prophylactics of malignant tumours are a major actual problem of the public health services. In other words – an important contribution to solving the problem of malignant tumours of the genitals is made by active revealing and treatment of patients not only with early stages of malignant tumours, but also with benign tumours, and also with pretumorous diseases.

control of basic knowledge (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations

- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

Classify and analyze clinical picture of precancerous and malignant diseases of female genital system.

2. Make plan of examination using modern methods of diagnostics, analyze data of laboratory and instrumental tests in precancerous and malignant diseases of female genitals and state preliminary diagnosis;
3. Conduct differential diagnostics of precancerous and malignant diseases of female genital system;
4. Determine tactics of patient management(principles of operative interventions and conservative treatment, rehabilitation measures) in precancerous and malignant diseases of female genital system;
5. Conduct prophylaxis of precancerous and malignant diseases of female genital system;
6. Perform necessary medical manipulations (inspection by speculums)

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

1. In the absence of effect of conservative treatment of endometrial hyperplasia polypous form shown application:

- A. hormone
- B. Phytotherapy
- C. Physiotherapy
- + D. Surgical treatment

E. antispasmodics

2. Endometrial hyperplasia was observed in:

- A. polycystic ovaries
- B. ovary C. Teratomas Hranulezokletochnoy ovarian tumor
- D. uterine fibroids
- + E. cervical erosion

3. The clinical picture of endometrial hyperplasia:

- A. oligomenorrhea
- + B. Dysfunctional uterine bleeding
- C. Pain
- D. leukocyte shift to the left
- E. Increase ESR

4. Endometrial polyposis often occurs:

- A. In menopause
- B. After birth
- + C. In menopause
- D. During treatment with progesterone
- E. After discontinuation of oral contraceptives

5. Do adenomatous polyps belong to precancerous endometrial?

- + A. So
- B. No
- C. Not always
- D. Only in postmenopausal women only 30 years
- 6. Which factors for endometrial cancer does not apply:
 - + A. Obesity
 - B. Anovulatory menstrual cycles
 - C. Ovarian Tumor
 - D. Endogenous estrogens
 - E. High levels of progesterone
- 7. Adenomatosis - is:
 - + A. Atypical endometrial hyperplasia
 - B. Endometrial cancer
 - C. Internal endometriosis
 - D. True cervical erosion
 - E. endometrial polyp
- 8. Definition of cross cervical canal, uterine cavity length, presence of tumor in it, use:
 - A. Cervical Biopsy
 - B. colposcopy
 - C. Laparoscopy
 - + D. Sounding the uterus
 - E. Kuldoskopiya
- 9. Contraindications to diagnostic curettage:
 - + A. Acute and subacute inflammatory diseases of genitals
 - B. Endometrial Polyps
 - C. Dysfunctional uterine bleeding
 - D. cervical polyp
 - E. endometrial hyperplasia
- 10. Dysfunctional uterine bleeding in women of childbearing age treatment should begin with:
 - A. Reduces B. funds hysterectomy
 - C. hormonal
 - + D. Therapeutic and diagnostic curettage endometrial
 - E. antibiotic therapy

formation of professional skills (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

- Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.

- Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple- choice questions select the lettered answer that is the one best response in each case.

1. In the absence of effect of conservative treatment of endometrial hyperplasia polypous form shown application:

- A. hormone
- B. Phytotherapy
- C. Physiotherapy
- + D. Surgical treatment
- E. antispasmodics

2. Endometrial hyperplasia was observed in:

- A. polycystic ovaries
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- D. uterine fibroids
- + E. cervical erosion

3. The clinical picture of endometrial hyperplasia:

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- C. Pain
- D. leukocyte shift to the left
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+ A. Atypical endometrial hyperplasia

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C. Internal endometriosis

D. True cervical erosion

E. endometrial polyposis

8. Definition of cross cervical canal, uterine cavity length, presence of tumor in it, use:

A. Cervical Biopsy

B. colposcopy

C. Laparoscopy

+ D. Sounding the uterus

E. Kuldoskopiyu

9. Contraindications to diagnostic curettage:

+ A. Acute and subacute inflammatory diseases of genitals

B. Endometrial Polyps

C. Dysfunctional uterine bleeding

D. cervical polyp

E. endometrial hyperplasia

10. Dysfunctional uterine bleeding in women of childbearing age treatment should begin with:

A. Reduces B. funds hysterectomy

C. hormonal

+ D. Therapeutic and diagnostic curettage endometrial

E. antibiotic therapy

3.2. Educational materials, recommendations (instructions) for performing tasks

Background and precancerous diseases of external genitalia.

Tumors of the external genitalia - it neoplasms (growths of tissue lesions) in the vulva: vestibule, clitoris, large and small labia, large glands vestibule (Bartholin).

Background and precancerous diseases of cervix: classification.

I. Benign background processes:

- Dishormonal processes:

1. Ectopic columnar epithelium (endocervicoses, glandular erosion, pseudo): simple, proliferate epidermical

2. polyps (benign growths polip-like): simple; proliferating; epidermical.

3. Benign Area of transformation: the unfinished and finished.

4. Papillomavirus.

5. Endometriosis cervix.

- Post-traumatic processes:

1. Gaps of the cervix.

2. ectropion.

3. scarring of the cervix.

4. cervical-vaginal fistulas.

- Inflammation:

1. True erosion.

2. Cervicitis (exogenous and endocervicitis): acute and chronic.

II. Precancerous conditions:

- Dysplasia.
 1. Simple leukoplakia.
 2. Fields of dysplasia: multilayered squamous epithelium; metaplastacy-changed prismatic epithelium.
 3. Papillary area of transformation: multilayered squamous epithelium; metaplastic prismatic epithelium.
 4. Precancerous transformation zone
 5. Warts
 6. Precancerous polyps
 1. leukoplakia with atypia cells
 2. erythroplakia
 3. adenomatosis

III. Cervical cancer

- Pre-clinical forms:
 1. proliferating leukoplakia.
 2. Fields atypical epithelium.
 3. Papillary transformation zone.
 4. atypical transformation zone.
 5. Zone atypical vascularization.
 6. Cancer in situ (intraepithelial, stage 0).
 7. Microcarcinomas (stage I A).
- Clinical forms of cancer: exo, endophytic mixed.

Hyperplastic processes of endometrium: etiology, pathogenesis, classification, modern methods of diagnostics, management tactics, treatment principles.

Endometrial hyperplasia - a benign pathology of the endometrium, which develops in the absolute or relative hyperestrogenism.

Etiology

Risk factors for endometrial hyperplasia include:

- menstrual disorders by type of anovulation;
- a history of infertility;
- obesity;
- diabetes;
- insulin resistance;
- hereditary tendency (tumors of the ovaries, uterus, breast, colon).

Pathogenesis. The basis of the formation of endometrial hyperplasia are ovulation disorders that occur on the type of persistence or follicular atresia. The lack of ovulation is accompanied by a loss of luteal phase MC. Reduced levels of progesterone and as a result, no cyclic secretory transformation in the endometrium results in the fact that as a result of a significant increase in the level of estrogen and / or with the prolonged influence of the proliferative changes in the endometrium. Morphologically hyperplastic processes in the endometrium aggravation and dive into the underlying layers of epithelial tissue. One morphological criteria for different forms of endometrial hyperplasia is the nature of the iron.

Simple non-atypic hyperplasia - an increase in the number of both glandular and stromal elements, with a slight predominance of the first - is characterized by the following features:

- Increase in the volume of the endometrium;
- structural differences from normal endometrium - active glands and stroma, glands are located unevenly, some cystic dilated;
- a balance between the glands and stroma proliferation;
- uniform distribution of blood vessels in the stroma;
- lack of atypia of the nuclei.

Integrated neatipichnaya hyperplasia - the close location of the glands distributed or focal character. She characterized by:

- more pronounced proliferation of glands;
- cancer structurally irregular shape;
- imbalance between proliferation of glands and stroma;
- more pronounced multicore epithelium;
- lack of atypia of the nuclei.

Simple atypical endometrial hyperplasia - the presence of atypia cells glands - manifested loss of polarity and location of unusual configuration of nuclei, often acquiring a rounded shape. The nuclei of cells in this type of hyperplasia - polymorphic, and they often allocated large nucleoli. The characteristic features of cell atypia:

- Cell dispolarynost;
- wrong stratification cores;
- Anisocytosis;
- giperhromatizm cores;
- an increase of nuclei;
- Expansion of vacuoles;
- eosinophilia of the cytoplasm.

Complex atypical endometrial hyperplasia is characterized by the proliferation of epithelial component expressed as in the complex neatipichnoy hyperplasia, which is combined with the tissue and cellular atypia without invasion of the basement membrane of glandular structures. Iron loses usual for normal endometrium regularly spaced, they are very diverse in size and shape. The epithelium that lines gland, consists of large cells with polymorphic, rounded or elongated nuclei with impaired and multi-polarity of their location.

Classification

- I. Simple atypical endometrial hyperplasia
- II. Complex atypical endometrial hyperplasia
- III. Simple atypical endometrial hyperplasia
- IV. Complex atypical endometrial hyperplasia
- V. Adenocarcinoma

Diagnostics

Physical methods of research

- Poll - characteristics of menstrual dysfunction; During menopause; of history - heredity (the presence of tumors in the family), infertility.
- General inspection - the presence of anemia, signs of obesity.
- Deep palpation of the abdomen - pain.

- Examination of the external genitalia.
- Inspection of the mirrors.
- bimanual gynecological examination - mobility, pain, size, texture of the uterus.

Laboratory methods

- determination of blood group and Rh factor;
- CBC - signs of anemia;
- general urine analysis;
- determine the level of sugar in the blood - the presence of diabetes;
- biochemical blood;
- bacterioscopic analysis of discharge;
- hormone kolpotsitologiya;
- cytology aspirates and swabs from the uterine cavity (can be used to monitor the ongoing conservative therapy).

Instrumental methods

1. US (transabdominal, transvaginal preferable, doppler)
2. Fractional diagnostic curettage.

In the presence of indications:

- Hysteroscopy (visualization of pathological changes of the endometrium, their localization, the ability to perform intrauterine surgery using electricity, cryo or laser surgery);
- endometrial biopsy;
- X-ray examination (hysterosalpingography and bikontrastnaya gynecography - now rarely used).

Treatment

Pharmacotherapy

Treatment begins with a separate treatment and diagnostic curettage walls of the uterus and cervix.

The mainstay of treatment of endometrial hyperplasia is a hormone therapy.

Hormone therapy is conducted in conjunction with other methods of pathogenetic therapy

Surgery

Indications for surgical treatment of patients with endometrial hyperplasia

In reproductive age:

- complex atypical hyperplasia in the absence of effect of conservative treatment after 3 months;
- simple and complex atypical hyperplasia neatipichnaya in the absence of effect of conservative treatment at 6 months.

When neatipichnyh forms of endometrial hyperplasia, especially in women of reproductive age, it is advisable to use hysteroscopic resection or ablation of the endometrium, while atypical - preference is given to a hysterectomy.

At menopause:

- complex atypical hyperplasia - at diagnosis;
- simple and complex atypical hyperplasia neatipichnaya - in the absence of effect of conservative treatment after 3 months.

Prevention

To prevent the development of cervical pathology are necessary:

- Prevention, timely diagnosis and treatment of inflammatory processes of genitals;

- The timely correction of hormonal and immune homeostasis;
- Promotion of a culture of sexual relations;
- Prevention of abortions (rational contraception);
- To give up smoking.

Women need to know that the symptoms of cervical disease are scarce and inexpressive. They can be found in a timely manner to resolve the issue of the necessary treatment only for the regular observation of the gynecologist!

Use mirrors Cusco or spoon-shaped mirror with a lift. Before the introduction of the mirror in the vagina dilute labia I and II of the fingers of his left hand. Wing mirror cloistered administered to the vaginal vault, and then open it to expose the cervix. Spoon-shaped mirror is introduced on the back wall of the vagina, pushing the crotch. Introduced hoist lift the front wall of the vagina, examine the cervix and vagina vaults. At the same time pay attention to the color of the mucous membrane of the vagina, on the size, shape, position and state of the cervix, the shape and condition of the external os, on discharge from the cervical canal.

When viewed with the help of mirrors estimate:

- The capacity of the vagina;
- The state of the vaginal mucosa, the severity of folding, color, inflammatory changes, the nature of discharge, the presence of warts, partitions;
- Cervical shape (conical - nulliparous, cylindrical - in nulliparous women);
- Scar cervical strain;
- The state of the external os (round shape - nulliparous, slit - have given birth);
- The nature of discharge from the cervical canal;
- The state of the mucous membrane of the vaginal part of the cervix (the epithelium unchanged, pseudo, eroded ectropion, polyp, exophytic growths).

Bimanual examination.

In the vagina injected II and III fingers of his right hand, give birth to them in the posterior fornix, and the left hand palpate the abdominal wall.

Palpating the cervix, determine its position, shape, size, outer mouth and permeability, the permeability of the cervical canal, palpating the uterus - its position, size, shape, consistency, mobility, tenderness.

Move the fingers in the lateral vaginal fornix, palpate the uterus, determine their shape, texture, size, tenderness, mobility. Unchanged tubes and ovaries are not determined by palpation.

Examine the condition of the vaginal vault (presence of infiltrations, their consistency, tenderness, location in relation to the pelvic bones).

Tumor Spread

Following tumorigenesis, the pattern of local growth may be exophytic if a cancer arises from the ectocervix, or may be endophytic if it arises from the endocervical canal (Fig. 30-3). Lesions

lower in the canal and on the ectocervix are more likely to be clinically visible during physical examination. Alternatively growth may be infiltrative, and in these cases, ulcerated lesions are common if necrosis accompanies this growth. As primary lesions enlarge and lymphatic involvement progresses, local invasion increases and will eventually become extensive.

Lymphatic Spread

Lymph Node Groups. The pattern of tumor spread typically follows cervical lymphatic drainage. Thus, familiarity with this drainage aids understanding the surgical steps of radical hysterectomy performed for this cancer (Section 46-1, p. 1134).

Development of a cancer

The most common ovarian tumor in a woman younger than 30 years is a benign cystic teratoma (dermoid cyst). The best treatment of a dermoid in a young woman is ovarian cystectomy.

» The most common ovarian tumor in a woman older than 30 years is epithelial in origin, most commonly serous cystadenoma.

» An ovarian mass larger than 5 cm in a postmenopausal woman most likely represents an ovarian tumor and should generally be removed. An ovarian mass that is larger than 2 cm in a prepubertal girl likewise should be investigated and usually requires removal.

» During the reproductive years, functional ovarian cysts are common and are usually smaller than 5 cm in diameter. Any ovarian cyst larger than 10 cm in a reproductive-aged woman is probably a neoplasm and should be excised.

» The tumor marker CA-125 is elevated in most epithelial ovarian cancers. It is more specific in postmenopausal women.

» Mucinous tumors of the ovary can grow to be very large. If they rupture intra-abdominally, they may cause pseudomyxoma peritonei, which can lead to repeated bouts of bowel obstruction.

» Ascites is a common sign of ovarian malignancy.

» Ovarian cancer staging consists of total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, peritoneal biopsies, peritoneal washings or sampling of ascitic fluid, and lymphadenectomy.

» After maximum debulking of the epithelial cancer, combination chemotherapy with a platinum agent and a taxane is used.

3.3. Requirements for the results of work.

1. Classify and analyze clinical picture of precancerous and malignant diseases of female genital system.

2. Make plan of examination using modern methods of diagnostics, analyze data of laboratory and instrumental tests in precancerous and malignant diseases of female genitals and state preliminary diagnosis;

3. Conduct differential diagnostics of precancerous and malignant diseases of female genital system;

4. Determine tactics of patient management (principles of operative interventions and conservative treatment, rehabilitation measures) in precancerous and malignant diseases of female genital system;

5. Conduct prophylaxis of precancerous and malignant diseases of female genital system;

6. Perform necessary medical manipulations.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. In the absence of effect of conservative treatment of endometrial hyperplasia polypous form shown application:

- A. hormone
 - B. Phytotherapy
 - C. Physiotherapy
 - + D. Surgical treatment
 - E. antispasmodics
2. Endometrial hyperplasia was observed in:
- A. polycystic ovaries
 - B. ovary C. Teratomas Hranulezokletochnoy ovarian tumor
 - D. uterine fibroids
 - + E. cervical erosion
3. The clinical picture of endometrial hyperplasia:
- A. oligomenorrhea
 - + B. Dysfunctional uterine bleeding
 - C. Pain
 - D. leukocyte shift to the left
 - E. Increase ESR
4. Endometrial polyposis often occurs:
- A. In menopause
 - B. After birth
 - + C. In menopause
 - D. During treatment with progesterone
 - E. After discontinuation of oral contraceptives
5. Do adenomatous polyps belong to precancerous endometrial?
- + A. So
 - B. No
 - C. Not always
 - D. Only in postmenopausal women only 30 years
6. Wich factors for endometrial cancer does not apply:
- +A. Obesity
 - B. Anovulatory menstrual cycles
 - C. Ovarian Tumor
 - D. Endogenous estrogens
 - E. High levels of progesterone
7. Adenomatosis - is:
- + A. Atypical endometrial hyperplasia
 - B. Endometrial cancer
 - C. Internal endometriosis
 - D. True cervical erosion
 - E. endometrial polyposis
8. Definition of cross cervical canal, uterine cavity length, presence of tumor in it, use:
- A. Cervical Biopsy
 - B. colposcopy
 - C. Laparoscopy
 - + D. Sounding the uterus
 - E. Kuldoskopiyu
9. Contraindications to diagnostic curettage:

+ A. Acute and subacute inflammatory diseases of genitals

B. Endometrial Polyps

C. Dysfunctional uterine bleeding

D. cervical polyp

E. endometrial hyperplasia

10. Dysfunctional uterine bleeding in women of childbearing age treatment should begin with:

A. Reduces B. funds hysterectomy

C. hormonal

+ D. Therapeutic and diagnostic curettage endometrial

E. antibiotic therapy

Practical lesson № 28.

Gynaecological emergencies. Gynaecological surgery. Preoperative and postoperative care in Gynaecology. Prevention of HIV infection.

Learning objective Familiar with modern representations about the disease, leading to "acute" abdomen in gynecology, proper use of organizational and methodological approaches to patient in extreme lack of information and time, the need to formulate as early as possible a reasonable and reliable diagnostic pituitary, to clinical diagnosis, examination to establish nosology in the course of intensive therapy and resuscitation.

Basic concepts:

1. Extrauterine pregnancy: clinics, diagnostics, tactics of GP, emergency care.
2. Ovarian apoplexy: clinics, diagnostics, tactics of GP, emergency care.
3. Rupture of ovarian tumor capsule: clinics, diagnostics, GP tactics, emergency care.
4. Torsion of tumor pedicle: clinics, diagnostics, GP tactics, emergency care.
5. Rupture of purulent tuboovarian mass: clinics, diagnostics, GP tactics, emergency care.
6. Blood supply disturbance in myomatous node: clinics, diagnostics, GP tactics, emergency care.
7. Traumatic damage of genitals: clinics, diagnostics, GP tactics, emergency care.
8. Preoperative preparation and postoperative care of gynecological patients, anesthesia during gynecological operations.
9. Rehabilitation after gynecological operations.

B. organizational stage

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

A clinical questioning of the activity of treatment-prophylactic establishments testifies that the most difficulty for the doctor are clinical situations, which demand urgent help. Most frequently, the discussion is, first of all, about saving a patient's life, therefore wrong or delayed actions, mistakes in the choice of tactics, methods and means of providing urgent help to pregnant women are serious and have some very tragic consequences. On the contrary, correct and prompt, rationally planned and cautious methods of conducting urgent help can not only save the patient's life, but also save her reproductive function.

The concept of "acute abdomen" unites a group of acute diseases of the abdominal cavity, different in etiology and character of clinical course. The diagnosis "acute abdomen" is not exact. It only displays the presence of disorder in the abdominal cavity, without indicating in which organ this process is occurring. The complex of symptoms of "acute abdomen" is given by a number of diseases not only the organs of the abdominal cavity, but also the thorax, for example myocardial infarction, spasm of the coronal arteries, aortal aneurysm, inflammation of the lower lobe of the lungs.

control of basic knowledge (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

1. Make plan of examination using modern methods of diagnostics, analyze data of laboratory and instrumental tests in precancerous and malignant diseases of female genitals and state preliminary diagnosis;
2. Gather special gynecologic anamnesis.
3. Estimate results of:
 - laboratory test (general and biochemical blood analyses, urine test, coagulation test and so on);
 - microscopy of urogenital swab;
 - oncocytological analysis;
 - bacteriological analysis;
 - colposcopy, ultrasonic examination;
 - functional test.
4. Perform gynecological examination (speculum, bimanual, rectal examinations).
5. Obtain analyses material from vagina, cervical canal and urethra.
6. Conduct examination plan of patients with different types of gynecological pathology.
7. Determine emergency aid tactics in “acute abdomen” in gynecology.
8. Conduct preoperative preparation plan for planned and urgent gynecological operations. Conduct management plan in postoperative period.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

1. Extrauterine pregnancy: clinics, diagnostics, tactics of GP, emergency care.
2. Ovarian apoplexy: clinics, diagnostics, tactics of GP, emergency care.
3. Rupture of ovarian tumor capsule: clinics, diagnostics, GP tactics, emergency care.
4. Torsion of tumor pedicle: clinics, diagnostics, GP tactics, emergency care.

5. Rupture of purulent tuboovarian mass: clinics, diagnostics, GP tactics, emergency care.
 6. Blood supply disturbance in myomatous node: clinics, diagnostics, GP tactics, emergency care.
 7. Traumatic damage of genitals: clinics, diagnostics, GP tactics, emergency care.
 8. Preoperative preparation and postoperative care of gynecological patients, anesthesia during gynecological operations.
 9. Rehabilitation after gynecological operations
- formation of professional skills (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).**

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

- Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.
- Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple- choice questions select the lettered answer that is the one best response in each case.

1. A woman complains of sudden pain in the abdomen, which irradiate the anus, nausea, dizziness, dark bloody discharge from the genital tract during the week, delay menstruation for 4 weeks. Symptoms of peritoneal irritation positive. In the mirror, cyanosis of the mucous membranes of the vagina and cervix. In bimanual study notes symptom of "uterus floating" pain and bulging rear and right side of the vaults of the vagina. The most likely diagnosis?

- A. Acute appendicitis.
- B. apoplexy ovary.
- S. acute right-adnexitis.
- D. tilting legs ovarian tumor.
- + E. ectopic pregnancy.

2. The 24-year-old woman complains of bloody spotting, vaginal discharge and pain in the right iliac region. In the history of irregular menstrual cycle. Last menstruation 7 weeks ago. During bimanual examination the uterus is not enlarged, painless. Title chorionic gonadotropin 1000. Tactics doctor?

- A. diagnostic laparoscopy.
- B. Ultrasound pelvic organs.
- C. Kuldoskopiya.
- + D. Re-definition CG 24 hours.
- E. Repeated studies of hCG in a week.

3. Woman '17 worried about sharp pain below the abdomen. Notes the delay menstruation for 2 weeks. Sex life during the year. Guarded pregnancy interrupted sexual intercourse. Objectively: pale. 36,60S body temperature, blood pressure 95/60 mm Hg, pulse 90 beats / min. If bimanual examination is defined slightly enlarged uterus, cervix tours painful appendages expressly konturuyutsya, rear arches vypnute. Discharge from the genital tract dark bloody miserable. The most informative method:

- A. Ultrasound of the pelvic organs.
- B. Complete blood.
- C. puncture the abdominal cavity through the posterior vaginal vault.
- D. colposcopy.
- + E. Laparoscopy.

4. A woman worries acute abdominal pain, fever up to 38,0 ° C. Knows the presence of uterine fibroids 3 years. Symptoms of peritoneal irritation positive in the lower abdomen. WBC 10.2 T / L, erythrocyte sedimentation rate 28 mm / h. In bimanual study of uterine body increased to 8-9 weeks of pregnancy, on the front surface - dramatically painful myoma node size 4x4 cm, uterine appendages not changed. Ultrasound confirms that subserous myoma node. What is the most likely diagnosis?

- A. Internal endometriosis.
- B. tuboovarialnogo tumor.
- + C. Necrosis myoma node.
- D. Acute adnexitis.
- E. perimetrity.

5. A woman complaining of abdominal pain that iradiyuye the anus, dizziness, occurring after coitus. In the history of inflammation of the uterus 7 years. 15-day menstrual cycle. Skin pale, soft abdomen, painful, positive symptoms of peritoneal irritation. Pulse 110 beats / min. If bimanual examination defined by increased spherical, painful right ovary, painful back and right lateral vaginal vault. No bleeding. Probable cause "acute abdomen":

- A. ovarian tumors with malnutrition.
- + B apoplexy ovary.
- C. ectopic pregnancy, which was interrupted by the type of tubal abortion.
- D. What interrupted the type of pipe rupture, ectopic pregnancy.
- E. exacerbation of chronic adnexitis.

6. Gynecology department received ill '20 complaining of a sharp pain in the abdomen after exercise. Last menstruation 2 weeks ago. When vaginal examination the uterus is not enlarged, painless, left appendage sharply painful on palpation, making it difficult to study. Symptom Promtova positive. The rear arches looming, painful. Pulse 96 beats / min., BP 100/60 mmHg What kind of pathology it is?

- A. Acute left-sided salpingo.
- + B. apoplexy left ovary.
- C. piosalpinks left.
- D. violated left-sided tubal pregnancy.
- E. tumor of the left ovary.

7. Woman '26 delivered to the receiving department with complaints of sudden pain in the lower abdomen, weakness, loss of consciousness at home. Last menstruation 2 months ago. Hb 106 g / L, pulse 120 / min, blood pressure 80/50 mmHg Pain and symptoms of peritoneal irritation at the bottom right. What is the most likely diagnosis?

- A. apoplexy ovary.
- B. Torsion ovarian cyst legs.
- C. Acute appendicitis.
- D. Acute adnexitis.
- + E. impaired tubal pregnancy.

8. Gynecological hospital received a woman complaining of a sharp pain in the lower abdomen. A year ago at prophylactic examinations diagnosed tumor of the right ovary. From the operation refused. An examination of women Note the positive symptoms of peritoneal irritation. Bimanual - normal size uterus, painless, right size is determined by the formation of up to 8 cm, sharply painful, dense, with clear contours. Possible diagnosis?

- + A. Torsion ovarian cyst legs
- B. Ectopic Pregnancy
- C. Acute right sided adnexitis
- D. Rupture of ovarian cysts
- E. pelvioperitonit

9. Patient '39 complaining of acute abdominal pain, vomiting, frequent urination. On examination, the abdomen swollen moderately positive symptom Schotkyna-Blumberg. Pulse 88 per minute, body temperature of 37 ° C. If bimanual examination: uterine body tight, not increased, mobile, painless, and right in front of the formation of palpable uterus size 6x6 cm tuhoelastychnoyi consistency, sharply painful shear; left appendages are not defined; vault free; mucus. What is the most likely diagnosis?

- A. Intestinal obstruction.
- B. Renal colic.
- C. apoplexy ovary.
- + D. torsion stem tumor of the ovary.
- E. Acute inflammation of the uterus tuboovarialnogo form on the right.

10. Patient '28 addressed with complaints of intense pain in the lower abdomen, fever up to 39 ° C, and nausea. Ill after menstruation. Sex life outside of marriage. The abdomen is painful on palpation in the lower divisions. Symptom Schitkyna-Blumberg

positive. In the study, the contours of the uterus and appendages are not clearly defined by the tension of the anterior abdominal wall. The rear arches sharply painful. Bold pus. What is the most likely diagnosis?

- A. Adenomyosis
- B. parametrit
- + C. pelvioperitonit
- D. Appendicitis
- E. Torsion ovarian cyst legs

3.2. Educational materials, recommendations (instructions) for performing tasks

The picture of acute abdomen is observed in the following diseases of the organs of the abdominal cavity: acute appendicitis, perforation of a stomach and intestinal ulcer, acute cholecystitis, acute pancreatitis, acute intestinal obstruction, constrained hernia, as a result of trauma to the organs of the abdominal cavity, etc., and also renal colic.

From gynecologic diseases, the picture of "acute abdomen" is most frequently observed: extrauterine pregnancy, ovarian apoplexy, twisted of pedicle of a cyst (tumours) of the ovary or serous myomatic node, necrosis and rupture of tumours of the internal genitals, acute inflammatory diseases of the internal genitals (pyosalpinx, pelvipерitonitis, peritonitis).

The basic symptom for the clinical picture of "acute abdomen" is pain, which can be of different character and intensity. Rigidity of the abdominal wall, positive symptoms of irritation of the abdomen, the presence of liquid in the abdominal cavity are marked during peritonitis and intra-abdominal bleedings.

Vomiting hiccups, delay of stool and gas - characteristic attributes of peritonitis, it also includes both "Hippocrates's face" and moderate abdominal breathing.

An increase in body temperature, difference between pulse rate and temperature, change in the blood parameters - characteristic attributes of pelvioperitonitis and peritonitis.

It is necessary for the students to pay attention to the fact that "acute abdomen" occurs during different gynecologic pathologies, which creates a threat to the woman's life and demands precise and fast medical action. Therefore, diagnostics should also be fast and precise for "acute abdomen". The predominant use of these or those methods of diagnostics depend on the complex of symptoms of "acute abdomen".

Extra-uterine pregnancy, ovarian apoplexy, rupture of ovarian tumor capsule, torsion of tumor pedicle, rupture of purulent tuboovarian mass, blood supply disturbance in myomatous node.

Extrauterine pregnancy

All cases of development of the fetal egg outside the uterine cavity are referred to as extrauterine pregnancy. Depending on the location of implantation of the fetal egg, extrauterine pregnancies are subdivided into tubal, ovarian, in the rudimentary uterine horn and abdominal.

Etiology and pathogenesis. Implantation of fetal egg outside of the uterine cavity occurs due to transport dysfunction of fallopian tubes, change in the properties of the fetal egg itself.

Tubal dysfunction is connected to:

- Inflammatory processes of any etiology;
- Hormonal status of an organism;

- Surgical intervention on the tubes.

Clinic and diagnostics. In urgent gynecology, more often disrupted tubal pregnancies occur – tubal rupture or tubal abortion.

Pregnancy, disrupted by tubal rupture: acute beginning, which for some women is preceded by a delay in menstruation, pain in the lower stomach distributed to the rectum, subclavicular and supraclavicular areas, shoulder or scapula, is accompanied by nausea or vomiting, dizziness, to the point of loss of consciousness, sometimes diarrhea.

The patient is frequently hindered, less often shows attributes of anxiety; the skin and mucous are pale, extremities are cold, rapid, superficial respiration. Tachycardia, weak-filling pulse, arterial pressure is reduced. Tongue is moist, not covered with a film. The stomach is a little bloated; tension of muscles of the abdominal wall is absent. During palpation – pain in the lower stomach, more on the affected side, also symptoms of irritation of the abdomen are expressed. During percussion - dullness in the stomach. During examination with the speculums: cyanosis and paleness of the mucous of the vaginas and exocervix. Bimanual examination (very painful) reveals a flattening or protrusion of the posterior or one of the lateral vaults. The uterus is easily shifted, as though it is "floating" in free liquid.

If there is any doubt in the correctness of the diagnosis, a puncture of the abdominal cavity through the posterior vaginal vault is done.

Disruption of a tubal pregnancy as tubal abortion represents diagnostic difficulties, because it is characterized by slow course and does not have a distinct influence on the general condition of the patient. It is necessary to emphasize, that a carefully collected anamnesis gives invaluable help in the diagnostics of tubal abortion. The basic triad of symptoms for tubal abortion: delay in menstruation, pain in the stomach, bloody discharge from the vagina.

The stomach is soft, painless during palpation. During examination in the speculums: loosening and cyanosis of the mucous membrane and bloody discharge from the cervical canal. During bimanual examination: little enlarged uterus, unilateral enlargement of the appendages (frequently sausage-shaped form); the vaginal vaults can remain high or flattened.

Additional methods of examination: - Determine chorionic gonadotropin (CG) in the blood serum and urine.

- Ultrasound.

- Laparoscopy.

- Histological study of scrape from the endometrium.

Treatment can be surgical and conservative. Surgical treatment for tubal pregnancy in most cases consists of salpingectomy. The purpose of such treatment is to preserve the woman's life. In the cases of uncomplicated severe bleeding organ-saving operations can be performed, some of them – during laparoscopy: salpingectomy, segmental resection and anastomosis, fimbrial evacuation. In connection with a certain risk of developing trophoblastic tumor, it is recommended to study the level of CG 2-3 weeks after the operation for comparison with the previous level. For persisting or increased levels of CG, repeated studies or therapy with methotrexate are performed.

Conservative treatment with the use of methotrexate is seldom used as an independent method.

Laparotomy performed in the diagnosis of ectopic pregnancy interrupted. The delay in the operation could lead to catastrophic consequences. The first measures to be patient withdrawal from the shock, stop bleeding and support the cardiovascular system.

Algorithm for treatment of ectopic pregnancy.

The principles of management of patients with ectopic pregnancy:

1. Suspected ectopic pregnancy is an indication for immediate hospitalization.
2. Early diagnosis helps reduce the number of complications and allows you to use alternative therapies.

3. If the diagnosis of ectopic pregnancy is necessary to make urgent surgery (laparoscopy, laparotomy).

Surgical treatment of ectopic pregnancy is optimal. In modern practice may use conservative treatment of ectopic pregnancy.

4. In case of severe clinical picture excited ectopic pregnancy, presence of hemodynamic disorders, hypovolemia patient hospitalized immediately for immediate surgery as soon as possible laparotomichnym access.

If the clinical picture is erased, no signs of internal bleeding and hypovolemia conduct pelvic ultrasound and / or laparoscopy.

5. Prehospital in case of violation of ectopic pregnancy is determined by the volume of emergency room patient's general condition and size of blood loss. Infusion therapy (volume, speed of solution) depends on the stage of hemorrhagic shock (see. Protocol - "Hemorrhagic shock").

6. Hard condition of the patient, presence of severe hemodynamic disturbances (hypotension, hypovolemia, hematocrit less than 30%) -absolyutni indications for surgery with removal of access laparotomnoy pregnant fallopian tube and holding antishock therapy.

7. Apply a comprehensive approach to the treatment of women with ectopic pregnancy, including:

- a) surgery;
- b) the fight bleeding, hemorrhagic shock, blood loss;
- c) the postoperative period;
- d) the rehabilitation of reproductive function.

8. Surgical treatment is carried out as laparotomic and laparoscopic access. The advantages of laparoscopic techniques include:

- reduction length transaction;
 - reduction duration of postoperative period;
 - reduction length of stay in hospital;
 - zmenshennya number scarring of the anterior abdominal wall;
- cosmetic effect.

9. Implementation of organ operations for ectopic pregnancy is accompanied by the risk of postoperative persistent trophoblast resulting from its incomplete removal of the fallopian tubes and abdominal cavity. The most effective method of prevention of complications is closely toilet abdominal 2 to 3 liters of saline and single administration of methotrexate in doses of 75 -100 mg vnutrishnom'yazovou first, second days after surgery.

Ovarian apoplexy

Apoplexy of the ovary (rupture of the ovary). The contributing factors include transferred inflammatory processes, located in the small pelvis, which led to sclerous changes in a tissue of the ovary and vessels, congestive hyperemia and varicose veins. The role of endocrinal factors is not excluded. Bleeding from of the ovary can be the result of diseases of the blood with coagulation disorders.

Rupture of the ovary can occur during different phases of the menstrual cycle, but in a majority of the cases – during the second phase.

3 clinical forms of the disease are distinguished: anemic, pain and mixed.

In the clinical picture of the anemic form, symptoms of intraperitoneal bleedings prevail. The beginning of the disease can be connected with physical traumas, physical strain, sexual intercourse, and can begin for no apparent reason. Acute intensive pain in the abdomen appears in the second half or middle of the cycle. Quite often the pain spreads to the rectum, external genitals, sacrum; the phrenicus symptom can be observed.

The pain attack is accompanied by weakness, loss of consciousness, nausea, sometimes vomiting, cold sweat, unconsciousness. During examination, pallor of the skin and mucous membranes, tachycardia with a normal body temperature are paid attention to. Depending on the volume of blood loss, the arterial pressure can decrease. The stomach remains soft, a little bloated. Tension of the muscles of the abdominal wall is absent. During palpation of the stomach, extended pain in the lower half of the stomach is found. Symptoms of irritation of the abdomen are expressed in different degrees. Percussion of the stomach can reveal the presence of free liquid in the abdominal cavity.

During bimanual (rather painful) examination, the normal sizes of the uterus, sometimes – an enlarged painful spherical ovary are determined. During significant bleeding, overhanging and painful posterior and/or lateral vaginal vaults are found.

In the clinical blood analysis, the picture of anemia prevails.

The pain form of ovarian apoplexy is observed in the case of hemorrhages in the tissue of the follicle or yellow body without bleeding or with a small amount of bleeding in the abdominal cavity.

The disease begins sharply with an attack of pain in the lower abdomen, which is accompanied by nausea and vomiting, with a normal temperature. Attributes of internal bleeding are absent. The stomach is, more often, soft, but some tension of the muscles of the abdominal wall in the iliac area can be found. Palpation of the stomach is painful in the lower areas; moderately expressed symptoms of irritation of the abdomen are determined in the same place. Free liquid in the abdominal cavity can not be found. There are no bloody discharges from the genital tract.

During internal gynecologic examination, the normal sizes of the uterus, shifting which causes pain, and little enlarged round painful ovary are determined. The vaginal vaults remain high.

The clinical blood analysis does not reveal significant deviations from normal.

Treatment of ovarian apoplexy depends on the degree of intra-abdominal bleeding. The anemic form of the disease demands surgical treatment, the volume which can vary. If a rupture of the yellow body occurred, it should be sutured with haemostatic T-shaped sutures. The most typical operation is resection of the ovary. The ovary is removed entirely only when all of its tissue is saturated with blood.

In recent years, the opportunity for conducting sparing operations with the use of laparoscopy, during which evacuation of the blood, which is in the abdominal cavity is performed, and coagulation of area of the ovary, which is bleeding has appeared.

The pain form of apoplexy of the ovary without the clinical attributes of increasing internal bleeding can be treated conservatively. Rest, cold on the lower stomach, preparations with haemostatic action, vitamins are prescribed. Conservative therapy is carried out in the hospital under the supervision of medical personnel.

Rupture of ovarian tumor capsule

Capsule rupture can occur at any neoplasm of the uterus. The reason for the gap - hyperextension of tumor capsule. Possible independent capsule rupture. Contributing moments are: gross vaginal examination, injury, physical stress. The most common fractures occur in the capsule cysts. The collapse of ovarian cancer also leads to perforation of the tumor capsule.

The clinical picture. Start acute disease. Sharp pains in the stomach, sometimes with loss of consciousness. Breath of learning, can be shortness of breath. Pulse frequent, blood pressure can be reduced. Contact with the contents of the cyst or tumor in the abdominal cavity causing peritoneal irritation symptoms. In some cases, the capsules rupture accompanied by profuse bleeding from the ovary of vessels and the development of shock. The general condition of the patient moderately severe, severe or very severe. Bloating, sharply painful to palpation, anterior abdominal wall muscles are tense, Shchetkina-Blumberg positive symptom. The clinical picture is often similar to that in an ectopic pregnancy, occurring both on the type of tubal abortion, and the type of rupture of the fallopian tube, ovary apoplexy when, pelvioperitonit. Diagnosis is complicated by the fact that after the rupture of the tumor is not palpable. Prehospital correct diagnosis is rare. diagnostic errors in the prehospital phase in this case is not of fundamental importance, as any patient if she has very pronounced symptoms of peritoneal irritation and the inability to exclude intra-abdominal bleeding requires emergency hospitalization and surgery.

Urgent care. Emergency hospitalization. When transporting the emergency aid it depends on the condition of the patient.

Torsion of tumor pedicle

Torsion of the tumor pedicle of an ovary. Tumours of different histological structure, not matted together with neighboring organs and having an expressed pedicle, are subject to twisting of the pedicle. As a rule, these are benign and borderline tumours, but malignant can also be seen.

A twisting of the tumour pedicle can be connected with a change in body position, physical strain, increased intestinal peristalsis, overfull urinary bladder, long mobile cyst pedicle.

The anatomic tumour pedicle consists of ligaments, suspending the ovary, ovarian ligament and mesoovarium. The fallopian tubes also are included in the surgical pedicle.

A twisting of the pedicle can occur suddenly or gradually, can be complete and partial. The pathologoanatomic changes in the tumour during a twisting of the pedicles depend on the speed, at which the tumour twists on its axis, and the degree of twisting. A

twisting of a tumour pedicle, accompanied by the compression of arteries, results in necrotic changes in the tissue of the tumour.

Clinical picture. The disease, as a rule, begins with strong pains in the lower stomach, which are accompanied by nausea and vomiting. The body temperature during the first hours of the disease remains normal; the leucocytic reaction is not expressed.

The patient takes a compelled position in bed because of sharply occurring pain. During palpation – tension of the anterior abdomen wall, positive Blumberg's sign, intestinal paresis, delay of stool, less often - diarrhea. The body temperature can increase, rapid pulse, pale skin, cold sweat. During internal gynecologic examination a tumour is determined in the area of the uterine appendages; any attempt to shift it causes a sharp pain. Such patients demand urgent operative treatment.

Disorder of nutrition of a node of a myoma of the uterus.

Disorder of the blood supply to myomatous nodes is, basically, explained by the mechanical factor (twisting, bending, compression of the tumour). It is necessary to take into account the features of hemodynamics during pregnancy when a significant decrease in blood flow in the uterus is marked, the features of the expressed area of the intermuscular node, an increase in the vascular tone of the small vessels, difficult venous outflow, a decrease in the speed of filling of blood of the arterial and venous systems. The reason for disorder in the nutrition of a node can be various dystrophic processes in the myomatous nodes (hypostasis, necrosis, hemorrhages, hyaline degeneration) which can develop as a result of ischemia, venous congestion, multiple blood clots in the intermuscular nodes of the tumour.

Coagulative and liquefactive types of necrosis of the uterus are distinguished. During coagulative necrosis a gradual wrinkling of the areas of necrotizing tissue occurs, thus original cavernous cavities with the remains of necrotic tissue are formed. During liquefactive necrosis a softening and damp necrosis of tissue is observed with subsequent formation of cyst-like cavities. More often tumours, located intramural, are exposed to so-called red necrosis.

Macroscopically these tumours are colored red or brownish red, have a soft consistency, microscopically – dilated veins and their thrombosis. Reason: an increase in the tone of the surrounding node of the myometrium with subsequent development of a disorder in the blood circulation in the tumour's capsule and on the periphery. Infections, which penetrate into the node by hematogenous or lymphogenous way, often join aseptic necrosis.

The clinic for disorder of nutrition of nodes depends on the degree of disorder of blood supply of the node.

Necrosis of uterine myoma is accompanied by sharp pain in the stomach, tension of anterior abdomen wall, possibly an increase in temperature and leukocytosis.

During bimanual examination, the presence of myomatous nodes in the uterus, one of which is acutely painful during palpation, is determined.

An ultrasound makes revealing hard-to-access nodes easier. Laparoscopy is used to specify the diagnosis.

Treatment - operative. In some cases conservative treatment is acceptable: rheological active means (rheopolyglucin, trental), spasmolytics (papaverine, no-shpa) in combination with antibacterial and desensitizing means.

Pelvioperitonitis and peritonitis - acute inflammation of the abdomen.

Reasons: fusion of the wall of pyosalpinx, purulent tubo-ovarian formations;

- various gynecologic operations;
- criminal abortions, including perforation of the uterus;
- necrosis of tumours of the ovary.

Depending on the extent of the inflammatory process, the following forms of peritonitis are distinguished:

1. Local (limited and unlimited).
2. Widespread (diffusive and generalized).

Pelvioperitonitis can be the result of widespread infection on the peritoneum of the small pelvis during serous and purulent salpingitis, always is accompanied by the development of pyosalpinx, pyo-ovarium and tubo-ovarian abscesses.

Types: serous, fibrinous, purulent.

Clinic of the acute stage of pelvioperitonitis: pain in the lower stomach, high temperature, nausea, sometimes - vomiting. During objective examination: rapid pulse which surpasses the temperature reaction. The tongue remains moist, sometimes it is covered with a white film. The stomach is bloated in the lower sections, also tension of the muscles of the abdominal wall, positive symptoms of irritation of the abdomen. Intestinal peristalsis is sluggish; the abdomen wall takes part in respiration. Bimanual examination is difficult because of the sharp pain and tension of the lower sections of the stomach. Intense pain occurs with the slightest shift of the cervix uteri. Sometimes the vaginal vaults flatten or overhang, which specifies the presence of exudation in the small pelvis.

For pelvioperitonitis, the clinical blood analysis should be repeatedly done during the day. Moderate leukocytosis, not so sharp shift in the leukocytic formula to the left, small decrease in the quantity of lymphocytes is characteristic for pelvioperitonitis.

In unclear cases, laparoscopy is conducted.

Treatment of pelvioperitonitis is, as a rule, conservative.

Rest, high-grade bland diet. On the lower stomach - periodic application of a bubble with ice. Antibacterial therapy. Disintoxication (infusion-transfusion therapy). Desensitizing, nonspecific anti-inflammatory anesthetics, vitamins. Sessions of ultra-violet irradiation of the blood are advisable.

Pelvioperitonitis, which proceeds on the background of pyosalpinx, pyo-ovarium and tubo-ovarian abscess, demands surgical treatment.

Widespread peritonitis is characterized by the early occurring of endogenous intoxication.

Classification of peritonitis by K.S. Simonyan:

I phase - reactive; II phase - toxic; III phase - terminal.

Clinic: pain in the stomach, protective tension of the muscles of the abdominal wall, positive symptoms of irritation of the abdomen, persistent intestinal paresis.

High fever, superficial rapid breath, vomiting, restless behavior and euphoria, tachycardia, cold sweat. Expressed leukocytosis with shift of the leukocytic formula to the left and toxic granular neutrophils, an increase in the level of alkaline phosphatase, sharp decrease in the number of thrombocytes.

Treatment in 3 stages: preoperative preparation, operative intervention, intensive therapy during the postoperative period.

Preoperative preparation: decompression of the stomach, subclavian vein catheterization (infusion therapy, directed on the liquidation of hypovolemia and metabolic acidosis, correction of hydrologic, electrolytic and albuminous balance, detoxication of the organism), introduction of cardiac preparations, adequate oxygenation, intravascular introduction of antibiotics at their maximum dosage.

The volume of operative intervention is strictly individual, special requirements – complete removal of the center of infection with subsequent drainage of the abdominal cavity.

The duration of infusion therapy in the postoperative period should pursue the following purposes:

- Liquidation of hypovolemia by the introduction of colloidal solutions and albuminous preparations;
- Compensate for the loss of chlorides and potassium;
- Correction of acidosis;
- Provide the energy needs of the organism;
- Antienzyme and anti-coagulant therapy;
- Provide forced diuresis;
- Fight infection by using antibiotics with a wide spectrum of action;
- Prophylaxis and treatment of functional insufficiency of the cardiovascular system;
- Prophylaxis and liquidation of hypovitaminosis.

Restoring the motor-evacuational functions of the stomach and intestines has great value. Sessions of ultraviolet radiation. Hyperbaric oxygenation. Extracorporeal haemosorption.

Traumatic damage of genitalia. Clinics, diagnostics, management tactics.

Emergency aid.

Female genital mutilation - a group of pathological conditions in which there is damage to the reproductive organs of women.

Traumatic injuries in gynecology often require emergency medical care. Injuries genitals, occurring after injury, surgery, abortion or sexual intercourse, observed in 0.5% of patients with gynecological.

They are classified as follows:

- breaks during sexual intercourse;
- damage caused by foreign bodies in the genital tract;
- injury of the external genitalia and vagina domestic and industrial nature, caused by a sharp object;
- beats genitals, crushing;
- chopped, sliced and gunshot wounds to the genitals
- damage due to medical practice.

Regardless of the cause of damage to determine its volume requires careful examination in the hospital, which includes in addition to the primary inspection special methods (rectoscopy, cystoscopy, x-ray, ultrasound and ultrasonarное study and others.).

As a result of injury, blunt force trauma often formed a hematoma, which is associated with a mechanical action on the vessel wall and its rupture. Hematoma in the form of blue-purple formations are usually easily diagnosed by simple visual inspection. With the external genitalia, they move on to the perineum, okolovlagalischnoy distributed in

tissue and are so significant that accompanied the development of acute anemia in the patient. For large hematomas marked swelling, severe pain and deformation of the vulva. If the hematoma is infected, the fever, chills appears.

Treatment of hematoma is reduced to conservative expectant management. Usually recommend bed rest, ice region hematoma, vitamin K, F, G, calcium chloride. If the hematoma is growing, the patient develops severe anemia, we recommend opening a blood tumor, removal of blood clots, bleeding vessel ligation. The cavity is tightly sutured or left to drain, if there is a risk of infection hematoma (damage and cracks in the external genitalia). Festering hematoma is opened, it is drained cavity.

The most dangerous ruptures vessels and tissues in the clitoris, as marked with massive parenchymal hemorrhage. Therefore, aid for them should be given as early as possible. As a result of the fall on a sharp object or blow horns of an animal are observed not only breaks the perineum, vagina, and perforation of the vaults, damage to the bladder, rectum.

The correct diagnosis facilitates inspection in the mirror, bimanual examination, symptoms. Treatment of vaginal rupture, perineum, rectum is suturing them. If parauterine okolovlagalischnoy tissue or a hematoma, it should not be tightly sew up the gap, especially after the break has been more than 12 hours, you need to put in the wound graduates.

When sexual intercourse is also sometimes observed traumatic injuries of external and internal genital organs. Such injuries are more common in women in old age, with the stenosis genitals after an inflammatory diseases, infantilism, with rough sexual intercourse (intoxicated), the wrong position of women and the large size of the penis. Significant destruction of the vagina, tears vaults, penetrating into the abdominal cavity, rectum injury occur when the rape of minors, often there is a lot of bleeding. Such gaps are sutured. If more than 6 hours after injury, the seams do not overlap, the wounds heal by secondary intention.

Relatively frequently observed injuries when administered to women in the reproductive tract foreign bodies with criminal abortion and masturbation.

With the introduction of sharp objects into the vagina or cervix are often observed damage to the body of the uterus. Penetration small items into the uterine cavity or abdominal cavity is diagnosed by radiography, sometimes finger examination of the uterine cavity. Depending on the clinical picture and the location of the foreign body removed by vaginal or laparotomy.

We must not forget that many injuries occur on the genitals street, industrial premises and can be infected. Therefore it is necessary to provide a thorough treatment of wounds and prevention of tetanus.

The diverse nature of injuries and complaints, many variations of the disease depending on age, constitution and other factors require individual medical tactics. Knowledge of generally accepted tactical decisions allows the doctor ambulance to the hospital stage start urgent measures, which can then be continued in the hospital.

Preoperative preparation and postoperative care of gynecologic patients.

In the presence of chronic extragenital diseases (hypertension, ischemic heart disease, rheumatism, liver disease) the question of the operation time after the treatment is decided together with the appropriate specialist. It turns allergic history with compulsory specification of medicines and foods to which patients have a reaction.

Before elective surgery is required to perform:

- General blood and urine analysis;
- Bacterioscopic and bacteriological examination of discharge from the genital tract;
- Cytology smear from the cervix and its canal;
- Determination of blood group and Rh factor;
- Biochemical analysis of blood (total protein, bilirubin, urea, residual nitrogen, glucose, electrolytes);
- A blood test for HIV, the Australian antigen;
- Coagulation;
- Measurement of blood pressure, holding electrocardiogram and chest X-ray.
- According to the testimony of additional studies (ultrasonography, hysteroscopy, colposcopy, hysterosalpingography, endometrial biopsy, curettage of the uterus, hormonal studies, lymphography, CT scans, etc.).

In preparation for vaginal operations for patients with vaginitis, III-IV degree of vaginal purity performed anti-inflammatory therapy. In cases vaginal prolapse is treated with hydrogen peroxide and then introduced into the uterus and reduce a swabs soaked sintomitsinovoy emulsion. In the presence of trophic ulcers, and other pseudo-lesions on the cervix and vaginal walls carry extended colposcopy with biopsy and subsequent histological examination. Depending on the data to decide whether the amount of the transaction.

Preparing the patient for emergency surgery (intra-abdominal bleeding, cyst torsion legs, etc..) Is minimized. In urgent procedure and determine the blood group is Rh perform common blood and urine tests determine blood glucose, coagulation, carried out research on the total blood protein. Wash the stomach or its contents removed with a probe, carry enema. In case of violation of ectopic pregnancy, accompanied by heavy bleeding, enema is contraindicated (possibility of increased bleeding). The patient was in a state of hemorrhagic shock with a reception transported to the operating room, where at the same time embarking on transfusion (after determination of blood group and Rh factor) and laparotomy.

Patients with a tubo-ovarian inflammatory formations in preparation for the operation shows the infusion therapy. Preoperative preparation of patients over the age of 50 years, mainly directed at improving the function of the cardiovascular system.

In patients with uterine myoma often develop iron deficiency anemia, therefore as a pre-designate of oral iron supplements for 1-2 months to restore the level of hemoglobin. If indications for emergency surgery and the presence of severe anemia (even without hemodynamic instability), necessary to conduct blood transfusions.

In the presence of inflammatory diseases of the veins (phlebitis, thrombophlebitis) in pre- and post-operative period, shows the use of direct-acting anticoagulants (heparin, fraxiparine, Fragmin, kaltsiparin). For 2-3 days before the operation was stopped anticoagulant therapy. In cases of varicose veins show their compression elastic stockings or bandages.

When deciding on the time of the operation, you need to take into account the phase of the menstrual cycle. Surgery (except for hysteroscopy, curettage of the uterus) is not indicated for 2-3 days before and during menstruation due to the physiological increase in this period of bleeding tissue of the pelvic organs. Elective surgery it is advisable to appoint during the first phase of the menstrual cycle.

During preparation for surgery patients should receive food with high energy value, with little fiber. For 14-16 hours before the operation is stopped eating (one day before the operation: a light lunch - a thin soup, broth, in the evening - sweet tea). In the evening and in the morning before the operation is carried out a cleansing enema for the prevention of postoperative flatulence and intestinal paresis, conduct sanitary treatment (hygienic shower).

Before the surgery, the patient's medication runs preparation for the elimination of mental stress, as well as the normalization of sleep (sibazon - 0.01 g, nozepam - 0.01 g, elenium - 0,005 g; antihistamines: diphenhydramine - at 0.01-0.02 g, suprastin - 0,025 g, tavegil - 0.01 g). For 30-40 minutes before the operation is carried out premedication: introducing anticholinergics (atropine - 0.5 mg, metacin 0.5-0.8 mg); narcotic analgesics (promedol - 20 mg, fentanyl - 0.1 mg); antihistamines (diphenhydramine - 20 mg).

Immediately prior to surgery catheter urine output or enter an indwelling catheter for the duration of the operation, so full bladder can hurt at the opening of the abdominal cavity and cause injury pubic mirror during operation. On the day of surgery the vagina is treated with alcohol, dioxidine. When performing combined endotracheal anesthesia with muscle relaxants and mechanical ventilation (ALV) is used more often gynecological surgery.

Keeping the postoperative period aimed at the prevention and timely detection of possible complications.

In the recovery room the patient is transferred only after restoring them adequate breathing, consciousness, muscle tone, reflex activity, normalization of hemodynamics. In the case of the need to maintain ventilation, as well as in cases of severe state of patients transferred to the intensive care unit.

In the postoperative management of patients should take into account their age, physical illness, the volume of surgery, complications during surgery. Critical is the first 48-72 hours after surgery.

The patient was transferred to a pre-warmed soft bed. During the first 6 hours after surgery hourly measure blood pressure, pulse and breathing, a condition dressings, vaginal discharge, observe the symptoms of internal and external bleeding, for emptying the bladder.

When abdominal surgeries immediately after surgery on postoperative wound site for 3-4 hours put cargo for hemostasis and sparing the anterior abdominal wall by vomiting or coughing. For additional hemostasis, reducing postoperative wound edema, analgesia dosage appropriate to apply a local hypothermia (cold to the area of the surgical wound for 30 minutes in 1.5-2 hours for the first two days).

Doing early postoperative period provides adequate anesthesia, maintenance of normal respiratory, infusion and antibiotic therapy if indicated, prevention of bleeding and thromboembolism, elimination of postoperative complications. Pain after surgery negatively affects the postoperative period. Analgesics administered for anesthesia, if necessary every 4-6 hours after surgery (promedol, Tramal, tramadol, renalgan, Baralginum etc.). Adequate anesthesia allows the patient to breathe deeply, to carry out adequate ventilation. 2-3 th day of the administration of analgesics, if possible, to limit a single injection daily (at night).

By the end of the first day the patient should be rotated to the side, bend the legs, take deep breaths, breathing exercises recommended 6-8 hours after surgery to prevent pneumonia. To prevent thromboembolic complications, it is recommended to get up early to bed in the presence of a doctor or nurse (unless contraindicated).

In order to prevent pulmonary complications (postoperative pneumonia) are shown, if necessary oxygen therapy, drainage status, stimulation of coughing; mucolytics should be taken, put the banks sector and mustard on the chest (morning, evening). Keep an eye on hygiene patients (sanitation and toilet mouth, external genitalia, hygiene wiping bedsores prevention).

During the postoperative period, carefully observe the general condition of the patient (body temperature, blood pressure, pulse rate, respiration), postoperative wound secretions from the drains and catheters, timely emptying of the bladder and bowel. Carefully conducted palpation of the abdomen to detect the presence or absence of signs of peritoneal irritation, the state of the intestines. Carry out laboratory control of the state of basic life functions.

In the first hours after the operation the patient is moistened her lips with a damp cloth, on the second day of drinking fluids are not limited to (1.5-2 liters). Recommend boiled water or tea without sugar with lemon, rosehip infusion without sugar, alkaline mineral water without gas.

Infusion-transfusion therapy is carried out during the first days after the operation (of 2 -2.5 liters) in the future - if indicated for the correction of hemodynamic disturbances, bcc recovery, normalization of blood rheology and microcirculation, electrolyte balance and acid-base balance (blood , plasma, albumin colloid and crystalloid solutions - Ringer's solution, Locke-Ringer's solution, isotonic sodium chloride solution, 5% glucose solution laktasol, 4% potassium chloride solution - 30-40 ml / kg body weight).

The nature and volume of infusion therapy should be subject to major diseases, especially surgery, and the patient's age. Daily diuresis thus should be 1200-1400 ml. The amount of fluid injected is reduced by half if the patient prior to surgery showed signs of cardiac failure. Antibiotic treatment was administered in the presence of inflammation in the pelvic cavity, after traumatic operations, in the case of repeated operations at high risk.

In order to maintain renal function administered 20-40% glucose solution, osmotic diuretics (mannitol), saluretika (Lasix); liver function - Essentiale, kokarboksilazu; cardiovascular system - strofantin, Korglikon, aminophylline, papaverine.

The complex prevention of thromboembolic complications in the early post operative period shows an application, direct anticoagulants (heparin 5000 IU under the skin of the anterior abdominal wall three times a day, or low molecular weight heparin (fraxiparine, Fragmin, Clexane)

intestinal condition returned to normal, usually 2-3 days after the operation (normalization of peristalsis, independent carminative, on the 3rd day carried out a cleansing or hypertonic (100 mL) enema.

Meals patients can begin after the start of operation of the intestine, as a rule, from the 2nd day after the operation (yogurt, low-fat chicken broth, fish soup, tomato juice, tea). On the third day, you can add boiled chicken, egg, cooked boiled, pureed soup, baked apples, crackers. In the future, patients gradually expand the menu to normal.

Every day or every other day change the bandage on his stomach, and the seams are treated with an alcohol, an iodine solution, an alcoholic solution of brilliant green. On days 7-8 remove sutures and conduct gynecological examination. Obese joints gradually removed through a single, final - on 9-10 day.

After vaginal surgery the patient must observe the following rules: bed rest, analgesics and antibiotics (if indicated), breathing exercises, regulation of bowel and bladder functions.

After the operation is applied cold to the perineum for 1-1.5 hours. In the case of a cold swelling joints used in the first few days after surgery for 30 minutes with an interval of 1,5-2 hours. The first day after the operation the patient is expedient to keep the attention of the feet. From the second day allow them to bend at the knees, but not to bend: back in bed on his side with pivot feet. Getting up is possible from the prone position. Vaginal swab was removed after 6-8 hours after surgery.

After surgery on the muscles of the pelvic floor defecation delayed for 3-5 days. Delay chair guts provided a thorough cleansing before surgery liquid diet during the first 5 days after it (unsweetened tea, ear, juices). On the 6th day diet gradually expand (baked mashed fruit, vegetables, pudding, yogurt one day); food must be low in fiber. Before removing the sutures inside the prescribed 30 grams of glycerin. During operations with plastic bladder is advisable to apply a thin flexible indwelling catheter, which is introduced for 3-4 days. The bladder through a catheter washed once a day with a solution furatsilina. This reduces the frequency of postoperative cystitis, post-operative bladder atony.

Caring for postoperative wound in the perineum performed open-pit twice a day. The vagina is washed with 0.1% potassium permanganate solution furatsilina. In at least three months after surgery patients do not allow to lift weights (3 kg). Patients are exempt from heavy physical work up to 6 months.

Anesthesia during gynecological operations.

As in other sections of surgery, anesthesia in gynecology is four varieties: general anesthesia (or narcosis), sedation, regional anesthesia, local anesthesia.

Small surgical procedures in gynecology are performed under local anesthesia, sedation or intravenous anesthesia. Large operations in gynecology is performed under general anesthesia (general anesthesia) or by regional types of anesthesia (spinal, epidural anesthesia).

Vacuum (vacuum aspiration), taking aspirate from the cavity puncture the posterior fornix, uterine curettage (separate diagnostic curettage) or abortion is most often performed under local anesthesia or intravenous anesthesia.

If local anesthesia is performed cervical infiltration of tissues around (paracervical anesthesia) local anesthetic that blocks the consequence of pain during manipulation of the cervix. When performing local anesthesia in gynecology of local anesthetics are used more often than others lidocaine, procaine or ultrakain.

Given the risk that some of the local anesthetic solution into the blood vessel when performing gynecological local anesthetic (in particular paracervical anesthesia) some gynecologists not apply this kind of anesthetic and minor surgery performed as described above under some sedation or no analgesia. Gynecologists do not possess the skills of classical sedation (this requires special knowledge), so the phrase "some

sedation" and used the word "some". This is a sedation or intramuscular tranquilizer (diazepam), several of cleaning anxiety, but no pain, or intramuscular injection of analgesic (ketorolac, diclofenac, Promedolum), providing a slight decrease in pain during surgery.

As used in gynecology phlebonarcosis a variation on the general anesthesia, the patient is falling asleep and experiences no pain during surgery.

A large volume gynecologic surgery (laparoscopy, on the uterus and its appendages surgery, treatment of urinary incontinence, etc.) Is most often performed under general anesthesia, at least under regional anesthesia. Conducting in gynecology these types of anesthesia does not differ from their conduct in other surgical specialties, so a detailed description can be found in sections: general anesthesia, regional anesthesia. The choice of anesthesia will be determined by the particular kind of operation and the condition of the patient.

Each year, more than 30 million surgical procedures are performed. During these, nearly 1 million patients suffer a postoperative complication (Mangano, 2004). As surgeons, gynecologists assume responsibility for assessing a patient's clinical status to identify modifiable risk factors and prevent perioperative morbidity. However, clinicians should also be prepared to diagnose and manage such complications if they arise.

3.3. Requirements for the results of work.

1. Classify and analyze clinical picture of precancerous and malignant diseases of female genital system.
2. Make plan of examination using modern methods of diagnostics, analyze data of laboratory and instrumental tests in precancerous and malignant diseases of female genitals and state preliminary diagnosis;
3. Conduct differential diagnostics of precancerous and malignant diseases of female genital system;
4. Determine tactics of patient management (principles of operative interventions and conservative treatment, rehabilitation measures) in precancerous and malignant diseases of female genital system;
5. Conduct prophylaxis of precancerous and malignant diseases of female genital system;
6. Perform necessary medical manipulations.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. A woman complains of sudden pain in the abdomen, which irradiates the anus, nausea, dizziness, dark bloody discharge from the genital tract during the week, delay menstruation for 4 weeks. Symptoms of peritoneal irritation positive. In the mirror, cyanosis of the mucous membranes of the vagina and cervix. In bimanual study notes symptom of "uterus floating" pain and bulging rear and right side of the vaults of the vagina. The most likely diagnosis?

- A. Acute appendicitis.
- B. apoplexy ovary.
- S. acute right-adnexitis.
- D. tilting legs ovarian tumor.
- + E. ectopic pregnancy.

2. The 24-year-old woman complains of bloody spotting, vaginal discharge and pain in the right iliac region. In the history of irregular menstrual cycle. Last menstruation 7 weeks ago. During bimanual examination the uterus is not enlarged, painless. Title chorionic gonadotropin 1000. Tactics doctor?

- A. diagnostic laparoscopy.
- B. Ultrasound pelvic organs.
- C. Kuldoskopiya.
- + D. Re-definition CG 24 hours.
- E. Repeated studies of hCG in a week.

3. Woman '17 worried about sharp pain below the abdomen. Notes the delay menstruation for 2 weeks. Sex life during the year. Guarded pregnancy interrupted sexual intercourse. Objectively: pale. 36,60S body temperature, blood pressure 95/60 mm Hg, pulse 90 beats / min. If bimanual examination is defined slightly enlarged uterus, cervix tours painful appendages expressly konturuyutsya, rear arches vypnute. Discharge from the genital tract dark bloody miserable. The most informative method:

- A. Ultrasound of the pelvic organs.
- B. Complete blood.
- C. puncture the abdominal cavity through the posterior vaginal vault.
- D. colposcopy.
- + E. Laparoscopy.

4. A woman worries acute abdominal pain, fever up to 38,0 ° C. Knows the presence of uterine fibroids 3 years. Symptoms of peritoneal irritation positive in the lower abdomen. WBC 10.2 T / L, erythrocyte sedimentation rate 28 mm / h. In bimanual study of uterine body increased to 8-9 weeks of pregnancy, on the front surface - dramatically painful myoma node size 4x4 cm, uterine appendages not changed. Ultrasound confirms that subserous myoma node. What is the most likely diagnosis?

- A. Internal endometriosis.
- B. tuboovarialnogo tumor.
- + C. Necrosis myoma node.
- D. Acute adnexitis.
- E. perimetrity.

5. A woman complaining of abdominal pain that iradiyuye the anus, dizziness, occurring after coitus. In the history of inflammation of the uterus 7 years. 15-day menstrual cycle. Skin pale, soft abdomen, painful, positive symptoms of peritoneal irritation. Pulse 110 beats / min. If bimanual examination defined by increased spherical, painful right ovary, painful back and right lateral vaginal vault. No bleeding. Probable cause "acute abdomen":

- A. ovarian tumors with malnutrition.
- + B apoplexy ovary.
- C. ectopic pregnancy, which was interrupted by the type of tubal abortion.
- D. What interrupted the type of pipe rupture, ectopic pregnancy.
- E. exacerbation of chronic adnexitis.

6. Gynecology department received ill '20 complaining of a sharp pain in the abdomen after exercise. Last menstruation 2 weeks ago. When vaginal examination the uterus is not enlarged, painless, left appendage sharply painful on palpation, making it difficult to study. Symptom Promtova positive. The rear arches looming, painful. Pulse 96 beats / min., BP 100/60 mmHg What kind of pathology it is?

- A. Acute left-sided salpingo.
- + B. apoplexy left ovary.
- C. piosalpinks left.
- D. violated left-sided tubal pregnancy.
- E. tumor of the left ovary.

7. Woman '26 delivered to the receiving department with complaints of sudden pain in the lower abdomen, weakness, loss of consciousness at home. Last menstruation 2 months ago. Hb 106 g / L, pulse 120 / min, blood pressure 80/50 mmHg Pain and symptoms of peritoneal irritation at the bottom right. What is the most likely diagnosis?

- A. apoplexy ovary.
- B. Torsion ovarian cyst legs.
- C. Acute appendicitis.
- D. Acute adnexitis.
- + E. impaired tubal pregnancy.

8. Gynecological hospital received a woman complaining of a sharp pain in the lower abdomen. A year ago at prophylactic examinations diagnosed tumor of the right ovary. From the operation refused. An examination of women Note the positive symptoms of peritoneal irritation. Bimanual - normal size uterus, painless, right size is determined by the formation of up to 8 cm, sharply painful, dense, with clear contours. Possible diagnosis?

- + A. Torsion ovarian cyst legs
- B. Ectopic Pregnancy
- C. Acute right sided adnexitis
- D. Rupture of ovarian cysts
- E. pelvioperitonit

9. Patient '39 complaining of acute abdominal pain, vomiting, frequent urination. On examination, the abdomen swollen moderately positive symptom Schotkyna-Blumberg. Pulse 88 per minute, body temperature of 37 ° C. If bimanual examination: uterine body tight, not increased, mobile, painless, and right in front of the formation of palpable uterus size 6x6 cm tuhoelastychnoyi consistency, sharply painful shear; left appendages are not defined; vault free; mucus. What is the most likely diagnosis?

- A. Intestinal obstruction.
- B. Renal colic.
- C. apoplexy ovary.
- + D. torsion stem tumor of the ovary.
- E. Acute inflammation of the uterus tuboovarialnogo form on the right.

10. Patient '28 addressed with complaints of intense pain in the lower abdomen, fever up to 39 ° C, and nausea. Ill after menstruation. Sex life outside of marriage. The abdomen is painful on palpation in the lower divisions. Symptom Schitkyna-Blumberg

positive. In the study, the contours of the uterus and appendages are not clearly defined by the tension of the anterior abdominal wall. The rear arches sharply painful. Bold pus. What is the most likely diagnosis?

- A. Adenomyosis
- B. parametrit
- + C. pelvioperitonit
- D. Appendicitis
- E. Torsion ovarian cyst legs

Practical lesson №29

Infertility in couples. Modern contraception methods. Medical eligibility criteria for contraceptive use (WHO).

Learning objective

The overall aim of this topic is to gain basic knowledge about etiology, pathogenesis aspects, diagnostic algorithm and tactics of treating infertility in marriage and the scope of the examination and the treatment plan of patients. Evaluate the results of the examination, make a preliminary diagnosis. Student must master the methods family planning issues and modern WHO approaches in choosing contraceptive methods.

Basic concepts:

1. Etiology and pathogenesis of female and male infertility.
2. Types of female infertility.
3. Examination of a couple in an infertile marriage.
4. Treatment approaches and methods in female infertility (hormonal, surgical, modern reproductive technologies).
5. Consultation on family planning: directions, advantages, consulting process.
6. Methods of contraception: COCs, vaginal ring, contraceptive patch, POPs, injections, IUD, barrier methods, spermicides, voluntary surgical sterilization, emergency contraception.
7. Methods of fertility evaluation.
8. Necessary examination prior to deciding upon usage of a specific contraceptive method.
9. Family planning in HIV-positive patients.
10. Selected practice recommendations for contraceptive use of WHO.

C. organizational stage

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Infertility remains a neglected area in sexual and reproductive health, yet its consequences are staggering. Infertility is estimated to impact about 10–25% (estimates range from 48 to 180 million) of couples of reproductive age worldwide. It is associated with adverse physical and mental health outcomes, financial distress,

severe social stigma, increased risk of domestic abuse, and marital instability. Because of worsening of demographic setting in Ukraine, increased frequency of infertility marriages (rises up to 15-20% from all marriages), problem of treating damages of reproductive function became very actual.

Combination of many etiologic factors which lead to infertility often does not give an opportunity to reveal main and secondary causes of the problem and set adequate treatment. During last few years main methodic for treating infertility stays endoscopy. Family planning is essential to promoting the well-being and autonomy of women, their families and their communities. Quality of care in family planning is paramount for ensuring progress towards achieving high standards of health for all. WHO medical safety criteria of contraception provide guidance regarding “how” to use contraceptive methods safely and effectively.

control of basic knowledge (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

1. Collect general and special history, an allocation of a typical case-patient data.
2. Interpret data from a survey of case-patients.
3. Formulate a diagnosis of thematic patient, the differential diagnosis, to appoint a treatment plan.
4. Perform gynecological examination (mirror, bimanual, rectal).
5. Taking material from the vagina, cervical canal and urethra for examination.
6. Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests.
7. Make the plan of methods for diagnosing infertility in couple.
8. Formulate a diagnosis of thematic patient, the differential diagnosis, to appoint a treatment plan Survey methods in gynecology.
9. Make the plan of family planning counseling

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

1. Etiology and pathogenesis of female and male infertility.
2. Types of female infertility.
3. Examination of a couple in an infertile marriage.
4. Treatment approaches and methods in female infertility (hormonal, surgical, modern reproductive technologies).
5. Consultation on family planning: directions, advantages, consulting process.
6. Methods of contraception: COCs, vaginal ring, contraceptive patch, POPs, injections, IUD, barrier methods, spermicides, voluntary surgical sterilization, emergency contraception.
7. Methods of fertility evaluation.
8. Necessary examination prior to deciding upon usage of a specific contraceptive method.
9. Family planning in HIV-positive patients.
10. Selected practice recommendations for contraceptive use of WHO.

formation of professional skills (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).**Interactive task:**

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity or gynecological hospital, surgery room.

Tasks:

- Subgroup I - Gather special gynecologic anamnesis. Prepare a plan of inspection sick with various kinds of gynecological diseases. Make the plan of preoperative preparation at planned and urgent gynecologic operations. Management of the postoperative period.
- Subgroup II - Perform gynecological examination- Taking material from the vagina, cervical canal and urethra for examination.- Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple- choice questions select the lettered answer that is the one best response in each case.

1. Female 26 years has addressed with complaints of infertility for 3 years. Menstruation in 14 years, painless, moderate. Cycle 4.5 / 28 regular. At the age of 16 underwent appendectomy. Postkoital test and analysis of sperm in the normal range. According to the measurement of basal body temperature ovulatory cycles, phase is 12-14 days. Define the most appropriate method of diagnosis:

- A. Laparoscopy.
- B. Hysteroscopy.

- C. Colposcopy.
- D. Endometrial biopsy.
- E. Hysterosalpingography.

2. Before she turned gynecologist '28 complaining of infertility. Married 6 years, first pregnancy was the first year of marriage and ended in induced abortion, which complicated inflammation of the uterus. Menstrual disorders are not celebrating. More pregnancies were not. What the survey should be conducted?

- A. Spermogram.
- B. Metrosalpingography.
- C. Functional diagnostic tests.
- D. Determination of hormone levels on cycle day 7-8.
- E. Bacteriological study of discharge from the genital tract.

3. Female 25 years appealed to the antenatal clinic with complaints of non-occurrence of pregnancy. Married 1 year, living a regular sexual life, contraception does not use. From history we know that once treated in the gynecological department with the exacerbation of chronic adnexitis. Diagnosis?

- A. Secondary infertility.
- B. Chronic adnexitis.
- C. Primary infertility.
- D. Apoplexy ovary.
- E. Pelvioperitonite.

4. Female 18 years, complains of lack of pregnancy within 1 year of regular sexual life. From pregnancy is not guarded. Pregnancy was not. If bimanual examination revealed no pathology. From what method should begin examination of this couple?

- A. Spermogram.
- B. Hysterosalpingography.
- C. Laparoscopy.
- D. Tests of functional diagnostics.
- E. Bacterial sowing.

5. The gynecologist has addressed patient '29 complaining of infertility. Sex life living in married 4 years, pregnancy is not guarded. Pregnancy was not. The examination found women: development of sex organs no abnormalities. Fallopian tubes pass. Basal temperature for three menstrual cycles of single-phase. The most likely cause of infertility?

- A. Anovulatory menstrual cycle.
- B. Chronic adnexitis.
- C. Anomaly of genitalia.
- D. Immunological infertility.
- E. Genital endometriosis.

6. A woman complains of irregular menstrual cycle for 2 years. The duration of the menstrual cycle of 30-50 days. During the year there were no pregnancies. What research should be assigned primarily to clarify the causes of infertility?

- A. Laparoscopy.
- B. Semen sex partner.
- C. Measurement of basal temperature.
- D. Postkoital test.
- E. Hysteroscopy.

7. Patient 29 years, from the history, the patient had three non-developing pregnancies in the early stages. For the last 3 years, she has been sexually active without protection. What should be assigned to identify the causes of this disease?

- A. Bacteriological study of discharge from the genital tract.
- B. Testing for syphilis.
- C. Screening for tuberculosis.
- D. Clinical analysis of blood.

5. Screening for TORCH-infection, medical and genetic counseling.

8. A 34-year-old patient consulted a gynecologist about the impossibility of getting pregnant after 4 years she has the following symptoms: obesity, hirsutism, hypomenstrual syndrome. When pelvic ultrasound was found endometrial hyperplasia. An indication of what state is this conclusion?

- A. Persistent corpus luteum.
- B. Inflammatory process endometrium.
- C. Chronic anovulation.
- D. Hypothyroidism.
- E. Normal state of the endometrium.

9. In '28 women complaining of secondary infertility during diagnostic laparoscopy installed inside endometriosis. In history - chronic salpingooforites. Most likely pathogenetic factor infertility in women is this:

- A. Local secretion of prostaglandins.
- B. Violations of the synthesis of cortisol in the adrenal glands.
- C. Thickening protein shell ovaries.
- D. Congenital underdevelopment of genitals.
- E. Increasing the viscosity of cervical mucus.

10. Patient '25 entered the gynecological department with complaints of fever up to 38.7 ° C, abdominal pain, and purulent vaginal discharge. From history: 6 years ago introduced the intrauterine device. If bimanual examination, the cervix is cylindrical with symptoms cervicitis, discharge from the cervical canal, mustache palpable spiral. Painful body of the uterus normal size. Appendages painful on both sides. Parametrium is free. Select tactics:

- A. Hysteroscopy, antibiotic.
- B. Anti-inflammatory treatment.
- C. Analysis vaginal discharge, antibiotic.
- D. Analysis vaginal discharge, antibiotic.
- E. Separate scraping the uterine lining.
- F. Removal intrauterine device, antibiotic.

11. The gynecologist for prophylactic examinations approached a woman 25 years of history knows that it often changes sexual partners. The doctor asked her to use a drug that is both spermicidal and bactericidal effect of a wide spectrum. What preparation was offered a gynecologist?

- A. Erotex.
- B. Polizhinaks.
- C. Terzhinan.
- D. Klion-D.
- E. Pimafucin.

12. Female 24, the right builds, satisfying food. Menstruation at age 14, 3-5 / 28 days, mild, painless, regular. First Pregnancy, childbirth first. Since the birth took 2 weeks. Assign a contraceptive method:

- A. Intrauterine tool.
- B. Barrier method.
- C. Postkoital contraception.
- D. Injectable.
- E. Lactation amenorrhea.

13. Patient 40 years has three children in marriage, appealed to the gynecologist with a view to the selection method of contraception. Healthy. For the purpose of contraception most reasonably purpose:

- A. Intrauterine product.
- B. Spermicides.
- C. Oral contraceptives.
- D. Surgical sterilization.
- E. Rhythm meth

3.2. Educational materials, recommendations (instructions) for performing tasks

A. Infertility.

Infertility - Inability to achieve a recognized pregnancy after trying to conceive (sex at least 1 time per week without protection) for: 1 year (U.S. ACOG) or 2 years (WHO). According to statistics, about 15% of couples do not achieve pregnancy within 1 year and seek medical treatment for infertility. Eventually 5% remain unwillingly childless. Infertility affects both men and women. In 50% of involuntarily childless couples a male infertility associated factor is found together with abnormal semen parameters. A fertile partner may compensate for the fertility problem of the men and thus infertility usually becomes manifest if both partners have reduced fertility. Any irregularities in the process of maturation of gametes and fertilization process may condition the impossibility of conceiving.

Types of Infertility:

- A. Female infertility.
- B. Male infertility.
- C. The combined sterility.

The most common causes of male infertility are:

- A. Anatomical/genetic causes – anorchia, congenital factors (testicular dysgenesis), acquired factors (trauma, testicular torsion, tumor, surgery), maldescended testes Klinefelter's syndrome, other chromosomal alterations germ cell aplasia Complete and focal germ cell aplasia (Sertoli cell-only syndrome), surgeries that can damage vascularization of the testes.
- B. Endocrine disorders - hypothalamic dysfunction (Kallmann's), pituitary failure (tumor, radiation, surgery), hyperprolactinemia (drug, tumor), exogenous androgens, thyroid disease, adrenal hyperplasia.
- C. Abnormal spermatogenesis - mumps orchitis chemical/radiation/heat exposure, varicocele, cryptorchidism medications systemic diseases (liver cirrhosis, renal failure), testicular tumor, post-inflammatory.
- D. Abnormal motility - antisperm antibodies, varicocele, Kartagener's syndrome, idiopathic.
- E. Sexual dysfunction - retrograde ejaculation, impotence, decreased libido.

The causes of female infertility include:

- A. Central (CNS)/Endocrine – PCOS, advanced maternal age, premature ovarian failure, hypothalamic amenorrhea, hyperprolactinemia.
- B. Tubal - PID/salpingitis, tubal ligation.
- C. Pelvic/peritoneal - pelvic adhesions, endometriosis.
- D. Endometrial/uterine - congenital malformations, submucosal fibroids, uterine polyps, intrauterine synechias (Asherman's syndrome).
- E. Cervical/mucus - Müllerian duct abnormality, cervical stenosis, cervicitis or chronic inflammation, des exposure in uterus.
- F. Unexplained.

Infertility can be:

- A. absolute in the presence of irreversible changes of the reproductive system, pregnancy when naturally impossible
- B. relative, when the probability of conception is not excluded, but significantly reduced.

There are only four factors of absolute sterility:

- A. absence of sperm
- B. ovarian absence
- C. the absence of the fallopian tubes
- D. the absence of uterus

Infertility is divided into: Primary, Secondary.

- A. Primary infertility: absence of a live birth at specific ages (e.g. > age 30) in non-contracepting population
 - B. Secondary infertility: absence of a live birth > 5 years in persons with prior births
- The definition of "primary" and "secondary" Infertility is not just a woman. With regard to man primary infertility means that from this man none of his partners do not become pregnant. Secondary infertility is considered as one of the men had at least one pregnancy at least at one of its partners.

Combined infertility - a combination of female and male infertility occur combined form. In the case where both spouses are normal indicators of their reproductive function, but special tests indicate their incompatibility, the latter is regarded as a special form of infertile marriages, requires a special approach in determining treatment strategy.

Idiopathic infertility - infertility can also be observed among perfectly healthy and well compatible couples. These are cases of unclear or unexplained or idiopathic infertility. Unclear infertility - a special problem can be called "unexplained" infertility. Often it is impossible to find out the reason, even with the help of modern methods of diagnosis. The endocrine form of infertility is caused by a violation of the hormonal regulation of the menstrual cycle, ovulation provides. This can be caused by injury or diseases of the hypothalamic-pituitary region, excessive secretion of the hormone prolactin, polycystic ovary syndrome, progesterone deficiency, tumor and inflammatory lesions of the ovary, and so on. D.

Tubal infertility form occurs in cases where there are anatomical obstacles in the way of promotion for the egg fallopian tubes into the uterus, t. E., Both fallopian tubes are absent or are impassable. In peritoneal infertility obstruction does not occur in the fallopian tubes themselves, and between the tubes and the ovaries. Tuboperitoneal

infertility usually occurs as a result of adhesive processes or atrophy of the cilia inside the pipe to ensure the promotion of the egg.

The master batch form of infertility is caused by anatomical (congenital or acquired), uterine defects. Congenital uterine anomalies are its underdevelopment (hypoplasia), doubling the presence of saddle uterus or intrauterine septum. Acquisition of uterine defects are intrauterine adhesions or scar deformity, tumor. Acquired uterine malformations develop as a result of intrauterine interventions, which include surgical abortion - abortion.

Infertility caused by endometriosis is diagnosed in approximately 30% of women suffering from this disease. The mechanism of the impact of endometriosis on infertility completely unclear, however, we can say that in the areas of endometriosis and ovarian tubes inhibit normal ovulation and egg movement.

The emergence of forms of immune infertility due to the presence of sperm antibodies in women,

That is, specific immunity produced against sperm or embryo.

In more than half of cases, infertility is not caused by a single factor, but a combination of 2-5 or more reasons. In some cases, the causes of the infertility remain unknown, even after a full examination of the patient and her partner. Infertility of unknown origin found in 15% of the surveyed couples.

Doctors believe that the "vague" psychogenic infertility and is most likely, with the features of sexual relations or with the unconscious desire of women to have a baby. In such cases it will be good to ask for help to a family psychologist.

False infertility - the so-called "false" infertility. Common options are: the woman is being treated for infertility using all possible means, including hormonal preparations, but does not live sexual life due to the prolonged absence of a partner; the woman many years treated for infertility, but accidentally found out that she was after each sexual intercourse produces vaginal douching; woman watching her rectal temperature and allows husband intimacy only after the rise of temperature. All these cases may seem a curiosity, but they are not so rare.

The World Health Organization (WHO) has classified ovulatory factor infertility into 3 groups:

1. Hypothalamic-pituitary failure (Hypothalamic amenorrhea),
2. Hypothalamic-pituitary dysfunction (PCOS, anovulation, oligomenorea, luteal phase defects, hyperprolactinemia, thyroid dysfunction),
3. Ovarian failure (premature ovarian failure, advanced maternal age)

Examination of infertile married couples.

Diagnostic evaluation includes:

1. Signs
2. History
3. Ultrasound examination
4. MRI / CT
5. Hysterosalpingography
6. Endocrine evaluation (FSH, LH, prolactin, estrogen, testosterone, thyroid function tests, etc.)
7. Laparoscopy
8. Endometrial biopsy

For a successful attack of spontaneous pregnancy requires the following components: fertility, i.e., capable of fertilization, the sperm; mature egg (Raj); tubal patency; cored oil genitals female (uterus, cervix, vagina normal structure).

Therefore, all survey infertile couple is aimed at what would have to figure out which of the above-mentioned components is broken.

The first phase of a fertility survey - a thorough examination of past and present medical history of the couple, the so-called medical history. This is followed by inspection of the spouses. Traditionally, the Russian medicine woman examines a gynecologist, a man - an urologist. In many cases, on the basis of medical history and examination data of the spouses, it is already possible to make a preliminary conclusion about the possible cause / causes of infertility, as well as to exclude certain conditions, lead to infertility.

Just on the basis of information obtained during the interview and examination of the spouses is made up of the initial survey.

Required laboratory tests. There is a so-called list of mandatory tests, which performed all couples who seek infertility, regardless of the history and examination. These include:

- Blood type, Rh factor;
- General blood analysis; tested for HIV, HBS-Ag (Hepatitis B), HCV (hepatitis C), RW discs (syphilis) antibodies to rubella, toxoplasmosis antibodies (the latter two need to take only a woman);
- Test for gonorrhea and chlamydia, mycoplasma, ureaplasma;
- Cervical cytology.

The next group of studies carried out, which would assess the condition of mandatory pregnancy components.

To clarify the status of semen is carried out semen analysis. The analysis shall not less than three but not more than 7 days of sexual abstinence. The result is a standard semen analysis shows the number of sperm per unit volume, the number of motile sperm (the basic parameters that determine the ability of sperm to fertilize an egg), the number of abnormal forms of sperm, sperm liquefaction time, the number of leukocytes (white blood cell count increased - an indirect sign of infection). If the result of the first sperm is not normal, it is necessary to repeat the sperm study once again in 6-8 weeks. The egg is fully mature for fertilization soon after ovulation. Thus, when examining infertility, it is necessary to find out there is a woman has a regular (once a month) or no ovulation. If there is no ovulation, or it does not happen often - independent pregnancy impossible or highly unlikely. There are direct and indirect signs of ovulation.

Indirect signs of the presence / absence of ovulation can be detected with a history (past medical history) and additional survey data.

a. Regular menstrual cycle and / or the presence of pregnancies in the past - these are signs that indicate that a woman is likely (but not in all cases), there is a regular (once a month), ovulation. Irregular menstrual cycle may indicate that ovulation does not occur or does not occur every month, which eliminates or significantly reduces the chances of pregnancy.

b. Basal temperature measurement. Basal body temperature before ovulation is slightly lower than after ovulation. After ovulation occurred basal temperature rises to 0.4-0.5 degrees, and remains in this range for at least three days (ideally - before the

next period). This method has low sensitivity compared with other tests assessing ovulation. The often basal body temperature chart shows no ovulation in a cycle, whereas in fact it is happening. That is why recently this method is not used to assess the presence / absence of ovulation.

c. Determining the level of progesterone in the blood in the middle of the second phase of the menstrual cycle (on day 21 of the cycle during the 28-day cycle). The analysis should be carried out on an empty stomach to 12 hours of the day.

The menstrual cycle is divided into two phases. The level of progesterone in the middle of the second phase can retrospectively say whether the woman ovulate in this cycle or not. No ovulation - no progesterone production. This test is highly specific and sensitive.

a. Tests on urine ovulation. These tests operate on the principle of a pregnancy test on the urine. They also retrospectively indicate whether the woman ovulate in this cycle or not. They are less sensitive than a blood test for progesterone.

b. Violation of the production of certain hormones can suppress ovulation, which is not always expressed in violation of the menstrual cycle parameters. That's why all the women with infertility test is performed to evaluate thyroid, pituitary (a blood test for thyroid-stimulating hormone, prolactin). Those who have irregular menstrual cycle have also carried out tests on the number of male sex hormones (androgens) in the blood (testosterone, DHEA-S). Excess androgens inhibit ovulation.

Direct signs of the presence / absence of ovulation.

1. Ovarian ultrasound monitoring. The process of maturation in the ovary can be controlled with the help of ultrasound. The egg matures in the ovary in a special formation called a follicle. The follicle on ultrasound looks like a bubble. If seen with repeated ultrasound follicle first gradual increase to a size not less than 18-20 mm in diameter in one of the ovaries, and then its disappearance with simultaneous appearance of a small amount of fluid behind the uterus - is indicative of ovulation held.

2. Laparoscopy - this surgical intervention, which allows the surgeon to look directly into the abdominal cavity and assess the state of the internal reproductive organs. Make small incisions, one in the navel and one or two in the groin area. Through these incisions are introduced into the abdominal cavity of a small camera, and surgical tools. If the second phase is present in the ovary yellow body - iron, which is formed immediately after ovulation and produces progesterone - with a small hole on the surface - this is direct evidence of ovulation held in the menstrual cycle.

Also to become pregnant, the fallopian tubes should be passable. The assumption that the impassable fallopian tubes can be made in patients that have one or more of the factors listed below:

- a. painful menstruation and / or painful sexual life;
 - b. operations on the pelvic organs in the past;
 - c. complications associated with the use of an intrauterine device;
 - d. acute inflammation of the appendages in the past;
 - e. gonorrhea and / or chlamydia in the past;
 - f. Presence of antibodies to chlamydia in the blood test with a negative test for chlamydia in the cervix (usually, this test is conducted with women primary infertility).
- There are several ways to evaluate tubal patency.

a. Histerosonografiya - a holding transvaginal ultrasound with simultaneous introduction of a small amount of sterile fluid into the uterus. If the fallopian tubes are passable, it can be seen on ultrasound as the liquid is poured behind the uterus. Sani fallopian tubes in most cases are not visible on ultrasound. The method is practically painless and requires no special training.

b. Hysterosalpingography - an introduction to the uterus of contrast material and then performing a series of X-rays. If the pipes are passable, contrast freely poured into the abdominal cavity, and this is clearly seen in the photographs.

c. Laparoscopy. The uterus is introduced sterile liquid color is blue, and the surgeon directly assesses the eye, the fluid fills and pours the fallopian tubes into the abdominal cavity. Existing barriers to exit of fluid from the pipe, if possible, can be immediately eliminated.

Assessment of the internal genital organs. Anatomy (structure) internal genital female organs can be assessed during gynecological examination. Often, however, the data is not very accurate. In addition, during the inspection it is impossible to look inside the uterus and to assess the structure of the uterine cavity. Therefore, this simple gynecological examination always complemented one (depending on medical indication) of the following methods:

a. pelvic ultrasound;

b. Hysteroscopy (see operative gynecology.);

c. Laparoscopy (see. Section operative gynecology).

If a problem is detected in the semen analysis results, in this case we speak of male infertility. If the survey shows a lack of ovulation, then talk about the ovulatory infertility. If a woman's fallopian tubes, then it comes to tubal infertility. About 50% of couples are so-called combined (male and female) infertility. Around 15% of cases in all surveys on infertility from both women and men from the show normal results, there is no obvious reason for infertility. In this case, the diagnosis is "unexplained infertility". This suggests that the current level of development of health does not know all the mechanisms involved in the process of conception and, therefore, cannot yet reveal all the possible reasons for not getting pregnant.

Prognosis varies with:

A. Age

B. Primary vs. secondary infertility

C. Duration of infertility

D. Type and severity of pathology

E. Single vs. multiple causes

F. Male, female, or both affected

G. Smoking, caffeine, nutrition Modern principles and methods of treatment of female infertility (hormonal, surgical, artificial reproductive technologies).

The diagnosis of "infertility" is put a woman on the ground, if for 1 year or more with regular sexual relations without the use of methods of protection she had no pregnancy occurs. Of absolute sterility to say, if present in the patient anatomical irreversible changes that make it impossible to conceive (absence of ovaries, fallopian tubes, uterus, and genitals serious anomalies development). With relative infertility reasons it caused, can be subjected to medical correction.

Also distinguish primary infertility - in the absence of a history of a woman is pregnant, and secondary - if you cannot re-occurrence of pregnancy.

Infertility in marriage occurs in 10-15% of couples. Of these, 40% of infertility cases the causes are rooted in the male (impotence, defective sperm, and ejaculation disorders), and the remaining 60% - it's about female infertility. The causes of infertility can be a violation related to health of one spouse or both of them, so you need a survey of each of the partners.

In addition to factors of physical health, infertility can result in marital mental and social disadvantage.

To choose the right tactics treatment of infertility is necessary to determine the reasons why he had been summoned.

Diagnosis of infertility

For the diagnosis and identify the causes of infertility women should consult a gynecologist. Important is the collection and evaluation of information about the patient's general and gynecological health. At the same time clarified:

1. Complaints (health, the duration of the absence of pregnancy, pain, its location and connection with menstruation, changes in body weight, the presence of secretions from the breast and reproductive tract, and psychological climate in the family).

1. Family and hereditary factors (infectious and gynecological diseases in the mother, and the next of kin, the age of the mother and father at the birth of the patient, the state of their health, bad habits, number of pregnancies and births to mothers and their course, the health and age of the husband).

2. The patient's disease (previous infection, including sex, surgery, trauma, gynecological and comorbidities).

3. The character of menstrual function (age at first menstrual period, the assessment of regularity, duration, painful menstruation, the amount lost by the menstrual blood, the duration of existing violations).

4. Assessment of sexual function (age of onset of sexual activity, number of sexual partners and marriage, the nature of sexual relations in marriage - libido, frequency, orgasm, discomfort during intercourse, previously used methods of contraception).

5. Childbearing (availability and number of pregnancies, especially their occurrence, outcome during childbirth, the presence of complications in childbirth and after).

6. Methods of examination and treatment, if they were carried out earlier, and their results (laboratory, endoscopic, radiological and functional methods of examination, medication, surgical, physical therapy and other treatments and tolerability).

7. Methods of physical examination in the diagnosis of infertility. Physical examination methods are divided into general and specific: - general survey methods in the diagnosis of infertility allow to assess the overall condition of the patient. These include inspection (determination of body type, evaluation of skin and mucous membranes, the nature of hair distribution, condition and degree of development of the mammary glands), palpation study of the thyroid gland, stomach, measurement of body temperature, blood pressure.

8. Methods of special gynecological examination of patients with infertility are many and include laboratory, functional, instrumental and other tests. To eliminate neuroendocrine disease (pituitary lesions) patients with disruption of the menstrual rhythm is carried out X-ray of the skull and sella. The range of diagnostic procedures for infertility colposcopy necessarily included to detect signs of erosion, cervicitis endocervicitis and serving the manifestation of a chronic infection. With

hysterosalpingography (X-ray uterus and fallopian tubes) revealed abnormalities and tumors of the uterus, intrauterine adhesions, endometriosis, tubal obstruction, adhesions often causes infertility. Conducting Ultrasound allows you to explore the permeability of winding tubes.

To clarify the status of the endometrium is performed diagnostic curettage of the uterus. The resulting material was subjected to histological examination and conformity assessment of changes in the endometrium of the menstrual cycle day.

Surgical methods of diagnosis of infertility

For surgical infertility diagnosis methods include hysteroscopy and laparoscopy.

A. Hysteroscopy - This endoscopic examination of the uterus using an optical device, the hysteroscopy introduced through the outer cervix.

In accordance with the recommendations of WHO - the World Health Organization introduced a modern gynecology conduct a compulsory Diagnostic hysteroscopy in patients with standard form of infertility.

Indications for hysteroscopy are:

- A. infertility primary and secondary, habitual miscarriage;
- B. Suspected hyperplasia, endometrial polyps, intrauterine adhesions, abnormality of the uterus, adenomyosis, etc. .;
- C. fibroids growing in the uterus;

Hysteroscopy allows you to consistently inspect inside the cervix, uterus, its front, rear and side surfaces of the right and left the mouth of the fallopian tubes, to assess the condition of the endometrium and to identify abnormal formation. Hysteroscopic study is usually performed in a hospital under general anesthesia. During hysteroscopy the doctor can not only see the inner surface of the uterus, but also to remove some tumors or take a fragment of endometrial tissue for histological analysis. After hysteroscopy statement is made in the minimum (from 1 to 3 days) time.

B. Laparoscopy is an endoscopic examination of organs and pelvic cavity through optical devices introduced through micro-incision anterior abdominal wall.

As with hysteroscopy can be performed for infertility diagnostic or therapeutic purposes. Laparoscopy is performed under general anesthesia in a hospital. The main indications for laparoscopy in gynecology are:

- A. Infertility primary and secondary;
- B. Ectopic pregnancy, ovarian apoplexy, uterine perforation and other urgent conditions;
- C. Obstruction of the fallopian tubes;
- D. Endometriosis;
- E. Uterine fibroids;
- F. Cystic changes of ovaries;
- G. Adhesions in the pelvis, and others.

The indisputable advantages of laparoscopy are bloodless operation, the absence of expressed pain and rough seams in the postoperative period, the minimum risk of postoperative adhesions process. Usually 2-3 days after laparoscopy the patient to be discharged from the hospital.

Surgical endoscopic procedures are less traumatic, but highly effective in diagnosing infertility and its treatment, and widely used for examination of women of reproductive age.

Infertility Treatment

The issue of the treatment of infertility is made after receiving and evaluating the results of all the surveys and the establishment of the reasons he was called. Usually, treatment begins with removing the primary causes of infertility.

Treatment methods used in female infertility are aimed at:

1. Restoration of the patient's reproductive function by conservative or surgical methods.
2. The use of assisted reproductive technology in cases where natural conception impossible.

When endocrine infertility form the correction of hormonal disorders and stimulation of the ovaries. For non-medicated type of correction are normalized weight (obesity) by diet therapy and increased physical activity, physiotherapy. The main type of drug treatment of endocrine infertility is hormonal therapy. The process of follicle maturation is monitored by ultrasound and monitoring of the dynamics of blood hormone levels. With proper selection and compliance with hormone treatment in 70-80% of patients with this form of infertility become pregnant. When tubal-peritoneal form of infertility treatment is to restore order to the Fallopian tubes using laparoscopy. The effectiveness of this method in the treatment of tubal peritoneal infertility is 30-40%. When long-existing pipe or an adhesive obstruction after failure before the operation, it is recommended in vitro fertilization.

In cases where the mother forms of infertility - anatomical defects of its development - are carried out reconstructive plastic surgery. The probability of pregnancy in these cases is 15-20%. At impossibility of surgical correction of uterine infertility (absence of the uterus, expressed her malformations) and self-bearing pregnant women use the services of surrogate motherhood.

Infertility caused by endometriosis, treated with laparoscopic, during which removed the pathological lesions. Result laparoscopy fixed rate of drug therapy. The percentage of pregnancy is 30-40%. When forms of immunological infertility is commonly used artificial insemination

Insemination by the sperm of husband. This method allows you to bypass the immune barrier of the cervical canal and contributes to pregnancy in 40% of cases of immune infertility.

Treatment unidentified forms of infertility are the most difficult problem. Most often in these cases, resorted to the use of auxiliary methods of reproductive technology.

Assisted Reproductive Technologies (ART)

- A. Ovarian induction (OI)
- B. Intrauterine insemination (IUI)
- C. In-vitro insemination (IVF)
- D. Gamete intrafallopian transport (GIFT)
- E. Zygote intrafallopian transport (ZIFT)
- F. Intracytoplasmic sperm injection (ICSI)
- G. Testicular sperm extraction (TSE)
- H. Microsurgical epididimal sperm aspiration(MESA)

Transvaginal Ultrasound-Guided Needle Aspiration of Oocytes. Following ovulation induction, multiple eggs are removed from the ovaries by placing a vaginal probe into the vagina. A fine needle is guided toward the ovary while the physician visualizes the follicles on ultrasound. Fluid around the follicles is then collected through a needle connected to a test tube.

Intracytoplasmic sperm injection (ICSI). A spermatid or spermatozoon is collected by ejaculation or aspiration from the epididymis or testis. One sperm is injected directly into each harvested egg. The embryos are then transferred back into the uterine cavity.

Gamete intrafallopian transport (GIFT). After ovulation induction, oocytes are harvested transvaginal. The oocytes and washed sperm are then placed into the fallopian tube by laparoscopy or transcervical method where fertilization takes place. In-vitro insemination (IVF). After ovulation induction, oocytes are harvested transvaginal. The egg and sperm are placed together in the laboratory and fertilization takes place. The fertilized embryos are transferred into the uterine cavity through the cervix.

Assisted Reproductive Technologies (ART) Clomiphene citrate is an antiestrogen that binds to estrogen receptors in the hypothalamus to cause increased FSH and LH production, thereby promoting follicular maturation and ovulation. Clomiphene citrate is best used for women with chronic anovulation or mild hypothalamic insufficiency after specific causes of hypothalamic dysfunction have been ruled out. Human menopausal gonadotropins are forms of FSH or FSH and LH that directly stimulate follicular maturation in patients for whom Clomid has failed, or those with hypothalamic or pituitary failure or unexplained infertility. The primary complications of fertility drugs include ovarian hyperstimulation and multiple gestation pregnancy. IVF, GIFT, ZIFT, and ICSI may be used to bypass the normal mechanisms of gamete transport with fertilization with deliveries in about 30% of cases.

II. Modern aspects of family planning.

Family Planning - as defined by the World Health Organization includes a range of activities that contribute to the solution of several problems simultaneously:

- avoid unwanted pregnancies
- have only wanted children
- adjust the spacing between pregnancies
- control the timing of the birth of the child, depending on the age of the parents
- To establish the number of children in the family

Family planning has become synonymous with contraception, but it is not. In other words, family planning involves the use education about reproduction and birth control in order to allow women to make decision about their fertility and family size.

Having a baby is one of the most important moments in the life of any woman. Only the prospect of healthy, physically and mentally full baby will not spoil during his expectations. This is the main purpose of family planning. Pregnancy planning is necessary in order to give birth to a healthy baby and how you can easily transfer all the burdens associated with his birth. Incubation child is stressful for the mother's body, so you should be well prepared for it.

The first step should be a visit to the doctor, and a medical examination is necessary to pass both prospective parents. At the reception, the gynecologist asks in detail about the presence of chronic and hereditary diseases, previous pregnancies, contraceptive methods, peculiarities of work and lifestyle.

Aside from the gynecologist to the future parents should consult a physician, dentist, ENT doctors and other professionals. In case of detection of any pathology of the internal organs it must be cured before the moment of conception, as it can have a

negative impact on the course of pregnancy and your baby. In chronic diseases it is important to achieve stable remission.

Comprehensive examination must include delivery of the analysis of urine and blood, including sexually transmitted infections. In the absence of treatment they can lead to abortion (miscarriage), malformations, infection of the fetus or fetal development time of passage through the birth canal.

Diagnostics

Plan of complex inspection before planning pregnancy:

1. Survey of the gynecologist.
2. Inspection of the therapist.
3. Blood tests:
 - Blood group and Rh factor of both spouses;
 - study titer antibodies to the Rh factor (in rhesus-negative women even if husband too negative Rh factor);
 - Clinical blood test;
 - biochemical studies: total bilirubin, ALT, AST, alkaline phosphatase, alpha-amylase, blood sugar, urea, creatinine, total protein, albumin, globulin, total cholesterol, glycosylated hemoglobin;
 - Test for syphilis;
 - Analysis for hepatitis B and C;
 - Analysis for rubella;
 - Antibodies to herpes type II;
 - Antibodies to CMV;
 - Antibodies to Toxoplasma (toxoplasmosis);
 - Antibodies to chlamydia.
4. Urine analysis.
5. The study of hormones.
7. Pelvic ultrasound. Kidneys, bladder, abdominal cavity, thyroid, mammary glands.
8. Study of the cervix uteri.
9. Colposcopy and cytology.
10. smears, bacteriological tests.
11. PCR diagnostics.

General orientation in contraceptive methods: COCs, vaginal ring, contraceptive patch, POPs, injections, IUD, barrier methods, spermicides. Methods of fertility evaluation, voluntary surgical sterilization, emergency contraception.

Contraceptives are devices, drugs, or methods for preventing pregnancy, either by preventing the fertilization of the female egg by the male sperm or by preventing implantation of the fertilized egg.

Contraceptive options

Choosing the appropriate contraceptive is a personal decision. Contraceptive options include:

- Hormonal contraceptives (oral contraceptives, skin patch, vaginal ring, implant, injection)
- Intrauterine devices (IUDs), which contain either a hormone or copper

- Barrier devices with or without spermicides (diaphragm, cervical cap, sponge, condom)
- Fertility awareness methods (temperature, cervical mucus, calendar)
- Female sterilization (tubal ligation)
- Vasectomy

Non-Hormonal/Barrier includes:

A. Abstinence (avoiding sex) could be considered the ultimate barrier method—if it is practiced consistently – because there is no possibility of a sperm reaching an egg. However, abstinence and periodic abstinence (avoiding sex during a woman’s fertile time) may be difficult methods for some adolescents to use effectively (1).

B. The same is true for the “withdrawal” method, formally called coitus interruptus and also known as “pulling out”—meaning that the penis is taken out of the vagina prior to ejaculation. Although withdrawal is commonly practiced, the fluid in the penis before ejaculation can contain sperm and ejaculation often occurs before complete withdrawal. Sperm deposited on or near the vagina can result in pregnancy. Some research suggests that withdrawal may be a fairly effective method for preventing pregnancy (2); however, it does not protect against STDs and it is especially difficult for sexually inexperienced couples to use effectively. The condom is the only birth control method that provides protection against sexually transmitted diseases (STDs).

TYPES OF EMERGENCY CONTRACEPTION

Two emergency contraceptive pills may be bought without a prescription:

1. Plan B One-Step is a single tablet that contains 1.5 mg of levonorgestrel.
2. Next Choice is taken as two doses, which each contain 0.75 mg of levonorgestrel. Both pills can be taken at the same time or as two separate doses 12 hours apart.
3. Either may be taken for up to 5 days after unprotected intercourse.
4. Ulipristal acetate (Ella) is a new type of emergency contraception pill that requires a prescription from a health care provider. Ulipristal is taken as a single tablet. It may be taken up to 5 days after unprotected sex.

Two other methods that may be used to prevent pregnancy after unprotected sex are:

5. Birth control pills. Talk to your health care provider about the correct dosage. In general, you must take 2 - 5 birth control pills at the same time to have the same protection.
6. A copper-releasing intrauterine device (IUD) may be used as an alternative emergency contraception method. It must be inserted by your health care provider within 5 days of having unprotected sex. Your doctor can remove it after your next period, or you may choose to leave it in place to provide ongoing birth control.

Emergency contraception should not be used as a routine birth control method. It is less effective at preventing pregnancies than most types of birth control.

Female Sterilization

Female surgical sterilization (also called tubal sterilization, tubal ligation, and tubal occlusion) is a low-risk, highly effective one-time procedure that offers lifelong protection against pregnancy. About 700,000 women undergo this procedure each year in the United States.

Basics of female sterilization

Female surgical sterilization procedures block the fallopian tubes and thereby prevent sperm from reaching and fertilizing the eggs. The ovaries continue to function

normally, but the eggs they release break up and are harmlessly absorbed by the body. Tubal sterilization is performed in a hospital or outpatient clinic under local or general anesthesia.

Sterilization does not cause menopause. Menstruation continues as before, with usually very little difference in length, regularity, flow, or cramping. Sterilization does not offer protection against sexually transmitted diseases.

Specific tubal sterilization techniques

1. Laparoscopy. Laparoscopy is the most common surgical approach for tubal sterilization:

The procedure begins with a tiny incision in the abdomen in or near the navel. The surgeon inserts a narrow viewing scope called a laparoscope through the incision.

A second small incision is made just above the pubic hairline, and a probe is inserted.

Once the tubes are found, the surgeon closes those using different methods: clips, tubal rings, or electrocoagulation (using an electric current to cauterize and destroy a portion of the tube).

Laparoscopy usually takes 20 - 30 minutes and causes minimal scarring. The patient is often able to go home the same day and can resume intercourse as soon as she feels ready.

2. Minilaparotomy. Minilaparotomy does not use a viewing instrument and requires an abdominal incision, but it is small -- about 2 inches long.

The tubes are tied and cut. Generally speaking, Minilaparotomy is preferred for women who choose to be sterilized right after childbirth, while laparoscopy is preferred at other times. Minilaparotomy usually takes approximately 30 minutes to perform. Women who undergo Minilaparotomy typically need a few days to recover and can resume intercourse after consulting their doctor.

3. Essure. The Essure method uses a small spiral-like device to block the fallopian tube.

Unlike tubal ligation, the Essure procedure does not require incisions or general anesthesia. It can be performed in a doctor's office and takes about 45 minutes. A specially trained doctor uses a viewing instrument called a hysteroscopy to insert the device through the vagina and into the uterus, and then up into the fallopian tube. Once the device is in place, it expands inside the fallopian tubes. During the next 3 months, scar tissue forms around the device and blocks the tubes. This results in permanent sterilization.

Candidacy for female sterilization

Before undergoing sterilization, a woman must be sure that she no longer wants to bear children and will not want to bear children in the future, even if the circumstances of her life change drastically. She must also be aware of the many effective contraceptive choices available. Possible reasons for choosing female sterilization procedures over reversible forms of contraception include:

Not wanting children and being unable to use other methods of contraception

Health problems that make pregnancy unsafe

Genetic disorders

If married, both partners should completely agree that they no longer want to have children and should also have ruled out vasectomy for the man. Vasectomy is a simple procedure that has a lower failure rate than female surgical sterilization, carries fewer risks, and is less expensive.

Even if all these factors are present, a woman must consider her options carefully before proceeding. Women at highest risk for regretting sterilization include:

Women who are younger at the time of sterilization

Women who had the procedure immediately after a vaginal delivery

Women who had the procedure within 7 years of having their youngest child

Women in lower income groups

If a woman changes her mind and wants to become pregnant, a reversal procedure is available, but it is very difficult to perform and requires an experienced surgeon.

Subsequent pregnancy rates after reversal depend on the surgeon's skill, the age of the woman, and, to a lesser degree, her weight and the length of time between the tubal ligation and the reversal procedure. Not all insurance carriers cover the cost of reversal.

Advantages of female sterilization

Women who choose sterilization no longer need to worry about pregnancy or cope with the distractions and possible side effects of contraceptives. Sterilization does not impair sexual desire or pleasure, and many people say that it actually enhances sex by removing the fear of unwanted pregnancy.

Disadvantages and complications of female sterilization

Failure is rare, less than 1%, but can occur. More than half of these pregnancies are ectopic, which require surgical treatment. After any of the procedures, a woman may feel tired, dizzy, nauseous, bloated, or gassy, and may have minor abdominal and shoulder pain. Usually these symptoms go away in 1 - 3 days. Serious complications from female surgical sterilization are uncommon and are most likely to occur with abdominal procedures. These rare complications include bleeding, infection, or reaction to the anesthetic.

Family planning in HIV-positive persons.

While having children is definitely an option for HIV-positive women (and men), it requires careful planning with a health care provider. This includes "preconception" planning—exploring available options to help you conceive—and taking necessary steps during pregnancy (whether it's planned or unplanned) to protect your health and your baby's. With a significant spread of HIV, it can play a significant role in the morbidity and mortality. Medical aid sick requires significant costs for diagnosis and treatment, but the disease is still incurable. Therefore, the most essential elements of the epidemic are prevention and control measures.

Indications and contraindications to the use of the method

Indications for use of the method are:

1. HIV-infected women - pregnancy for more than 13 weeks or birth;
2. For a child born to an HIV-infected mother:
3. Age not more than 72 hours (3 days) in the absence of life-feeding mother's milk;
4. If feeding mother's milk (regardless of duration) - a period of no more than 72 hours (3 days) after the last feeding mother's milk.

Contraindications for use of the method are a pregnancy of less than 14 weeks.

Application method

- Following antiretroviral drugs can be used with the aim of chemoprophylaxis: AZT (AZT) = Retrovir (state registration number R-8-242-N 008 440) = Timazid (N 2000/54/9) = Nevirapine Viramune (R-8-242-N 011046) Phosphazide (F-AZT) = Nikavir (N 99/358/4)

- The introduction of methods of HIV transmission from mother to child chemoprophylaxis reduces the probability of infection of the child is 3 - 5 times.
 - For the purpose of prevention of HIV transmission from mother to child to all pregnant women who are planning to keep the pregnancy should be offered an HIV test.
 - It is necessary to carry out testing of pregnant twice: in the primary treatment for pregnancy and if the infection has not been identified at the first testing in the third trimester of pregnancy (34 - 36 weeks).
 - Women who have not been tested for HIV during pregnancy, it is recommended to get tested at admission to the maternity hospital to give birth.
 - In an emergency, if you cannot waiting for the results of the standard HIV test, the decision to hold chemoprophylaxis taken upon detection of HIV antibodies using rapid test kits, approved by Ministry of Health of Russia. However, to establish a woman HIV diagnosis results obtained by using only rapid test is insufficient - it is necessary to confirm the diagnosis by ELISA and immune blotting.
 - Testing accompanied by counseling, which includes pre- and post-test parts. Counselling should be conducted by professionals who have been trained. In pre-test counseling, in addition to the standard questions asked in any HIV testing (what HIV is, how to prevent HIV infection, which is carried out the test, which can be test results), a pregnant woman should discuss specific issues:
 - The risk of transmitting HIV to your baby during pregnancy, childbirth and breastfeeding;
 - The possibility of HIV transmission to the child;
 - The possible outcomes of pregnancy;
 - The need for follow-up of mother and child;
 - The possibility of informing about the test results of the sexual partner (s), family.
- During the post-test counseling is necessary to repeat the information provided by the patient prior to testing. At post-test counseling of pregnant women were HIV-positive, you should elaborate on the issues of the relationship of HIV and pregnancy, the risk of transmission of HIV from mother to child, and how to prevent it, feeding the newborn, the diagnosis of HIV in children, women of reproductive behavior.
- Features of follow-up and delivery in pregnant women with HIV
- Pregnant women with a diagnosis of HIV infection occur together with infusivist Territorial Center for Prevention and Control of AIDS and Infectious Diseases (hereinafter - the HIV / AIDS Center), and obstetrician-gynecologist (depending on the circumstances of each administrative territory - in the HIV / AIDS Center in the antenatal clinic in the community, in a specialized antenatal clinic or in a specialized reception, etc.).
 - During the period of follow-up of HIV-infected pregnant and giving birth it is recommended to avoid any procedure that violated the integrity of the skin, mucous membranes and increases the baby's contact with the mother's blood (amniocentesis, chorionic villus sampling, etc.).
 - During labor undesirable prolonged rupture of membranes (more than 4 hours), since a child's risk of infection, according to research, increased by 2 times. When conducting birth vaginally recommended vaginal treatment of 0.25% aqueous solution of chlorhexidine when applying for a birth (in the first vaginal examination), and in the presence of vaginitis - at each subsequent vaginal examination. Newborn baby held

hygienic bath with 0.25% chlorhexidine solution (50 ml of 0.25% chlorhexidine solution for 10 liters of water).

- All obstetric manipulation (procedure) should be strictly justified. When a live fetus is not recommended for labor induction, rodousilenie, perineo (Scenes) tomy, forceps, vacuum extraction of the fetus, etc. All of these procedures increase the risk of infection of the fetus and their purpose is possible only for health reasons.
- Planned caesarean section before the onset of labor and rupture of membranes (after reaching 38 weeks of gestation) to prevent fetal exposure to infected maternal secrets of the body and therefore may be a method to prevent HIV transmission from mother to child. If unable to chemoprophylaxis elective caesarean section can be used as an independent method of prophylaxis during labor. However, HIV infection is not an absolute indication for cesarean section. The decision on the method of delivery is taken on an individual basis, taking into account the interests of the mother and fetus, comparing the situation in a particular benefit from the likely reduces the risk of infection of the child during cesarean section with the risk of complications after surgery (pathological blood loss and the development of septic complications).

Chemoprevention of HIV transmission from mother to child

1. Transmission of HIV from mother to child is possible during pregnancy, particularly in the later stages (15 - 25% of the number of cases of infection of the child) during childbirth (60 - 85%) and milk-feeding mothers (12 - 25%). The risk of infection increases the child, if the mother was infected during the six months prior to pregnancy and during pregnancy, or if the pregnancy is in the later stages of HIV infection (stage 4B - 4B of the Russian Classification of HIV infection).

2. Chemoprevention of HIV transmission from mother to child includes:

- Chemoprophylaxis during pregnancy;
- Chemoprophylaxis during childbirth;
- Chemoprophylaxis newborn.

The most successful results occur during all three components of chemoprophylaxis. However, if any of the components cannot hold chemoprophylaxis, it is not a reason for refusal of the next stage.

3. Before the appointment of chemoprophylaxis doctor, appointing her conversation (counseling) is conducted with a woman, in which a pregnant informed about the purpose of chemoprophylaxis, explains the probability of the birth of HIV-infected children during the prevention or abandon it, given information about possible side effects from the drugs. The patient is asked to sign an informed consent for chemoprophylaxis.

4. If pregnant HIV-infected woman is under medical supervision during pregnancy, chemoprophylaxis it appoints doctor infectious diseases HIV / AIDS Center, or an infectious diseases doctor health facilities (depending on the conditions of the territory), which give recommendations for chemoprophylaxis during labor (it holds the doctor obstetrician-gynecologist, a leading childbirth) and newborn (it assigns the neonatologist or pediatrician). If HIV infection detected during childbirth, maternity chemoprophylaxis prescribed and conducted by an obstetrician-gynecologist doctor, a leading childbirth (see chart), and the newborn child - Neonatologist or Pediatrician (see diagram).

5. To prevent infection of the newborn to be children born to HIV-infected women do not apply to the chest and not to feed the mother's milk, and immediately after birth transfer to artificial feeding.

6. The use of chemoprophylaxis full in all three stages significantly reduces the risk of infection of the child - with 28 - 50% 3 - 8%. Such efficiency with sufficient safety for the mother and the fetus proved only for circuits with AZT and / or Nevirapine.

7. If the patient is pregnant, there are indications for antiretroviral therapy; it should be administered in view of the need to prevent HIV transmission from mother to fetus and maximum safety for the fetus - the section "Features of antiretroviral therapy in pregnant women."

3.3. Requirements for the results of work.

1. Collect general and special history, an allocation of a typical case-patient data.

2. Interpret data from a survey of case-patients.

3. Formulate a diagnosis of thematic patient, the differential diagnosis, to appoint a treatment plan.

4. Perform gynecological examination (mirror, bimanual, rectal).

5. Taking material from the vagina, cervical canal and urethra for examination.

6. Evaluate: the results of urogenital smear microscopy, cytological examination, colposcopy; results of bacteriological and other methods; results of ultrasound examination; results of functional tests.

7. Make the plan of methods for diagnosing infertility in couple.

8. Formulate a diagnosis of thematic patient, the differential diagnosis, to appoint a treatment plan Survey methods in gynecology.

9. Make the plan of family planning counseling

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. Female 26 years has addressed with complaints of infertility for 3 years. Menstruation in 14 years, painless, moderate. Cycle 4.5 / 28 regular. At the age of 16 underwent appendectomy. Postkoital test and analysis of sperm in the normal range. According to the measurement of basal body temperature ovulatory cycles, phase is 12-14 days. Define the most appropriate method of diagnosis:

A. Laparoscopy.

B. Hysteroscopy.

C. Colposcopy.

D. Endometrial biopsy.

E. Hysterosalpingography.

2. Before she turned gynecologist '28 complaining of infertility. Married 6 years, first pregnancy was the first year of marriage and ended in induced abortion, which complicated inflammation of the uterus. Menstrual disorders are not celebrating. More pregnancies were not. What the survey should be conducted?

A. Spermogram.

B. Metrosalpingography.

C. Functional diagnostic tests.

D. Determination of hormone levels on cycle day 7-8.

E. Bacteriological study of discharge from the genital tract.

3. Female 25 years appealed to the antenatal clinic with complaints of non-occurrence of pregnancy. Married 1 year, living a regular sexual life, contraception does not use.

From history we know that once treated in the gynecological department with the exacerbation of chronic adnexitis. Diagnosis?

- A. Secondary infertility.
- B. Chronic adnexitis.
- C. Primary infertility.
- D. Apoplexy ovary.
- E. Pelvioperitonite.

4. Female 18 years, complains of lack of pregnancy within 1 year of regular sexual life. From pregnancy is not guarded. Pregnancy was not. If bimanual examination revealed no pathology. From what method should begin examination of this couple?

- A. Spermogram.
- B. Hysterosalpingography.
- C. Laparoscopy.
- D. Tests of functional diagnostics.
- E. Bacterial sowing.

5. The gynecologist has addressed patient '29 complaining of infertility. Sex life living in married 4 years, pregnancy is not guarded. Pregnancy was not. The examination found women: development of sex organs no abnormalities. Fallopian tubes pass. Basal temperature for three menstrual cycles of single-phase. The most likely cause of infertility?

- A. Anovulatory menstrual cycle.
- B. Chronic adnexitis.
- C. Anomaly of genitalia.
- D. Immunological infertility.
- E. Genital endometriosis.

6. A woman complains of irregular menstrual cycle for 2 years. The duration of the menstrual cycle of 30-50 days. During the year there were no pregnancies. What research should be assigned primarily to clarify the causes of infertility?

- A. Laparoscopy.
- B. Semen sex partner.
- C. Measurement of basal temperature.
- D. Postkoital test.
- E. Hysteroscopy.

7. Patient 29 years, from the history, the patient had three non-developing pregnancies in the early stages. For the last 3 years, she has been sexually active without protection. What should be assigned to identify the causes of this disease?

- A. Bacteriological study of discharge from the genital tract.
- B. Testing for syphilis.
- C. Screening for tuberculosis.
- D. Clinical analysis of blood.

5. Screening for TORCH-infection, medical and genetic counseling.

8. A 34-year-old patient consulted a gynecologist about the impossibility of getting pregnant after 4 years she has the following symptoms: obesity, hirsutism, hypomenstrual syndrome. When pelvic ultrasound was found endometrial hyperplasia. An indication of what state is this conclusion?

- A. Persistent corpus luteum.
- B. Inflammatory process endometrium.

- C. Chronic anovulation.
 - D. Hypothyroidism.
 - E. Normal state of the endometrium.
9. In '28 women complaining of secondary infertility during diagnostic laparoscopy installed inside endometriosis. In history - chronic salpingooforites. Most likely pathogenetic factor infertility in women is this:
- A. Local secretion of prostaglandins.
 - B. Violations of the synthesis of cortisol in the adrenal glands.
 - C. Thickening protein shell ovaries.
 - D. Congenital underdevelopment of genitals.
 - E. Increasing the viscosity of cervical mucus.
10. Patient '25 entered the gynecological department with complaints of fever up to 38.7 ° C, abdominal pain, and purulent vaginal discharge. From history: 6 years ago introduced the intrauterine device. If bimanual examination, the cervix is cylindrical with symptoms cervicitis, discharge from the cervical canal, mustache palpable spiral. Painful body of the uterus normal size. Appendages painful on both sides. Parametrium is free. Select tactics:
- A. Hysteroscopy, antibiotic.
 - B. Anti-inflammatory treatment.
 - C. Analysis vaginal discharge, antibiotic.
 - D. Analysis vaginal discharge, antibiotic.
 - E. Separate scraping the uterine lining.
 - F. Removal intrauterine device, antibiotic.
11. The gynecologist for prophylactic examinations approached a woman 25 years of history knows that it often changes sexual partners. The doctor asked her to use a drug that is both spermicidal and bactericidal effect of a wide spectrum. What preparation was offered a gynecologist?
- A. Erotex.
 - B. Polizhinaks.
 - C. Terzhinan.
 - D. Klion-D.
 - E. Pimafucin.
12. Female 24, the right builds, satisfying food. Menstruation at age 14, 3-5 / 28 days, mild, painless, regular. First Pregnancy, childbirth first. Since the birth took 2 weeks. Assign a contraceptive method:
- A. Intrauterine tool.
 - B. Barrier method.
 - C. Postkoital contraception.
 - D. Injectable.
 - E. Lactation amenorrhea.
13. Patient 40 years has three children in marriage, appealed to the gynecologist with a view to the selection method of contraception. Healthy. For the purpose of contraception most reasonably purpose:
- A. Intrauterine product.
 - B. Spermicides.
 - C. Oral contraceptives.
 - D. Surgical sterilization.

Practical lesson № 30.

Physiology of pregnancy, labour and postpartum period. Perinatal protection of foetus. Pharmacotherapy in Obstetrics.

Learning objectives

The overall aim of this topic is to gain basic knowledge about anatomical, physiological and biochemical changes during pregnancy, be familiar with the physiologic adaptations associated with a normal pregnancy, be able to differentiate between certain signs and symptoms that can be common to both disease processes and to physiologic adaptations of pregnancy, obtain knowledge about methods of obstetrical examination, appropriate prenatal counseling and supervision in order to provide successful obstetric outcome, physiological changes in postpartum period, physiology of lactation and breastfeeding, primary care of newborn in order to make recommendations for management of puerperium and neonatal period and advice woman on discharge.

Basic concepts: Pelvis from anatomical and obstetric points of view. Pelvic floor. The structure of the fetal head. The dimensions of the fetal head and body. Signs of fetal maturity. Measurement and evaluation of the pelvis.

Equipment

- Multimedia equipment (computer, projector, screen), TV.
- Obstetric models and obstetric instruments (pelvimeter, obstetric stethoscope, centimeter tape).
- Professional algorithms, structural-logical schemes, tables, videos.
- Results of laboratory and instrumental researches, situational tasks, patients, medical histories.

EDUCATIONAL TIME – 4 h

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Knowledge of the physiology of childbirth begins clinical obstetrics. Careful observance, and, if necessary - as close as possible inheritance physiological processes in childbirth is a direct and natural way to reduce maternal and perinatal morbidity and mortality. Learning the basic steps of the physiological delivery and management can learn to practice the most important methods of examination childbirth, the ability to

assess the obstetric situation, the provision of appropriate care in childbirth in the light of physiological data, based on evidence based medicine. An important component of this lesson is to study the tactics of the physician in managing laboring women at all stages, eliminating maternity injuries, prevention of fetal distress and asphyxia of the newborn.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Physiological changes in a woman's body during pregnancy
- Methods of examination of the pregnant woman,
- Principles of physiological pregnancy.
- Determination of the topography of the fetus in the uterus.
- Principles of keeping a gravidogram.
- Features of clinical course and period of confinement.
- Features of reference and the period of confinement.
- Basis of partogram.
- Features of clinical course of II stage of labor.
- Properties of II stage of labor.
- Features of clinical course of III stage of labor.
- Properties of III stage of labor.
- Primary toilet newborn.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

1. What is the normal course of pregnancy?
2. What are the main changes in organism of woman during pregnancy?
3. What are the main stages of labor?
4. Please, tell about the first stage of labor?
5. Please, tell about the second stage of labor?
6. Please, tell about the third stage of labor?
7. What is the normal course of postpartum period?
8. What are the teratogenes?
9. What are the most common drugs using during pregnancy?
10. What are the main methods of assessment of fetal well-being in obstetrics?
11. What do you know about medical ethics and deontology?

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A 19-year old prima gravida is in the gestational term of 25-26 weeks. Objective: the skin and visible mucous have usual color. ABP is 115/70 mmHg, pulse is 108 beats/min, does not vary during her sleeping, functional systolic murmur is auscultated. Borders of the heart are not modified, in ECG there is a vertical position of electrical axis of heart, sinus tachycardia, slight hypertrophy of the myocardium of the left ventricle. Clinical analysis of the blood and urine are without pathological variations. What is the most probable cause of the condition of pregnant women?
A. *Adaptation to pregnancy
B. Aquired heart disease.
C. Active phase of the rheumatic process.
D. Congenital heart disease.
E. Disease of the thyroid gland.
2. A 19-year-old primigravida with unsure LMP presents to initiate prenatal care. You attempt to estimate gestational age. The uterine fundus is palpable at the level of the pubic symphysis, and fetal heart tones are audible by electronic Doppler. On the basis of this information, what is the approximate gestational age?
A. *12 weeks
B. 8 weeks
C. 16 weeks
D. 20 weeks
E. 24 weeks
3. A 20-year-old parturient woman is in the I labor stage. The pregnancy is full-term. Contractions occur every 3 minutes and last for 55 seconds. Fetus presentation is

cephalic, the head is pressed to the pelvic inlet. Heart rate of the fetus is 150/min, distinct and rhythmic. Vaginal examination: cervix is fully effaced and 2 cm open; amniotic sac is intact; moderate mucous-bloody discharge is observed. What phase of the I labor stage is it?

- A. *Latent
- B. Active
- C. Slowing-down
- D. Physiological preliminary period
- E. Primary uterine inertia

4. A 20-year-old woman, gravida 2, para 1 has been in labor for 4 hours. Her condition is satisfactory. Moderately painful contractions occur every 3 minutes and last for 35-40 seconds. The fetus is in longitudinal position. Fetal heartbeats are 136/min., clear and rhythmic. Fetal head is engaged into pelvic inlet. Vaginal examination revealed fully effaced and 6 cm open cervix, amniotic sac is intact, sagittal suture is in the left oblique diameter, occipital fontanel is on the right near the symphysis pubis. What stage of the labor is it?

- A. *Active phase of the first stage of normal labor
- B. Latent phase of the first stage of normal labor
- C. The second stage of normal labor
- D. Precursors of childbirth
- E. Preliminary stage

5. A 23-year-old primigravida at 39 weeks gestation has been admitted to the maternity ward with irregular painless contractions. The intensity of uterine contractions is not changing and weak, the intervals between them stay long. Bimanual examination reveals that the cervix is centered, soft, up to 1,5 cm long. There is no cervical dilatation. What diagnosis should be made?

- A. Pregnancy I, 39 weeks, labor I, 1 period, the latent phase
- B. Pregnancy I, 39 weeks, labor I, period 1, the active phase
- C. Pregnancy I, 39 weeks, birth I, 1 period, the acceleration phase
- D. Pregnancy I, 39 weeks, pathological preliminary period
- E. *Pregnancy I, 39 weeks, preliminary period

6. A 24-year-old primipara was hospitalized with complaints of leakage of fluid. On exam there are no uterine contractions. Baby is in longitudinal lie, head is pressed to the pelvic inlet. Fetal heart rate is rhythmical, 140 bpm, auscultated on the left below the navel. Internal examination: cervix of the uterus is 2,5 cm long, dense, the external os is closed, clear amniotic waters are discharged. Point out the correct component of the diagnosis:

- A. *Prelabor rupture of the amniotic membranes
- B. Early rupture of the amniotic membranes
- C. The beginning of the 1st stage of labour
- D. The end of the 1st stage of labour
- E. Pathological preterm labour

7. A 25-year old prima gravida the first day of the last menstruation: 03.03.2018. Fetal movements: 02.08.2018. Determine the estimated date of delivery:

- A. *10 December
- B. 10 November
- C. 10 January
- D. 30 December
- E. 30 January

8. A 29-year-old primigravida at 36 weeks' gestation complains of dizziness and nausea when reclining to read in bed before retiring at night. Suspecting that her symptoms are the result of normal physiologic changes of pregnancy, you recommend which of the following?

- A. improved room lighting
- B. *rolling toward the right or left hip while reading
- C. mild exercise before retiring to bed
- D. elevation of both her feet while lying in bed
- E. small late night snack

9. A 32-year-old gravida complains of episodes of unconsciousness, spontaneous syncope that are quickly over after a change of body position. A syncope can be accompanied by quickly elapsing bradycardia. There are no other complications of gestation. What is the most likely reason for such condition?

- A. Pressure falling in the veins of extremities
- B. Pressure rising in the veins of extremities
- C. *Supine hypotensive syndrome
- D. Vegetative-vascular dystonia (cardiac type)
- E. Psychosomatic disorders

10. A 32-year-old pregnant woman at the term of 5-6 weeks was vaccinated against influenza along with her whole family. At that time she was not aware of her pregnancy. The woman needs an advice from the family doctor regarding the maintenance of her pregnancy, namely whether there is a risk of fetal malformations because of received vaccination. What advice should the doctor give in this case?

- A. *Vaccination against influenza is safe during pregnancy
- B. Therapeutic abortion is recommended
- C. Immediate ultrasound of the lesser pelvis is necessary
- D. Test for antibodies against influenza virus is necessary
- E. An infectious diseases specialist must be consulted

Typical situations of tasks:

1. A parturient woman is 27year old, it was her second labour, delivery was at full-term, normal course. On the 3rd day of postpartum period body temperature is 36, 8oC, heart rate - 72/min, BP - 120/80 mm Hg. Mammary glands are moderately swollen, nipples are clean. Abdomen is soft and painless. Fundus of uterus is 3 fingers below the umbilicus. Lochia are bloody, moderate. What is the most probable diagnosis?

Answer: Physiological course of postpartum period

2. A patient presents to your clinic complaining of nausea and vomiting. She is currently ingesting combined oral contraceptive pills (OCP) and has used them for over a year. When you tell her she has a positive pregnancy test, she reports that her last bleeding on the OCPs was 8 weeks ago. In such a situation, determination of the most accurate estimated date of delivery can then be made by which of the following?

Answer: obtaining fetal biometry by ultrasound prior to 20 weeks' gestation

3. A patient, 22 years old, has visited the maternity hospital with complaints of delay of menses for 2 months, appeared attraction to a spicy food, nausea, sleepiness, aversion for a tobacco smoke. At bimanual exam: hyperanteflexion of the uterus and enlarged according to a goose egg sizes, in the area of the left angle - asymmetry. What are the probable symptoms of pregnancy?

Answer: Delay of menses, hyperanteflexion and asymmetry of the uterus

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Task:

- Subgroup I - to determine the assessment of the newborn on the Apgar scale
- Subgroup II - to determine the assessment of fetal heart rate (auscultation and hardware methods).
- Subgroup III - to assess the responses of subgroups I and II and make adjustments.

Atypical situations of tasks:

1. A 22-year-old primigravida is seen in your office at 28 weeks' gestation for a routine prenatal visit. Her pregnancy has been uneventful to date. She expresses her concern about several moles on her back, which have been enlarging over the past several weeks and for increasing difficulty with constipation. She also relates less energy to complete her job-related responsibilities at work and feels it may be related to the 18-lb weight gain she has experienced since becoming pregnant. She also has noted some gradual shortness of breath over the past 4 to 6 weeks especially when she climbs the three flights of stairs to her office at work. She wears contact lenses and relates that her visual acuity is not as good as before she became pregnant.

Physical examination reveals her height to be 162 cm, her weight to be 68 kg, and her blood pressure to be 90/60 mm Hg. She has several pigmented nevi over her shoulders and back. She has a darkened line on her skin from her xiphoid process to her symphysis. Examination of her heart reveals a 2/6 systolic ejection murmur heard best over the second left intercostal space. Her lungs are clear to auscultation and percussion.

Abdominal examination reveals a 28 cm fundal height with normal bowel sounds, and she has trace pretibial pitting edema. Laboratory values reveal a hemoglobin level of

120 g/L and a platelet count of 125000/mm³. Urinalysis reveals no nitrites or leukocyte esterase, 2+ glucose, and no albuminuria. Fasting glucose level was 4,2 mmol/L.

1.Does this patient have any metabolic or physiologic changes not associated with a normal pregnancy?

2.What is your next step in her evaluation?

Answer

1.Metabolic or physiologic changes not associated with a normal pregnancy: No, all the symptoms, signs, and laboratory values are consistent with the physiologic adaptations of pregnancy.

2.Next step in evaluation: The following are indicated in this patient: (1) Careful dermatological evaluation of her pigmented nevi to rule out the presence of malignant melanoma. (2) Thyroid function studies should be drawn to evaluate her “lack of energy,” and (3) This patient should be advised to report any worsening of her shortness of breath.

2. A 25 years old primipara was seen by her GP at 12 weeks' gestation. The only history of note was that her father had suffered a long-standing psychiatric illness that the woman believed to be 'schizophrenia'. He had died when she was young in a road traffic accident. Her pregnancy proceeded without complication, and she went home on the second postnatal day following a normal delivery at term. Within a couple of weeks, her partner reported to the community midwife that he had concerns about her mood. She seemed agitated, fearful and unduly concerned about the wellbeing of the baby and refused any help offered by him. The GP saw her and diagnosed 'postnatal depression'. He commenced tricyclic antidepressants. However, 1 week later she became frankly delusional and believed that her partner was trying to kill the baby. She was hardly sleeping and eating very little, but was continuing to breastfeed her baby.

1.What is the most likely diagnosis?

2.How should this be managed?

3.How should her breastfeeding be managed?

4.In retrospect, how should the pregnancy have been managed?

Answer

1.The most likely diagnosis is puerperal psychosis.

2.She should be admitted to a regional mother-and-baby unit with her newborn where she can receive multidisciplinary care from the specialist medical, nursing and midwifery staff. The antidepressants should be stopped and she should be treated with antipsychotics.

3.She should be encouraged to continue breastfeeding but the baby should be monitored for side-effects.

4.Ideally, the woman should have been asked to explore the nature of her family history. This would have revealed that her father suffered from schizophrenia. If this had been known, then it could have prompted review by a specialist in perinatal mental health, leading to regular postnatal review by a psychiatric nurse being organized. This might have led to earlier intervention and prevented her deterioration to such a severe state.

3. An 18-year-old woman with a body mass index of 35 who had a forceps delivery after a prolonged second stage of labor 10 days previously presented with heavy, fresh vaginal bleeding and clots. She felt unwell and complained of abdominal cramps. On examination she had a temperature of 38.2°C and there was mild suprapubic tenderness. Vaginal examination revealed blood clots, but no products of conception. The cervix admitted one finger and the uterus was tender and measured 16 weeks in size. A review of the delivery notes revealed that the placenta was delivered complete, but the membranes were noted to be ragged.

1. What is the most likely diagnosis?
2. What are the key features that suggest retained products of conception?
3. How should the patient be managed?

Answer

1. Secondary PPH due to infected retained products of conception.
2. Secondary postpartum haemorrhage. Enlarged uterus. Open cervical os.
3. Blood cultures. Intravenous broad-spectrum antibiotics (e.g. cephalosporin and metronidazole). Surgical evacuation of the retained products.

Atypical test tasks:

1. A patient, 27 years old, has visited the maternity hospital with complaints of delay of menses for 5 months, sleepiness, increase the abdomen. General condition of the patient is satisfactory. Extragenital diseases are absent. The fundus of the uterus is soft, painless during palpation and situated near the umbilicus. Fetal movements feel good. What are the absolute symptoms of pregnancy described in the case?

- A. *Fetal movements
- B. Delay of menses
- C. Sleepiness
- D. Increase the abdomen
- E. Increase the uterus

2. A primigravida comes for the next prenatal visit on 28.05.2020. The day before she felt the fetus movements for the first time. Last menstruation was on 10.01.2020. Calculate expected date of labor.

- A. *17 Oktober
- B. 25 July
- C. 22 August
- D. 11 July
- E. 5 September

3. A primigravida, addressed to a gynaecologist for consultation. Hemodynamic is stable. Tongue is clean, damp. Skin and visible mucous membranes are pale-pink. Abdomen is soft, painless during palpation. During the vaginal examination: external genitals are developed properly, with no visible signs of inflammation. The cervix has a conical shape, length about 3 cm, the epithelium is intact, clean and external os is closed. The body of the uterus is in anteflexio-versio, enlarged to the size of 8 week

pregnancy, the isthmus is soft. The uterine appendages on both sides are not enlarged, painless. Vaults of the vagina are free. Discharge is mucous. What is the most possible diagnosis?

- A. *8 weeks
- B. 10 weeks
- C. 12 weeks
- D. 14 weeks
- E. 16 weeks

4. A Primipara overall length of labor is 10 hours and 15 minutes. She gave birth to alive mature baby girl weighing 3200 g, length 51 cm. The skin of a newborn is pink, cyanotic hands and feet, shouting loud, adequate breaths, reflexes alive, active movements. The heartbeat: 130 b.p.m., rhythmical. After 5 minutes, has turned pink of the extremities skin, were sucking motions, the child is attached to his chest. However, neonatologists appreciate newborn Apgar score:

- A. 7 - 8 points
- B. *9 - 10 points.
- C. 9 - 9 points.
- D. 8 - 9 points.
- E. 6 - 7 points.

5. A primipara woman has just delivered a baby, weight 3200 g, length 50 cm. The umbilical cord was cut after cessation of pulsation. When the edge of the palm is pressed above the symphysis, the umbilical cord retreats into the vagina. What sign is used for determining whether the placenta has separated from the uterus?

- A. Dovjenko
- B. Rogovina
- C. *Kustner-Chukalova
- D. Alfelda
- E. Schröder

6. A puerperant is 28 years old. It's the 3rd day post-partum after a second, normal, term delivery. The body temperature is of 36, 8°C, Ps- 72/min, AP- 120/80 mm Hg. Mammary glands are moderately engorged, the nipples are clean. Abdomen is soft, painless. The fundus is 3 fingers' breadth below the navel. Moderate bloody lochia are present. What diagnosis can be made?

- A. Postpartum metroendometritis
- B. Remains of placental tissue after childbirth
- C. Lactostasis
- D. *Physiological course of the postpartum period
- E. Subinvolution of uterus

7. A Secundipara has been in childbirth for 8 hours. Clear amniotic fluid was discharged. The fetal position is longitudinal, the fetal head is not determined over the plane of the pelvic inlet. Auscultated over the pubis fetal heartbeat is clear, rhythmical, 140 b.p.m. . Internal obstetrical examination: the cervix is smooth, fully opened, the amniotic membranes are absent. The sacral fovea is completely filled with the fetus's

head. Spina ischiadica is not reachable. The sagittal suture is in the direct diameter of the pelvis. The large fontanel is turned to the pubis. Contractions have begun. What period of birth is being described?

- A. *Beginning of the II period
- B. I period.
- C. End of the I period.
- D. End of the II period.
- E. Beginning of the III period.

8. A Secundipara was admitted to the hospital at 18 weeks of gestation with complaints about recurrent pulling pain in the abdomen and in the lumbar region, dark bloody discharge from vagina, nausea, weakness. Vaginal examination: uterus is increased up to 12 weeks of pregnancy size. There is no fetal cardiac activity visualized by ultrasound. What is the most likely diagnosis?

- A. Inevitable abortion
- B. incomplete abortion
- C. Complete abortion
- D. *missed abortion
- E. Threatened abortion

9. A Secundipara was admitted to the maternity hospital in 6 hours after the beginning of labour. Contractions last 30-35 seconds, occur every 4 minutes, with satisfactory force. BP is 120/80 mm hg. Pulse is 80 b.p.m., rhythmical, of satisfactory properties. The fetal heart beat is 146 b.p.m. The fetal position is longitudinal, head presentation, I position, anterior type of position. The small segment of the fetal head is in the plane of the pelvic inlet. The contraction ring is 5 cm over the pubis. When should internal obstetrical examination be performed?

- A. *on admission and after rupture of amniotic membrane.
- B. Every 2 hours.
- C. At the beginning of the II period of birth.
- D. When transferred to the postnatal unit.
- E. At the end of the I period of birth.

10. A Secundipara with a body weight 80 kg. What is the acceptable amount of blood loss, ml:

- A. *400.
- B. 500.
- C. 600.
- D. 700.
- E. 800.

3.2. Educational materials, recommendations (instructions) for performing tasks

Normal birth criteria:

Aspect	Consideration
Includes	<ul style="list-style-type: none">• Occurs between 37+0 and 42+0 weeks gestational age• Spontaneous onset• Normal labour progress• Vertex• Spontaneous vaginal birth• Intermittent fetal auscultation• Nitrous oxide and oxygen• Third stage management:<ul style="list-style-type: none">○ Physiological third stage○ Modified active third stage (delayed cord clamping)• No maternal or fetal complications or risk factors
Excludes	<ul style="list-style-type: none">• Induction of labour• Augmentation:<ul style="list-style-type: none">○ ARM○ Oxytocin infusion• Continuous fetal monitoring• Pharmacological pain relief that includes:<ul style="list-style-type: none">○ Opioids○ Epidural or spinal○ General anaesthetic• Instrumental birth (forceps or vacuum)

	<ul style="list-style-type: none"> • CS • Episiotomy • Early cord clamping • Complications: <ul style="list-style-type: none"> ○ Risk factors at commencement of labour ○ Intrapartum ○ Immediate postnatal (within two hours of birth)
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STAGES OF LABOR:

Labor Stage	Definition	Function	Duration
Stage 1—Latent phase Effacement	Begins: onset of regular uterine contractions Ends: acceleration of cervical dilation	Prepares cervix for dilation	<20 hours in primipara <14 hours in multipara
Stage 1—Active phase Dilation	Begins: acceleration of cervical dilation Ends: 10 cm (complete)	Rapid cervical dilation	≥0.7cm/hours primipara ≥1.0 cm/hours multipara
Stage 2 Descent	Begins: 10 cm (complete) Ends: delivery of baby	Descent of the fetus	<3 hours in primipara <2 hours in multipara Add 1 hour If epidural
Stage 3 Expulsion	Begins: delivery of baby Ends: delivery of placenta	Delivery of placenta	<30 minutes

Diagnosis of fetal presentation and position

1. Abdominal palpation – Leopold maneuvers (4)
2. Vaginal examination
3. Auscultation
4. Ultrasonography and radiography

Leopold maneuvers:

First maneuver

- palms are placed at the uterine fundus
- permits identification of which fetal pole –breech or head –occupies the uterine fundus

Second maneuver

- palms are placed on either side of the maternal abdomen
- gentle but deep pressure
- on one side a hard, resistant structure – the back (convex shape)
- on the other, numerous small, irregular, mobile parts – fetal extremities

Third maneuver

- using the thumb and fingers of the right hand, the lower portion of the maternal abdomen is grasped just above the symphysis
- movable mass – the presenting part is not engaged
- differentiation between head and breech

Fourth maneuver

- the examiner faces the mother's feet
- with the tips of the fingers of each hand, exerts deep pressure in the direction of the axis of the pelvic inlet.

Vaginal examination

- Before labor vaginal examination is often inconclusive
- With the onset of labor, after cervical dilatation, vertex presentation and their positions are recognized by palpation of the various sutures and fontanel.
- Face and breech presentation can be identified by palpation.
- It is advisable to pursue a definite routine, comprising
- four movements:

1. Two fingers are introduced into the vagina and carried up to presenting part. The differentiation of vertex, face, and breech is then accomplished readily.

2. If the vertex is presenting, the fingers are directed into the posterior aspect of vagina. The fingers are then swept forward over the fetal head toward the maternal symphysis. During this movement, the fingers necessarily cross the fetal sagittal suture and its course is delineated.

3. The positions of the two fontanel then are ascertained. The fingers are passed to the most anterior extension of the sagittal suture, and the fontanel encountered there is examined and identified. Then the fingers pass along the suture to the other end of the head until the other fontanel is felt and differentiated.

4. The station (the extent which the presenting part has descended) can also be established at this time.

Auscultation

- The region of the maternal abdomen in which fetal heart sounds are most clearly heard varies according to the presentation and the extent to which the presenting part has descended.
- Auscultatory findings sometimes reinforce results obtained by palpation

Management of normal labor and delivery

Management of the first stage of labor (in the hospital, after admission)

- Monitoring of the fetal well-being (CTG, amnioscopy)
- Uterine contractions (by hand and/or by CTG)
 - Evaluate the frequency, duration, and intensity
- Maternal vital signs (BP, P, urine, breathing)
- Subsequent vaginal examinations
- Oral intake
 - Food should be withheld
- Intravenous fluids (not necessary in all cases)
- Maternal position during labor (lying, walking, sitting, use of ball)
- Analgesia (intramuscular and/or epidural)
- Amniotomy
 - More rapid labor
 - Earlier detection of meconium-stained amniotic fluid
 - Applying electrode to the fetus, insert pressure catheter
- Urinary bladder function

Management of the second stage of labor

Maternal expulsive efforts

- Taking a deep breath as soon as the next uterine contraction begins, and with her breath held, to exert downward pressure exactly as though she were straining at stool.
- The fetal heart rate is likely to be slow, but should recover to normal range before the next expulsive effort.

- Spontaneous delivery
- Delivery of the head
 - Crowning –encirclement of the largest head diameter by the vulvar ring.
 - Episiotomy
 - Ritgen maneuver
 - Controlled delivery of the head
- Delivery of the shoulders
 - External rotation – bisacromial diameter has rotated into the anteroposterior diameter of the pelvis
 - Gentle downward traction of the head
 - The rest of the body almost always follows the shoulders
- Clearing the nasopharynx
- Nuchal cord
- Clamping the cord

Management of the third stage of labor

- The cervix and vagina should be immediately inspected for lacerations and surgical repair performed if necessary!
- Duration: 0 – 30 min

Signs of placental separation

1. The uterus becomes globular and firmer
2. There is often a sudden gush of blood
3. The placenta passing down into the lower uterine segment,
 1. where its bulk pushes the uterus upward
4. The umbilical cord protrudes further out of the vagina

Delivery of the placenta

1. Traction on the umbilical cord must not be used to pull the
2. placenta out of the uterus
3. Manual removal of the placenta
4. Active management of the third stage
5. Oxytocin

6. Controlled cord traction

From the delivery of the placenta to stabilisation of the patient's condition, usually at about 2-6 hours postpartum

- The hour immediately following delivery is critical
- Uterine atony is more likely
- Checking of the birth-canal all the way
- Suturing the wound (internal and external lesions)
- RDV at the end of the suture

Postpartum period. Is the interval between the birth of the newborn and the return of the reproductive organs to their normal nonpregnant state. It lasts for 6 weeks, with some variation among women.

Anatomic and physiologic changes.

Reproductive system: Uterus

- Involution is the return of the uterus to a nonpregnant state after childbirth
- Involution process begins immediately after expulsion of the placenta with contraction of uterine smooth muscles
- At the end of third stage of labor, the uterus is in the midline, about 2cm below the level of the umbilicus and weighs 1000g
- By 24 hours postpartum the uterus is about the same size it was at 20 gestational weeks
- The fundus descends about 1 to 2cm every 24 hours, and by the sixth postpartum day it is located halfway between the symphysis pubis and the umbilicus.
- The uterus lies in the true pelvis within 2 weeks after childbirth.
- It involutes to about 500g by 1 week after birth, 350g by 2 weeks, and at 6 weeks it has returned to its nonpregnant size 50-60g

Lochia: These are superficial layers of the endometrial decidua that are shed through the vagina during the first three postpartum weeks.

- For the first few days the color is red (lochia rubra),
 - changing during the next week to pinkish (lochia serosa),
 - ending with a whitish color (lochia alba) by the end of the second week.
1. **lochia rubra:**-it consists of blood, decidual and trophoplastic debris. It lasts 3-4 days after childbirth.
 2. **lochia serosa:**-it consists of old blood, serum, leukocytes, and tissue debris. the flow becomes pink or brown. It is expelled 3-10 days postpartum

3. **lochia alba**:-it consists of leukocytes, decidua, epithelial cells, mucus, and bacteria. it is yellow to white in color. - drain for up to and beyond 6 weeks after childbirth. The amount of lochia is usually increases with ambulation, and breastfeeding.

Cramping: The myometrial contractions after delivery constrict the uterine venous sinuses, thus preventing hemorrhage. These lower midline cramps may be painful and are managed with mild analgesics.

Perineal Pain: Discomfort from an episiotomy or perineal lacerations can be minimized in the first 24 hours with ice packs to decrease the inflammatory response edema.

Constipation: Decreased GI tract motility because of perineal pain and fluid mobilization, can lead to constipation. Management is oral hydration and stool softeners.

Hemorrhoids: Prolonged second-stage pushing efforts can exaggerate preexisting hemorrhoids. Management is oral hydration and stool softener

Hypotonic Bladder: Intrapartum bladder trauma can result in increased post-void residual volumes. If the residuals exceed 250 mL, the detrusor muscle can be stimulated to contract with bethanechol (Urecholine). Occasionally an indwelling Foley catheter may need to be placed for a few days.

Dysuria: Pain with urination may be seen from urethral irritation from frequent intrapartum catheterizations. Conservative management may be all that is necessary. A urinary analgesic may be required occasionally.

Bonding: Impaired maternal–infant bonding is seen in the first few days postdelivery. Lack of interest or emotions for the newborn is noted. Risk is increased if contact with the baby is limited because of neonatal intensive care, as well as poor social support.

Management is psychosocial evaluation and support.

Blues: Postpartum blues are very common within the first few weeks of delivery. Mood swings and tearfulness occur. Normal physical activity continues and care of self and baby is seen. Management is conservative with social support.

Depression: Postpartum depression is common but is frequently delayed up to a month after delivery. Feelings of despair and hopelessness occur. The patient often does not get out of bed with care of self and baby neglected. Management includes psychotherapy and antidepressants.

Psychosis: Postpartum psychosis is rare, developing within the first few weeks after delivery. Loss of reality and hallucinations occur. Behavior may be bizarre.

Management requires hospitalization, antipsychotic medication, and psychotherapy.

3.3. Requirements for the results of work.

- To perform an fetal heart tones auscultation.
- To prescribe an adequate treatment of fetal hypoxia.
- Ultrasonography assessment.

- To evaluate of fetal heart tones during electronic fetal monitoring.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

1. A secundipara, 32 weeks, arrived at the maternity hospital. The uterus is in normal tone and increased in size according to gestational age. Where should be the fundus of the uterus?

- A. near the navel
- B. 4 cm below the xiphoid process
- C. near the xiphoid process
- D. near the pubis
- E. *in the middle distance between xyphoid process and the navel

2. A secundipara, 35 years old, comes for routine prenatal visit. During palpation of the uterus, a smooth, dense and round part with definite outlines is palpated over the pelvic inlet. A broad, soft fetal part is palpated at the right subcostal area; the fetal back is turned to the left and posterior in relation to the uterus wall. Fetal heartbeat is clear, rhythmical 142 bpm., in the left area below the umbilicus. Please, establish the diagnosis:

- A. *Left occipitoposterior position
- B. Left occipitoanterior position
- C. Right occipitoanterior position
- D. Right occipitoposterior position
- E. Frank (incomplete) breech presentation

3. A woman 25 y.o., on 7th day of postpartum period. The general condition is satisfactory, no complaints. The body temperature is 36,6 oC, pulse is 76 b.p.m, satisfactory properties. BP 120/80 mmHg. Mammary glands are soft, painless, nipples goals. The uterus is firm, painless, its fundus is 2 cm above the pubis. Lochia are serous - blood, moderate. Physiological functions are normal. Which pituitary hormone stimulates uterine contractions?

- A. Folikulin.
- B. Progesterone.
- C. Chorionic gonadotropin.
- D. *Oxytocin.
- E. Prolactin.

4. A woman 26 y.o. on the third day after birth had abandoned breastfeeding and became indifferent to all the surrounding. She has tried to escape the hospital without a child twice. Pregnancy was unwanted. Woman's facial expressions were mournful, slow movements and speech, loss of appetite. What is the main direction of therapy?

- A. Lobectomy.
- B. Cytostatics.
- C. Hormonal therapy.
- D. *Psychotherapy.
- E. Antibacterial therapy.

5. A woman with blood group B(III) Rh(+) gave birth to a full-term healthy boy. Examination on the 3rd day of the infant's life shows him to have icteric colour of his skin. The child has no problems with suckling, sleep is not disturbed. The abdomen is soft, the liver protrudes by 2 cm from under the costal margin. Complete blood count: hemoglobin -200 g/L, erythrocytes - $5.5 \cdot 10^{12}/L$, total bilirubin – 62 $\mu\text{mol}/L$, indirect bilirubin – 52 $\mu\text{mol}/L$. What condition can be suspected?

- A. Congenital hepatitis
- B. Hemolytic disease of the newborn due to Rh incompatibility
- C. *Physiologic jaundice
- D. Biliary atresia
- E. Hemolytic disease of the newborn due to ABO incompatibility

6. A woman, 27 y.o, on 3d day postpartum, there has been noticed a significant breast engorgement. In this regard it should recommend:

- A. *Continue breastfeeding on demand.
- B. Pumping breast.
- C. Cancellation of breastfeeding.
- D. Warming a compress on the breast.
- E. Cancel use bra.

7. A woman, 34 weeks of pregnancy at her visit to the maternity hospital, height is 175 cm, weight is 74 kg. She has no complaints. The circumference of the wrist joint is 16 cm. Sizes of the pelvis: 25-28-31-21 cm. The fundal height is 35 cm, the circumference of the abdomen is 90 cm. Determine the estimated fetal weight in g:

- A. * 3150 ± 200 g.
- B. 2500 ± 200 g.
- C. 4100 ± 200 g.
- D. 1850 ± 200 g.
- E. 2850 ± 200 g.

8. At the end of the first day of postpartum period the Uterine cervix internal orifice :

- A. Passes 8-9 cm
- B. Passes 1-2 cm.
- C. Closed.
- D. *Passes 3-4 cm fingers
- E. None of the above.

9. At what pregnancy term is it necessary to conduct the first ultrasound screening of the fetus?

- A. *11 weeks -13 weeks + 6 days
- B. 8 – 9 weeks
- C. 9 – 10 weeks
- D. 10 – 11 weeks
- E. 18 – 21 weeks

10. During a pregnant woman examination at the female consultation center, the doctor found out enlarged uterus according to size of 5-6 weeks of pregnancy, in the left angle of the uterus a protrusion is palpated. The uterus has soft consistence, but during examination has rendered firm. After seizing the pressure, the uterus became soft again. What signs of pregnancy were found out by the doctor?

- A. *Snegiryov and Genter's
- B. Piskacek and Snegiryov's.
- C. Gorvits - Hegar's.
- D. Genter and Piskacek's.
- E. Gubarev and Gauss'.

11. During examination of the patient in the women's clinic, the doctor discovered that the uterus size is increased up to 5-6 weeks of pregnancy, in the left corner of the uterus is palpable protrusion. Uterus is soft, but during the study it is becoming hard and then again become soft. What is the most likely diagnosis?

- A. Inevitable abortion
- B. Uterine fibroids
- C. Ectopic Pregnancy
- D. *The uterine pregnancy
- E. Threatened abortion

12. During normal pregnancy a lowered hemoglobin is a physiologic finding. What is its major cause?

- A. blood lost to the placenta and fetus
- B. low iron stores
- C. increased cardiac output resulting in greater red-cell destruction
- D. decreased reticulocytosis
- E. *increased plasma volume

13. During pregnancy, blood tests for diabetes are more apt to be abnormal than in the nonpregnant state. Also, nondiabetic women may develop gestational diabetes during the last half of the pregnancy. This is due in part to which of the following?

- A. *increased placental lactogen
- B. increased food absorption from the GI tract
- C. decreased insulin production
- D. decreased hepatic secretion of insulin-binding globulin
- E. hemoconcentration

Practical lesson № 31.

**Gestosis of early terms of pregnancy (morning sickness, hypersalivation).
Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia.**

Learning objectives

The overall aim of this topic is to gain basic knowledge about the etiology, pathogenesis, the clinic, methods and algorithm for diagnosing preeclampsia and eclampsia in pregnant women. Get knowledge about modern treatment and prevention principles of pregnant women with preeclampsia during pregnancy and principles of rehabilitation. Develop a special vigilance in the prevention and early diagnosis preeclampsia and eclampsia of pregnant women in students. Form a sense of moral and legal responsibility for the timeliness and quality of medical care obstetric patients. To familiarize students with the contribution of Ukrainian midwifery school issues prevention, diagnosis of preeclampsia and eclampsia of pregnant women, treatment and rehabilitation patients.

Basic concepts:

Equipment

- Multimedia equipment (computer, projector, screen), TV.
- Obstetric models and obstetric instruments (pelvimeter, obstetric stethoscope, centimeter tape).
- Professional algorithms, structural-logical schemes, tables, videos.
- Results of laboratory and instrumental researches, situational tasks, patients, medical histories.

EDUCATIONAL TIME – 4 h

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

The frequency of preeclampsia of pregnant has no tendency to decrease (from 1,5 to 23,3% of all pregnancies), the pathology related to life-threatening complications of pregnancy and determine the rates of maternal and perinatal morbidity and mortality. The structure of mortality during pregnancy, childbirth and postpartum preeclampsia occupy the first place. Therefore, timely diagnosis, prevention and treatment of pregnant women with preeclampsia and eclampsia are one of the most urgent problems of modern obstetrics, Health Review of the mother and newborn.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.

- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Etiology and pathogenesis of preeclampsia and eclampsia.
- Modern diagnostic methods for preeclampsia and eclampsia, volumetric survey of patients.
- Clinic of preeclampsia and eclampsia.
- Classification of preeclampsia and eclampsia.
- Principles of pregnant women with early gestosis, preeclampsia and eclampsia. Emergency care.
- Modern principles of prevention preeclampsia and eclampsia, medical rehabilitation patients.
- Diagnose early gestosis, preeclampsia and eclampsia.
- Appoint the necessary volume of surveys of pregnant women, women in labor and parturient women with preeclampsia.
- Prescribe treatment for patients.
- Prevention of preeclampsia and eclampsia of pregnant women.
- Assign measures of medical rehabilitation of patients after preeclampsia.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

- measurement of pulse and blood pressure
- measurement of average blood pressure
- auscultation of the fetus.
- assessment of laboratory parameters
- assessment of the weight gain of a pregnant woman

- identification and assessment of edema
- treatment of early gestosis
- treatment of preeclampsia
- First aid for an attack of eclampsia.

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A 19-year-old woman at 36 weeks' gestation with a BP of 150/100, 2+ edema, and 2+ proteinuria with no other symptoms. Which of the following is the best diagnosis?
 - A. *severe preeclampsia
 - B. mild preeclampsia
 - C. chronic hypertensive disease
 - D. eclampsia
 - E. chronic renal disease
2. A 19-year-old woman without prenatal care (gravida 1, para 0) in the third trimester of pregnancy arrives in the emergency department. She has presented because of headache and visual change. While being examined, she had a convulsion. You should do which of the following while waiting for the magnesium sulfate bolus?
 - A. give intravenous (IV) phenytoin
 - B. obtain a chest film
 - C. *protect the patient from self-harm
 - D. obtain an ultrasound to rule out molar pregnancy
 - E. prepare to perform an emergency cesarean delivery
3. A 20-year-old primigravida presents at 40 weeks. She has been healthy up to this point. She has a headache and sight disturbances. Her face and hands are swollen, and she cannot wear her rings. Her BP is 168/95 mm Hg, and she has 1+ protein. The fetus has a reassuring monitoring strip. Which of the following is the best treatment for her preeclampsia?
 - A. modified bed rest
 - B. *delivery either by cesarean or by vaginal
 - C. magnesium sulfate
 - D. an antihypertensive drug that does not affect uterine blood flow
 - E. gentle diuresis, with careful monitoring of intake and output

4. A 23-year-old woman (gravida 1) at about 12 weeks' gestation develops persistent nausea and vomiting that progresses from an occasional episode to a constant retching. She has no fever or diarrhea but lost 3 kg in 1 week and appears dehydrated. What is your diagnosis?

- A. ptyalism
- B. gastroenteritis
- C. *hyperemesis gravidarum
- D. anorexia nervosa
- E. morning sickness

5. A 24-year-old woman (gravida 1, para 0) at 37 weeks' gestation was noted to have a 2500 g weight gain and an increase in blood pressure to 140/95 mm Hg in the past week. She also has 1+ proteinuria. The examination was repeated 4 hours later and the same results were obtained. Which of the following is the best diagnosis?

- A. *preeclampsia
- B. normal pregnancy
- C. eclampsia
- D. pregnancy-induced hypertension
- E. transient hypertension of pregnancy

6. A 25 y.o. pregnant woman in her 34th week was delivered to the maternity house with complaints of headache, visual disorders, nausea. Objectively: generalized edema, AP-170/130 mm Hg. Suddenly there appeared fibrillary tremor of face muscles, tonic and clonic convulsions, breathing came to a stop. After 1,5 minute the breathing recovered, there appeared some bloody spume from her mouth. In urine: protein - 3,5 g/L. What is the most probable diagnosis?

- A. Stomach ulcer
- B. *Eclampsia
- C. Epilepsy
- D. Cerebral hemorrhage
- E. Cerebral edema

7. A 28-year-old G2P0 at 39 weeks is in early labor. She is 2 cm dilated and 90% effaced, with contractions every 4 to 5 minutes. The fetal heart tones are reassuring. Her nurse steps out for a moment and returns to find her having a seizure. What would your first therapy be aimed at?

- A. *giving a 4-g magnesium sulfate bolus

- B. reducing edema with diuretics
- C. giving hypotensive agents until the blood pressure is 110/70 mm Hg
- D. giving 3 g of magnesium every 3 hours
- E. prepare for immediate delivery by cesarean section

8. A 28-years-old woman complains of nausea and vomiting about 10 times per day. She has been found to have body weight loss and xeroderma. The pulse is 100 bpm. Body temperature is 37,2°C. Diuresis is low. USI shows 5-6 weeks of pregnancy. What is the most likely diagnosis?

- A. Premature abortion
- B. Food poisoning
- C. *Moderate vomiting of pregnancy
- D. Mild vomiting of pregnancy
- E. I degree preeclampsia

9. A 32-year-old G2P1 female presents for routine prenatal visit at 36 weeks' EGA. You note a 3,5-kg weight gain in the last 2 weeks? Which of the following should be your first priority?

- A. markedly restrict her diet
- B. encourage vigorous exercise
- C. place her on bed rest
- D. *assess for signs and symptoms of preeclampsia
- E. give the patient diuretics

10. A 35-year-old woman (gravida 5, para 4) now at 32 weeks' gestation with a BP of 180/120, no proteinuria or edema, but retinal exudates and hemorrhage, as well as a history of hypertension for 8 years. Which of the following is the best diagnosis?

- A. *chronic hypertensive disease
- B. mild preeclampsia
- C. severe preeclampsia
- D. eclampsia
- E. chronic renal disease

11. A multigravida on the 38th week of her pregnancy complains of increased BP up to 140/90 mm Hg, edema of the shins for 2 weeks. In the last month she gained 3.5 kg of weight. Urine analysis: protein - 0.033 g/L. Make the diagnosis:

- A. Gestational proteinuria
- B. Pregnancy edema
- C. *Mild preeclampsia
- D. Severe preeclampsia
- E. Gestational hypertension

12. A patient and her husband are extremely anxious about your suggestion that she be given magnesium sulfate for seizure prophylaxis. In assuring her about the safety of the drug, you can emphasize which of the following?

- A. *The drug is rapidly excreted via the kidney
- B. It is a mild smooth-muscle constrictor and thus safe for the infusion
- C. The drug has a narrow margin of safety so that we start off with a lower dose in preeclampsics, and administer it by an IV pump
- D. As a central nervous system (CNS) stimulant it should not deprive her of the awareness of her delivery, unlike barbiturates
- E. The drug does not cross the placenta and thus should not affect her fetus/infant

13. A patient develops excessive salivation during pregnancy. What is this called?

- A. eructation
- B. *ptyalism
- C. deglutition
- D. pruritus
- E. emesis

14. A primagravida with pregnancy of 37-38 weeks complains of headache, nausea, pain in epigastrium. Objectively: the skin is cyanotic. Face is hydropic, there is short fibrillar twitching of blepharons, muscles of the face and the inferior extremities. The stare is fixed. BP - 200/110 mm Hg; pulse rate is 102 bpm, intense. Respiration rate is 32/min. Proteinuria +++. What medication should be administered?

- A. Dibazolium (Bendazole hydrochloride) of 1% - 6,0 ml
- B. Papaverine hydrochloride of 2% - 4,0 ml
- C. Hexenalum of 1% - 2,0 ml
- D. Pentaminum of 5% - 4,0 ml
- E. *Magnesium sulfate 25% - 16,0 ml IV

Typical situations of tasks:

1. A woman at 30 weeks pregnant has had an attack of eclampsia at home. On admission to the maternity ward AP- 150/100 mm Hg. Estimated fetal weight is 1500 g. There is face and shin edema. Urine protein is 0,66 g/24h. Cervix is unripe, 2 points according Bishop's scale. An intensive therapy has been started. What is the correct tactics of this case management?

Answer: Delivery by cesarean section

2. A 17-year-old G2P0 woman with no prenatal care at 29 weeks' gestation presents with painful contractions and pressure. Her cervix is 2 cm dilated, 60% effaced, and breech at -2 station. There is no evidence of ruptured membranes. Her contractions are every 3 minutes. FHT are 150 with accelerations. Maternal vital signs are temperature 36.8 degrees, pulse 96, BP 110/72. What should you do?

Answer: begin tocolytic agents

3. In Primigravida, at 15-16 weeks of gestation, was determined that level of α -fetoprotein in serum significantly higher than normal. Pregnancy occurred against the backdrop of clomiphene stimulate ovulation. When ultrasound revealed twins. How should treat elevated levels α -fetoprotein in this case?

Answer: Symptom of multiple pregnancy

4. On her first prenatal visit, a 17-year-old single woman (gravida 1, para 0), 32 weeks by good dates, is found to have vital signs as follows: BP-135/85; Ps-84; T-36,6°C; and RR-20. She also has ankle and hand edema and a uterine fundus measuring 42 cm with breech concordant twins on ultrasound. She has normal pelvic measurements and the cervix is closed and soft, with the presenting part at station -1. Her UA revealed no WBCs or bacteria with 2+ protein. Her hematocrit is 38, and her WBC count is 9800. The next step in care of this patient should include which of the following?

Answer: hospitalization with bed rest and frequent vital signs

5. Patients with severe preeclampsia, when compared with pregnant women without preeclampsia, will have a decrease in which of the following?

Answer: plasma volume

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Task:

- Subgroup I - for the assessment of laboratory parameters
- Subgroup II - for measuring heart rate and blood pressure
- Subgroup III - to assess the responses of subgroups I and II and make adjustments.

Atypical situations of tasks:

1. The 30 years-old pregnant arrived to the maternity hospital in 37 week of gestation term, longitudinal lie with head presentation of the fetus. She has complaints about headache, nausea, vomiting, and pains in the epigastric region. Objectively:

disturbances of vision are present. Arterial blood pressure 180/110 mm Hg. Urinalysis: cloudy urine, proteinuria– 1.66 g/l. The tonus of uterus is normal. Fetal heart sounds – 140 beat/min, rhythmic. Respiration rate is 32 breaths/min. Diagnosis and tactics in this clinical case?

Answer: I pregnancy, 37 week of gestation term. Longitudinal lie with head presentation of the fetus. Severe preeclampsia.

Careful observation of the dynamic:

- Blood pressure control - hourly;
- Urine test - every 4 hours;
- Control diuresis (urinary catheterization catheter Thales);
- Hemoglobin, hematocrit, platelet count, and liver function tests, creatinine plasma - daily;
- Monitoring of fetus

Intravenous injection of Magnesium sulfate 25% 10,0 +NaCl 0,9% 200,0; nifedipine 5-10 mg sublingually, labetalol 10 mg intravenously. Cesarean section.

2. A 38 years old pregnant woman arrived to the maternity hospital in 33 week of gestation term, longitudinal lie with head presentation of the fetus. She is with the diagnosis of infectious hepatitis and pancreatitis, which she suffered 2 years ago. What is the most probable complication of her pregnancy?

Answer: I pregnancy, 33 week of gestation term. Longitudinal lie with head presentation of the fetus. Early gestosis or preeclampsia? Risk facts: 38 y.o. pregnant woman, infectious hepatitis, which she suffered 2 years ago, chronic pancreatitis.

3. During investigation of the 25 years-old pregnant lady, in the term of gestation 34 weeks longitudinal lie with head presentation of the fetus, a doctor registered edema of her both legs, Blood Pressure on the right hand 140/90mm Hg , on the left arm 130/90mm Hg, proteinuria– 0,66 g/l , level of blood protein– 56 g/l. State of the fetus is satisfactory. What is probable diagnosis and management?

Answer: I pregnancy, 34 week of gestation term. Longitudinal lie with head presentation of the fetus. Mild Preeclampsia.

4. A 27 years old pregnant woman 36 weeks of gestation was admitted to the obstetric in-patient department. She has previous history of arterial hypertension, now complains of a headache, aching constant local pains in the lower abdomen and bloody discharge from vagina. The main clinical features are blood pressure 180/100 mm Hg and hypertonic uterus. During investigation about 300 ml of dark blood was discharged from vagina. The fetal heartbeats are not heard. According to ultrasound investigation the placenta was located on the front wall of the uterus with transition to the uterine fundus. What is the diagnosis?

Answer: I pregnancy, 36 week of gestation term. Pre-eclampsia and premature placental separation of normally placed placenta

5. A 25-year-old nulliparous woman at 33 weeks' gestation comes to the labor and delivery ward complaining of contractions, a headache, and flashes of light in front of her eyes. Her pregnancy has been uncomplicated except for an episode of first trimester bleeding that completely resolved. She has no medical problems. Her t³⁷ C, BP 160/110 mm Hg, pulse 88/minute, and respirations 12/minute. Longitudinal lie with head presentation of the fetus. Examination: her cervix is 2 cm dilated and 75% effaced, and that she is contracting every 2 minutes. The fetal heart tracing is in the 140s and reactive. Urinalysis shows +++ proteinuria. Laboratory values: leukocytes 9,400/mm³, hematocrit 35%, platelets 101,000/mm³. Aspartate aminotransferase (AST) is 200 U/L, and ALT 300 U/L. What is the most appropriate next step in management?

Answer: I pregnancy, 33 week of gestation term. Longitudinal lie with head presentation of the fetus. Moderate preeclampsia.

Hospitalization of a pregnant woman in a hospital. Primary laboratory examination: complete blood count, hematocrit, platelet count, coagulogram, ALT and AST, blood group and Rh factor (in the absence of accurate information), general urinalysis, determination of daily proteinuria, creatinine, urea, uric acid, plasma electrolytes (sodium and potassium), fetal health assessment. Nutrition: High-protein food, no salt and water restrictions, and non-thirsty foods.

Intravenous injection of Magnesium sulfate 25% 10,0 +NaCl 0,9% 200,0. Dexamethasone 6 mg every 12 hours, four times over 2 days. Nifedipine 10 mg 2-3 times a day.

Test tasks

1. A 25 y.o. pregnant woman in her 34th week was taken to the maternity house in grave condition. She complains of headache, visual impairment, nausea. Objectively: solid edema, AP170/130 mm Hg. Suddenly there appeared fibrillary tremor of face muscles, tonic and clonic convulsions, breathing came to a stop. After 1,5 minute the breathing recovered, there appeared some bloody spume from her mouth. In urine: protein - 3,5 g/L. What is the most probable diagnosis?

- A. Eclampsia
- B. Epilepsy
- C. Cerebral hemorrhage
- D. Cerebral edema
- E. Stomach ulcer

2. A 28 year old parturient complains about headache, vision impairment, psychic inhibition. Objectively: AP200/110 mm Hg, evident edema of legs and anterior abdominal wall. Fetus head is in the area of small pelvis. Fetal heartbeats is clear, rhythmic, 190/min. Internal investigation revealed complete cervical dilatation, fetus head was in the area of small pelvis. What tactics of labor management should be chosen?

- A. Forceps operation
- B. Cesarean
- C. Embryotomy
- D. Conservative labor management with episiotomy
- E. Stimulation of labor activity

3. A 28-years-old woman complains of nausea and vomiting about 10 times per day. She has been found to have body weight loss and xerodermia. The pulse is 100 bpm. Body temperature is 37, 2oC. Diuresis is low. USI shows 5-6 weeks of pregnancy. What is the most likely diagnosis?

- A. Moderate vomiting of pregnancy
- B. Mild vomiting of pregnancy
- C. I degree preeclampsia
- D. Premature abortion
- E. Food poisoning

4. A primagravida with pregnancy of 37-38 weeks complains of headache, nausea, pain in epigastrium. Objective: the skin is cyanotic. Face is hydropic, there is short fibrillar twitching of blepharos, muscles of the face and the inferior extremities. The look is fixed. AP200/110 mm Hg; sphygmus of 92 bpm, intense. Respiration rate is 32/min. Heart activity is rhythmical. Appreciable edemata of the inferior extremities are present. Urine is cloudy. What medication should be administered?

- A. Droperidolum of 0,25\% - 2,0 ml
- B. Dibazolum of 1\% - 6,0 ml
- C. Papaverine hydrochloride of 2\% - 4,0 ml
- D. Hexenalum of 1\% - 2,0 ml
- E. Pentaminum of 5\% - 4,0 m

5. A woman at 30 weeks pregnant has had an attack of eclampsia at home. On admission to the maternity ward AP- 150/100 mm Hg. Predicted fetal weight is 1500 g. There is face and shin pastosity. Urine protein is 0, 66o/oo. Parturient canal is not ready for delivery. An intensive complex therapy has been started. What is the correct tactics of this case management?

- A. Delivery by cesarean section
- B. Continue therapy and prolong pregnancy for 1-2 weeks
- C. Continue therapy and prolong pregnancy for 3-4 weeks
- D. Labor induction by intravenous oxytocin or prostaglandins
- E. Treat preeclampsia and achieve the delivery by way of conservative management

6. An onset of severe preeclampsia at 16 weeks gestation might be caused by:

- A. Hydatidiform mole
- B. Anencephaly
- C. Twin gestation
- D. Maternal renal disease
- E. Interventricular defect of the fetus

7. A 25 y.o. pregnant woman in her 34th week was taken to the maternity house in grave condition. She complains of headache, visual impairment, nausea. Objectively: solid edema, BP-170/130 mm Hg. Suddenly there appeared fibrillary tremor of face muscles, tonic and clonic convulsions, breathing came to a stop. After 1,5 minute the breathing recovered, there appeared some bloody spume from her mouth. In urine: protein - 3,5 g/L. What is the most probable diagnosis?

- A. Eclampsia
- B. Epilepsy
- C. Cerebral hemorrhage
- D. Cerebral edema
- E. Stomach ulcer

8. A 28-years-old woman complains of nausea and vomiting about 10 times per day. She has been found to have body weight loss and xerodermia. The pulse is 100 bpm. Body temperature is 37, 2oC. Diuresis is low. USI shows 5-6 weeks of pregnancy. What is the most likely diagnosis?

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- C. Continue therapy and prolong pregnancy for 3-4 weeks
- D. Labor induction by intravenous oxytocin or prostaglandins
- E. Treat preeclampsia and achieve the delivery by way of conservative management

10. A 19-year-old primigravida woman with a body weight of 54,5 kg gave birth at 38 weeks gestation to a full-term live girl after a normal vaginal delivery. The girl's weight was 2180,0 g, body length - 48 cm. It is known from history that the woman has been a smoker for 8 years, and kept smoking during pregnancy. Pregnancy was complicated by moderate vomiting of pregnancy from 9 to 12 weeks pregnant, edema of pregnancy from 32 to 38 weeks. What is the most likely cause of low birth weight?

- A. Fetoplacental insufficiency
- B. Low weight of the woman
- C. Woman's age
- D. First trimester preeclampsia
- E. Third trimester preeclampsia

3.2. Educational materials, recommendations (instructions) for performing tasks

Early gestosis

- Frequent forms of early gestosis: vomiting of pregnant excessive salivation

- Rare forms of early gestosis: dermatosis gravidarum, tetania gravidarum, chorea gravidarum, osteomalacia gravidarum, acute fatty liver of pregnancy, bronchial asthma of pregnancy.

Etiology and pathogenesis of early gestosis.

To explain the causes of early gestosis suggested many theories (toxemic, allergic, endocrine, neurogenic, psychogenic, immune, etc.).

In modern theories of early gestosis is considering as a consequence of violations of neuro-vegetative-immuno-endocrinic-metabolic-regulation, in which the leading role played by the functional state of CNS.

It lasted from excessive impulse fetal egg causes excessive irritation areas of the hypothalamus, brain stem and entities that are involved in the regulation of autonomic functions and inhibition of neural processes in the cerebral cortex. As a consequence - the predominance of excitatory processes in the brain stem (in particular, vomiting center).

Risk factors of early gestosis:

- Spouse or acquired deficiency of the neuroendocrine regulation of adaptive responses (hypoxia, infection, intoxication, violation of the regime in childhood and adolescence, and the like).
- Extragenital diseases.
- Violations of the function of the nervous system, stress situations.
- Past medical genital organs, which can cause changes in the receptor apparatus of the uterus and the occurrence of pathological impulse to the CNS.

Vomiting of pregnant – degrees:

Degree	Status	Frequency of vomiting	Weight loss	HR	laboratory research
I. Light (neurosis phase)	Satisfactory	Up to 5 times	Not more than 3 kg	Norm	Norm
II. Moderate (toxicosis phase)	Relatively satisfactory	6 -10 times	More than 3 kg	Up to 100	Acetone in the urine ++
III. Severe (dystrophy phase)	Severe	Up to 25 times and more	8 - 10 kg and more	Above 100	Acetone in the urine ++++

Treatment of vomiting pregnant

A large number of recommended treatments reflect the majority of theories that explain the causes of vomiting pregnant. But uncontrolled use of these treatments for early

gestosis in some cases may be harmful, taking into account the fact that in early pregnancy occurs embryogenesis.

Mild vomiting. It is recommended not to hospitalize pregnant women with mild vomiting. We recommend correction of dietary intake: minor (5-6 times a day), balanced nutrition, drink vitamins. Patients were given a light meal, which is well absorbed (biscuits, mashed potatoes, tea, cocoa, coffee, lean meat, fish, eggs, butter, etc.). Take her trail, lying, frequently and in small portions, preferably in chilled.

Non-traditional methods of treatment can be used: reflexology, hypnosis, central electroanalgesia, homeopathic therapy, and others.

Moderate and severe vomiting: pregnant woman needs hospitalization and medical treatment.

Before the reception ability to hold food, medicines should be entered only parenterally. For the influence of the central nervous system as the main pathogenetic factor, to harassment excitability of the vomiting center designate: Etaperazin to 0,002 g, orally, 3-4 times a day, 10-12 days (if the patient holds the tablets); torekan by 1.0 ml intramuscular injection, or 6.5 mg in the form of tablets or rectal suppositories 2 -3 times a day; droperidol on 0,5 - 1,0 ml intramuscularly 1-3 times a day; cerucal 10 mg intramuscularly or orally.

To eliminate hypoproteinemia and dehydration, intravenous targeted administration of protein (plasma), Ringer-Locke solution is necessary. In general, all infusions are carried out only according to indications based on laboratory tests. The amount of fluid is determined by the state of the water balance.

Complication: Excessive vomiting can lead to dehydration, exhaustion, and Mallory-Weiss syndrome (rupture of the stomach lining). In some cases, it is necessary to prematurely terminate the mother's pregnancy. The indication for this is the lack of effect of treatment within 7-10 days, threatening the life of the mother, stable tachycardia, hyperthermia, proteinuria and progressive cylindruria, the presence of jaundice and acetone in the urine.

Prevention of early preeclampsia is the early identification of pregnant women at risk for early development of preeclampsia, and their rehabilitation, treatment of comorbidity, and early registration of pregnancy.

Drooling (hyper salivation) of pregnant woman.

Drooling (ptyalism) observed at pukes, and sometimes self-expression and preeclampsia. The number of saliva during hyper salivation may reach 1.0 liters per day. Drooling does not involve serious disturbances in the body, but also suppresses the psyche of patients, causes maceration of the skin and mucous membrane of the lips. Sometimes, in order to reduce the secretion of the salivary glands prescribed intramuscular injection of atropine on 0,5 ml 0,1% solution of 2 times a day. Mouth rinse with infusion of sage, mint, chamomile, oak, measles and other astringent agents. Termination of pregnancy in this pathology is not necessary.

HYPERTENSION IN PREGNANCY

Types of hypertension	
Chronic Hypertension	• SBP \geq 140 or DBP \geq 90

	<ul style="list-style-type: none"> • Pre-Pregnancy or < 20 weeks
Gestational Hypertension	<ul style="list-style-type: none"> • SBP\geq140 or DBP\geq90 • > 20 weeks • Absence of proteinuria or systemic signs/symptoms
Preeclampsia-Eclampsia	<ul style="list-style-type: none"> • SBP\geq140 or DBP\geq90 • Proteinuria with or without signs/symptoms • Presentation of signs/symptoms/lab abnormalities but no proteinuria • Proteinuria not required for diagnosis eclampsia seizure in setting of preeclampsia
Chronic Hypertension & Superimposed Preeclampsia	<ul style="list-style-type: none"> • Women with chronic essential hypertension develop any of the above maternal organ dysfunctions consistent with PE • Increase in blood pressure per se is not sufficient to diagnose superimposed PE • In the absence of pre-existing proteinuria, new-onset proteinuria in the setting of a rise in blood pressure is sufficient to diagnose superimposed PE

Diagnostic Criteria

Blood Pressure Criteria

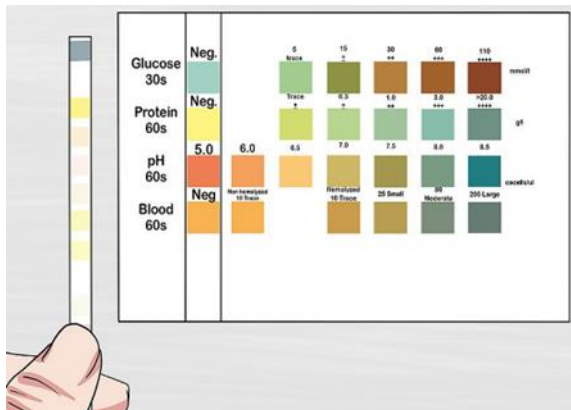
- Hypertension – systolic BP > 140 mm hg or diastolic BP > 90 mm hg or both
- On two occasions at least 4 hours apart after 20 weeks gestations with previously normal BP
- Considered ‘mild’ until diastolic BP > 110mm hg or systolic BP \geq 160 mm Hg
- Severe Hypertension – systolic BP > 160 mm hg or diastolic BP > 110 mm hg or both

Proteinuria Criteria

- 24 hour urine collection >300 mg protein or
- Single voided urine protein/creatinine ratio ≥ 0.3 mg/dl
- Dipstick reading of 2+ (use only if other quantitative methods not available)

Urine Dipstick Test:

1. Dip the test strip into the urine.
2. Wait approximately 2 minutes for the results.
3. Compare the test squares to the color chart.



Gestational Hypertension

1. Pregnancy >20 wk
 2. Sustained HTN
 3. No proteinuria
- Gestational hypertension is diagnosed with sustained elevation of BP $\geq 140/90$ mm Hg after 20 weeks of pregnancy without proteinuria. BP returns to normal baseline postpartum.
 - No symptoms of preeclampsia are seen, e.g., headache, epigastric pain, visual disturbances. Physical findings are unremarkable for pregnancy. Lab tests are unremarkable for pregnancy. Proteinuria is absent.
 - Preeclampsia should always be ruled out.
 - Diagnosis is made with sustained elevation of BP $>140/90$ mm Hg without proteinuria (key finding).
 - Management. Conservative outpatient management with close observation since 30% of patients will develop preeclampsia. Appropriate lab testing should be performed to rule out preeclampsia, e.g., urine protein, hemoconcentration assessment. Deliver by 40 weeks.

Preeclampsia

According to the ISSHP, PE is defined as systolic blood pressure at ≥ 140 mm Hg and / or diastolic blood pressure at ≥ 90 mm Hg on at least two occasions

measured 4 hours apart in previously normotensive women and is accompanied by one or more of the following new-onset conditions at or after 20 weeks of gestation:

1. Proteinuria (i.e. ≥ 30 mg/mol protein:creatinine ratio; ≥ 300 mg/24 hour; or ≥ 2 + dipstick);
2. Evidence of other maternal organ dysfunction, including: acute kidney injury (creatinine ≥ 90 μ mol/L; 1 mg/dL); liver involvement (elevated transaminases, e.g. alanine aminotransferase or aspartate aminotransferase >40 IU/L) with or without right upper quadrant or epigastric abdominal pain; neurological complications (e.g. eclampsia, altered mental status, blindness, stroke, clonus, severe headaches, and persistent visual scotomata); or hematological complications (thrombocytopenia—platelet count $<150000/\mu$ L, disseminated intravascular coagulation, hemolysis); or
3. Uteroplacental dysfunction (such as fetal growth restriction, abnormal umbilical artery Doppler waveform analysis, or stillbirth).

Risk Factors for Preeclampsia

High	<ul style="list-style-type: none"> History of preeclampsia, especially when accompanied by an adverse outcome Multifetal gestation Chronic hypertension Type 1 or 2 diabetes Renal disease Autoimmune disease (ie, systemic lupus erythematosus, the antiphospholipid syndrome) 	Recommend low-dose aspirin if the patient has one or more of these high-risk factors
Moderate	<ul style="list-style-type: none"> Nulliparity Obesity (body mass index greater than 30) Family history of preeclampsia (mother or sister) Sociodemographic characteristics (African American race, low socioeconomic status) Age 35 years or older 	Consider low-dose aspirin if the patient has more than one of these moderate-risk factors

	<ul style="list-style-type: none"> • Personal history factors (eg, low birth weight or small for gestational age, previous adverse pregnancy outcome, more than 10-year pregnancy interval) 	
Low	<ul style="list-style-type: none"> • Previous uncomplicated full-term delivery 	Do not recommend low-dose aspirin

Pathophysiology

Several mechanisms of disease have been proposed in preeclampsia including the following: chronic uteroplacental ischemia, immune maladaptation, very low-density lipoprotein toxicity, genetic imprinting, increased trophoblast apoptosis or necrosis, and an exaggerated maternal inflammatory response to deported trophoblasts. More recent observations suggest a possible role for imbalances of angiogenic factors in the pathogenesis of preeclampsia. It is possible that a combination of some of these purported mechanisms may be responsible for triggering the clinical spectrum of preeclampsia. For example, there is clinical and experimental evidence suggesting that uteroplacental ischemia leads to increased circulating concentrations of antiangiogenic factors and angiogenic imbalances.

CLINICAL TYPES PREECLAMPSIA

Mild: This includes cases of sustained rise of blood pressure of more than 140/90 mm Hg but less than 160 mm Hg systolic or 110 mm Hg diastolic without significant proteinuria.

Severe:

- A persistent systolic blood pressure of >160 mm Hg or diastolic pressure of >110 mm Hg.
- Protein excretion of >5 gm/24 hr.
- Oliguria (<400 ml/24 hr).
- Platelet count $< 100,000$ /mm³.
- HELLP syndrome.
- Cerebral or visual disturbances.
- Persistent severe epigastric pain.
- Retinal hemorrhages, exudates or papilledema.
- Intrauterine growth restriction of the fetus.
- Pulmonary edema.

Diagnostic criteria of preeclampsia/eclampsia severity			
Diagnosis	Diastolic blood pressure, mm Hg	Proteinuria, g/day	Other signs
Light preeclampsia or gestational hypertension	90-99	<0,3	–
Moderate preeclampsia	100-109	0,3-5,0	Edema of face, hands Sometimes - headache
Severe preeclampsia	≥110	>5	Generalized edema, significant headache Impaired vision Pain in the epigastrium and / or right upper quadrant Hyperreflexia Oliguria (<500 ml / day) Thrombocytopenia
Eclampsia	≥90	≤0,3	Convulsive attack (one or more)

- **Management.** The only definitive cure is delivery and removal of all fetal-placental tissue. However, delivery may be deferred in preeclampsia without severe features to minimize neonatal complications of prematurity. Management is based on gestational age.
- **Conservative management.** Before 37 weeks' gestation as long as mother and fetus are stable, mild preeclampsia is managed in the hospital or as outpatient, watching for possible progression to severe preeclampsia. No antihypertensive agents or MgSO₄ are used.
- **Delivery.** At ≥37 weeks' gestation, delivery is indicated with oxytocin induction of labor and continuous infusion of MgSO₄ to prevent eclamptic seizures.

Preeclampsia with Severe Features

- Pregnancy >20 wk
- Sustained HTN (>140/90 mm Hg)
- Headache or epigastric pain or visual changes
- DIC or ↑ liver enzymes or pulmonary edema

Diagnosis is made in the presence of (at least) mild elevation of BP and mild proteinuria plus any one of the following:

- Sustained BP elevation of ≥160/110
- Evidence of maternal jeopardy:
 - headache, epigastric pain, visual changes,
 - thrombocytopenia (platelet count <100,000/mL),
 - Doubling of liver transaminases,
 - Pulmonary edema,
 - serum creatinine >1.1 mg/dL, or doubling of serum creatinine
- Possible edema

Preeclampsia can be subclassified into:

1. Early-onset PE (with delivery at $<34 +0$ weeks of gestation);
2. Preterm PE (with delivery at $<37 +0$ weeks of gestation);
3. Late-onset PE (with delivery at $\geq 34 +0$ weeks of gestation);
4. Term PE (with delivery at $\geq 37 +0$ weeks of gestation).

When to Treat:

- Urgently treat any of the following in pregnancy or postpartum period:
- BP $\geq 160/110$ mm Hg persisting for 15 minutes
- Systolic pressure ≥ 160 mm Hg persisting for 15 minutes
- systolic BP a predictor of maternal morbidity/mortality
- Severe diastolic hypertension: ≥ 110 mm Hg persisting for 15 minutes

First Line Therapy: Nifedipine, Hydralazine, Labetalol

Drug	Dose	Comments	Onset of Action
Labetalol	10–20 mg IV, then 20–80 mg every 10–30 minutes to a maximum cumulative dosage of 300 mg; or constant infusion 1–2 mg/min IV	Tachycardia is less common with fewer adverse effects. Avoid in women with asthma, preexisting myocardial disease, decompensated cardiac function, and heart block and bradycardia.	1–2 minutes
Hydralazine	5 mg IV or IM, then 5–10 mg IV every 20–40 minutes to a maximum cumulative dosage of 20 mg; or constant infusion of 0.5–10 mg/hr	Higher or frequent dosage associated with maternal hypotension, headaches, and abnormal fetal heart rate tracings; may be more common than other agents.	10–20 minutes
Nifedipine	10–20 mg orally, repeat in 20 minutes if needed; then 10–20 mg every 2–6 hours; maximum daily dose is 180 mg	May observe reflex tachycardia and headaches	5–10 minutes

Aggressive prompt delivery for chronic HTN with superimposed preeclampsia at any gestational age.

- Administer MgSO₄ to prevent convulsions. Continue MgSO₄ for 24 hours after delivery.
- Keep diastolic BP between 90 and 100 mm Hg with IV hydralazine and/or labetalol.
- Attempt vaginal delivery with oxytocin infusion if mother and fetus are stable.

Magnesium Sulfate:

- Is not a hypotensive agent
- Works as a centrally acting anticonvulsant
- Also blocks neuromuscular conduction
- Serum levels: 6-8 mg/dL

Toxicity:

- Respiratory rate < 12
- Altered sensorium
- Urine output < 25-30 cc/hour
- Antidote: 10 ml of 10% solution of calcium gluconate 1 v over 3 minutes

Eclampsia

Eclampsia is the convulsive manifestation of the hypertensive disorders of pregnancy and is among the more severe manifestations of the disease. Eclampsia is defined by new-onset tonic-clonic, focal, or multifocal seizures in the absence of other causative conditions such as epilepsy, cerebral arterial ischemia and infarction, intracranial hemorrhage, or drug use. Some of these alternative diagnoses may be more likely in cases in which new-onset seizures occur after 48 – 72 hours post-partum or when seizures occur during administration of magnesium sulfate.

Eclampsia is a significant cause of maternal death, particularly in low-resource settings. Seizures may lead to severe maternal hypoxia, trauma, and aspiration pneumonia. Although residual neurologic damage is rare, some women may have short-term and long-term consequences such as impaired memory and cognitive function, especially after recurrent seizures or uncorrected severe hypertension leading to cytotoxic edema or infarction. Permanent white matter loss has been documented on magnetic resonance imaging (MRI) after eclampsia in up to one fourth of women, however, this does not translate into significant neurologic deficits.

Treatment of Eclampsia:

- Few people die of seizures

- Protect patient
- Avoid insertion of airways and padded tongue blades
- IV access
- MgSO₄ 4-6 bolus, if not effective, give another 2 g

HELLP Syndrome

- Hemolysis
- ↑ liver enzymes
- ↓ platelets

Is a variant of severe preeclampsia

Platelets < 100,000

LFT's - 2 x normal

May occur against a background of what appears to be mild disease

Conservative Management:

- Controversial
- Steroids
- Requires tertiary care
- Must have stable labs and reassuring fetal status
- May use antihypertensives

Duration of clinical supervision after undergoing moderate or severe preeclampsia or eclampsia - 1 year.

Prevention of preeclampsia and eclampsia.

- FIGO adopts and supports the Fetal Medicine Foundation position that all pregnant women should be screened for pre-term pre-eclampsia by the first-trimester combined test with maternal risk factors, mean arterial pressure, uterine artery pulsatility index, and placental growth factor as a one-step procedure.
- FIGO adopts and supports the Fetal Medicine Foundation position that in high-risk women, defined by the first-trimester combined test, aspirin ~150 mg/night should be commenced at 11–14 +6 weeks of gestation until either 36 weeks of gestation, when delivery occurs, or when pre-eclampsia is diagnosed.

Practical lesson №32.
Miscarriage. Postterm pregnancy. Multiple pregnancy.

Learning objectives

The overall aim of this topic is to gain basic knowledge about anatomical, physiological and biochemical changes during preterm labour and delivery, be familiar with risk factors for preterm labour and delivery, acute preterm labour (obstetrics history, examination, investigations). Management of preterm labour including main part of it: establish whether threatened or 'real' preterm labour; admit if risk high; check fetal presentation; allow time for steroid administration and in-utero transfer; currently used tocolytics; mode of delivery; monitoring of labour; give IV antibiotics in labour. Methods of prediction and prevention preterm labour.

Basic concepts:

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Preterm birth is the single most important factor effecting perinatal outcomes in terms of morbidity and mortality. Preterm labor is defined by WHO as the onset of regular uterine contractions, between viability and 37 weeks' gestation, associated with cervical effacement and dilatation. Current guidelines from many progressive countries describe a "threshold of viability" between 22 and 26 weeks; thus preterm birth occurs between 22-26 weeks and 37 weeks' gestation. Up to 30-40% of cases of preterm birth are iatrogenic due to deliberate induction of labour or prelabour caesarean section for conditions causing maternal or fetal compromise. The remainder of the cases of preterm birth follow spontaneous preterm labour, with or without preterm prelabour membrane rupture, and the initiating factors are the subject of much scientific interest and debate.

Multiple pregnancy is called two or more fruits. Given the large number of complications during pregnancy and in childbirth with multiple pregnancy, early identification and implementation of preventive or therapeutic measures lead ultimately to reduce maternal and perinatal mortality.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.

- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- definition of preterm labour and delivery,
- current concepts in the pathophysiology of preterm labour,
- risk factors for preterm labour: obstetrics history infection, demographics, psychosocial factors,
- long term prediction of preterm labour: fetal fibronectins, cervical length, inflammatory markers risk scoring systems,
- management of preterm labour: tocolysis use of corticosteroids, antibiotics,
- prevention of preterm labour: progesterone, cervical cerclage,
- obstetrics issues in preterm labour: mode of delivery,
- care of premature neonate,
- methods of obstetrical abdominal examination: inspection, palpation, auscultation.
- Definition, etiology, and frequency of multiple pregnancies
- Diagnostics of multiple pregnancies
- Differential diagnosis
- Conducting woman with multiple pregnancies
- Delivery of multiple pregnancy
- Complications, connected to multiple pregnancy

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

- Definition, etiology and frequency of multiple pregnancies.

- Diagnostics of multiple pregnancies.
- Differential diagnosis of multiple pregnancies
- Conducting woman with multiple pregnancies
- Complications, connected to multiple pregnancy
- Delivery of a multiple pregnancy
- What contains the term "miscarriage", "willful abortion"?
- What causes pregnancy loss?
- What are the risk factors for pregnancy loss?
- What is the pathogenesis of pregnancy loss?
- What is the classification of unauthorized abortions?
- What are the clinical features and diagnostic methods of threatened abortion?
- What tactics of threatened abortion?
- What are the treatments for threatened abortion?
- What methods of monitoring treatment efficacy threatened abortion?
- What are the clinical features and diagnosis of abortion in the course?
- What tactics of abortion during the?
- What are the clinical features and diagnosis of incomplete abortion?
- What tactics of incomplete abortion?
- What kind of clinic, diagnosis and management tactics complete abortion?
- What are the clinical picture, diagnosis and tactics of abortion, which never took place?
- What methods of rehabilitation of reproductive function after involuntary abortion?
- What is the definition of "habitual abortion"?
- What is the volume of surveys with the usual miscarriage?
- What are the treatments for habitual miscarriage?
- What methods of prevention are not carrying the pregnancy?
- What is the prolonged pregnancy?
- What is the management of women with prolonged pregnancy?

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A 17-year-old G2P0 woman with no prenatal care at 29 weeks' gestation presents with painful contractions and pressure. Her cervix is 2 cm dilated, 60% effaced, and breech at -2 station. There is no evidence of ruptured membranes. Her contractions are every 3 minutes. FHT are 150 with accelerations. Maternal vital signs are temperature 36.8 degrees, pulse 96, BP 110/72. What should you do?

- A. prepare for a cesarean delivery
- B. observe to look for cervical change
- C. give IV sedation
- D. *begin tocolytic agents
- E. start antibiotics

2. A 31-year-old woman (gravida 6, para 0-2-3-1) comes to you at 10 weeks' gestation with the history of having had progressively earlier deliveries, all without painful contractions. Her first child was born at 34 weeks and survived, the next delivered at 26 weeks, the next two at 22 weeks, and the last one at 20 weeks. No congenital abnormalities were found. On examination, her uterus is 10-12-weeksize, FHTs are present with Doppler, and the cervix is soft, three-quarters effaced, and 2-cm dilated. With this information, your first diagnosis is intrauterine gestation and which of the following?

- A. *incompetent cervical os
- B. genetic disease
- C. fibroid uterus
- D. premature labor
- E. progesterone lack

3. A 32-year-old G2P1 presents to labor and delivery at 35 weeks of gestation, complaining of regular uterine contractions about every 5 min for the past several hours. She has also noticed the passage of a clear fluid per vagina. The external fetal monitor demonstrates a reactive fetal heart rate tracing, with regular uterine contractions occurring about every 3 to 4 min. On sterile speculum exam, the cervix is visually closed. A sample of pooled amniotic fluid seen in the vaginal vault is fern and nitrazine-positive. The patient has a temperature of 38.2°C, PR - 102, WBC of 19,000. You perform a bedside sonogram, which indicates oligohydramnios and a fetus whose size is appropriate for gestational age and with a cephalic presentation. What is the next appropriate step in the management of this patient?

- A. Administer betamethasone
- B. Perform emergent cesarean section
- C. *Administer antibiotics
- D. Administer tocolytics

E. Place a cervical cerclage

4. A child was born at a gestational age of 34 weeks. The leading symptoms were respiratory distress symptoms, namely sonorous and prolonged expiration, involving additional muscles into respiratory process. The Silverman score at birth was 0 points, in 3 hours it was 3 points with clinical findings. Which diagnostic study will allow to diagnose the form of pneumopathy?

A. *X-ray of chest

B. Clinical blood test

C. Determination of blood gas composition

D. Proteinogram

E. Immunoassay

Typical situations of tasks:

1. A 21-year-old primigravida at 42 weeks' gestation by dates comes to the outpatient prenatal clinic. She has been seen for prenatal care since 12 weeks' gestation, confirmed by an early sonogram. She states that fetal movements have been decreasing. Fundal height measurement is 42 cm. Her cervix is long, closed, posterior, and firm. Nonstress test is reactive, but amniotic fluid index is 4 cm. What is the most probable complication of her pregnancy?

Answer: Postterm pregnancy

2. A 24-year-old woman, G2 P1, at 28 weeks' gestation by dates comes to the birthing unit complaining of regular uterine contractions every 7–10 min. She is a smoker with chronic hypertension. She has had no prenatal care. On examination her fundal height is 35 cm. Her previous pregnancy ended with spontaneous vaginal delivery at 30 weeks' gestation.

1. What is the most probable complication of her pregnancy?

2. What are the diagnostic criteria?

Answer: 1. Preterm labor. 2. Pregnancy 20–36 weeks, ≥ 3 contractions in 30 min, Dilated ≥ 2 cm or changing.

3. A 21-year-old primigravida at 15 weeks' gestation is seen for a routine prenatal visit. At her last visit four weeks ago, her uterus was appropriate for size and dates. Today, her uterine fundus is palpable at the umbilicus. What is the most probable complication of her pregnancy?

Answer: Multiple pregnancy.

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Student groups are divided into 3 subgroups of 3–4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Task:

- Subgroup I - to determine the assessment of the newborn on the Apgar scale
- Subgroup II - to determine the assessment of fetal heart rate (auscultation and hardware methods).
- Subgroup III - to assess the responses of subgroups I and II and make adjustments.

Atypical test tasks:

1. A multipara woman was admitted to hospital with a diagnosis of multiple pregnancy. Possible complications of pregnancy and childbirth:

- A. Premature detachment of normally situated placenta
- B. Occipital fetal presentation
- C. Acute fetal distress
- D. Polyhydramnios
- E. *Preterm labor

2. A patient has entered spontaneous premature labor at 28 weeks' gestation. During the vertex delivery, one should do which of the following?

- A. use prophylactic forceps
- B. use vacuum extraction
- C. recommend epidural anesthesia to control delivery
- D. *allow spontaneous vaginal birth
- E. perform an episiotomy

3. A patient presents at 30 weeks' gestation in labor that cannot be stopped. Lung maturity is unlikely. Fetal lung surfactant production may be increased by a number of factors. Which of the following is proven clinically useful?

- A. *glucocorticosteroids
- B. prolactin
- C. thyroxine
- D. estrogen
- E. alpha-fetoprotein

4. A pregnant woman is 28 years old. Anamnesis: precipitous labor complicated by the II degree cervical rupture. The following 3 pregnancies resulted in spontaneous abortions at the terms of 12, 14 and 18 weeks. On examination: the uterine cervix is scarred from previous ruptures at 9 and 3 hours, the cervical canal is gaping. On vaginal examination: the cervix is 2 cm long, the external os is open 1 cm wide, the internal os is half-open; the uterus is enlarged to the 12th week of pregnancy, soft, mobile, painless, the appendages are without changes. What diagnosis would you make?

- A. Cervical pregnancy, 12 weeks

- B. *Isthmico-cervical insufficiency, habitual non carrying of pregnancy
 - C. Threatened spontaneous abortion
 - D. Incipient abortion, habitual non carrying of pregnancy
 - E. Cervical hystero-myoma, habitual non carrying of pregnancy
5. A pregnant, 34 weeks gestation, is at the department of pathology. She has Rh-antibodies titer 1:32. From history, she had ectopic pregnancy with level of Rh-antibodies 1: 2 in 14 weeks. What should you do?
- A. Blood transfusion
 - B. CTG
 - C. *Early delivery
 - D. Re-determination of antibodies in 1 day
 - E. Cordocentesis
6. A premature birth has been defined as a fetus born
- A. *before 37 weeks' gestation
 - B. prior to the period of viability
 - C. weighing less than 1000 g
 - D. weighing more than 1000 g but less than 2500 g
 - E. none of the above
7. A primipara with twins at 38 weeks came into maternity hospital. On exam: first baby is in footling breech presentation, the second - in oblique lie. Determine management of labor?
- A. Vaginal delivery
 - B. Urgent caesarean section
 - C. Assign exercises for correction of babies presentation
 - D. *Planned caesarean section
 - E. Perform external rotation
8. A woman came to the hospital in 4 hours from the start of regular contractions. The pregnancy is 3rd , 38-39 weeks, labor is 2 nd. The size of the pelvis is normal. During external obstetric examination has found a small parts and head of fetus above pelvic inlet, there are clearly palpable two major parts of fetus, one of which is the head in the fundus of uterus. Heartbeat of fetus are clearly heard on the left below the navel, 136 beats / min and right above the navel 150 beats / min. Circumferences of the abdomen is 119 cm . The height of uterus fundus is 42 cm. The most likely component of the diagnosis?
- A. macrosomia.

- B. Congenital malformations of the fetus.
- C. intrauterine growth retardation.
- D. oligohydramnion.
- E. *Twins.

3.2. Educational materials, recommendations (instructions) for performing tasks

Multiple pregnancy (the development of more than 1 fetus in the uterus during one pregnancy) is a high risk condition in obstetrics. Twins can be monozygotic (monoovular) and dizygotic (dioovular). Dizygotic twins develop when two different ovocytes are fertilized by two different spermatozoids. Monozygotic twins are formed due to the division of a fertilized ovocyte at various times. The frequency of monozygotic twins is constant and is about 1:250, dizygotic - fluctuates from 1:20 to 1:150 pregnancies and depends on the race. About 75% of twins are of the same sex. Monozygotic twins have an identical genotype, blood group.

The maternal factors, promoting the development of dizygotic twins, are as follows:

- older age (35-45 years old) and parity
- tall woman with large body weight
- 0 or A blood type
- black race
- family tendency on the mother's side
- use of combined oral contraceptives before the pregnancy
- induction of ovulation and fertilization in vitro

The possibility of multiple gestation (pregnancy) increases with the use of fertilization preparations and other reproduction technologies. So, during the induction of ovulation with clomiphene-citrate, the frequency of twins is 6-8%; and with the use of exogenous gonadotrophic drugs – 25-35%. If insemination occurs in the uterine cavity, usually a couple of fertilized ovums are introduced; the frequency of multiple gestation in these cases can reach 35-40 %.

As the number of fetuses increases, the duration of the pregnancy decreases. So, if there are twins the delivery occurs on average at 37 weeks, if triplets – at 33 weeks, if there are four fetuses – at 29 weeks. For every additional fetus, the duration of the pregnancy decreases approximately by 4 weeks.

The perinatal mortality rate of twins 4-5 times exceeds the rate of single fetus pregnancies. The major reason for perinatal diseases and mortality rates during multiple gestations is premature labor. Multiple pregnancy results in the enlargement of the uterus, which exceeds the possibilities of the myometrium, placentation anomalies, congenital birth defects, and polyhydramnios. The frequency of serious anomalies is 3 times larger, than for dizygotic twins (conjoined twins, acardia), also "transfusion syndrome of twins " (placental-vascular shunt) is observed. Monoovular twins always have a smaller weight; more often, than in dizygotic twins, their intrauterine death is observed.

In modern obstetrics, the diagnosis of multiple pregnancy usually is based on data from the ultrasound. Clinical signs of multiple gestation can be:

- inadequate gestational age in comparison to the enlargement of the uterus (> 4 cm)

- excessive increase in body weight not connected with edema or excessive eating
- hydramnion
- the mother may feel increased fetal activity
- development of pre-eclampsia and eclampsia
- palpation of the uterus finds > 3 large fetal parts and numerous small fetal parts
- simultaneous auscultation of two fetal palpitation (with a difference of > 8 b.p.m. and asynchronous to the mother's)

Changes in laboratory data during a multiple pregnancy may consist of:

- abnormal elevation of the mother's chorionic gonadotropin or α -fetoprotein
- decrease in the Hb level, (iron deficiency anemia)
- hypervolemia

- increase in the frequency of disorders of glucose tolerance.

Differential diagnostics is performed with fetal macrosomia in a single pregnancy, hypervolemia, hydatidiform mole, pelvic and abdominal tumors (usually with the help of an ultrasound).

Conducting the pregnant woman. With the establishment of the diagnosis multiple gestation, antenatal management (care) should be directed on the prevention of possible complications during the pregnancy.

Complications, connected with a multiple pregnancy:

1. abortions;
2. decreased fetal weight: premature labor, intrauterine growth retardation;
3. premature labor (50% of the cases);
4. gestosis of pregnant women is seen more often, than in single pregnancy;
5. hypervolemia - frequent complication;
6. perinatal mortality;
7. development disorders;
8. fetal-fetal bleeding: hypovolemia and anemia; hypervolemia and increased blood viscosity, anomalies of the CNS;
9. hypertension caused by the pregnancy;
10. maternal anemia: acute blood loss, iron and folates deficiency;
11. placental pathologies (detachment, placental presentation);
12. hypo - and atonia of the uterus;
13. complications during labor (dystocia, weakness of labor activity, anomaly (incorrect) fetal presentation, trauma during birth, bleeding).

Even considering that the blood volume of the mother increases during multiple gestation, the expected blood loss during the delivery can increase up to 5 times. To prevent anemia, a balanced diet with iron, folate, vitamins, and microelements is recommended. To help prevent premature labor, physical activity is limited after 24-26 weeks term. For timely diagnostics of premature labor, uterine contractions are observed (pain in the sacrum, increased vaginal discharge). Tocolytics are used if necessary.

The cervix is examined to determine if it is softened and the dilation usually in 1-2 weeks. Control of the BP and urine analysis for protein is performed to reveal any possible hypertension caused by the pregnancy. At 30-32 weeks, counting the fetal movements is recommended daily. An ultrasound is performed no later than 12-16

weeks and is repeated monthly. After 30-32 weeks, if non-uniform growth is observed in the twins (20% difference in body weight), then an ultrasound is done more often. At the end of the pregnancy, the fetal heart activity (non-stress, stress test) is monitored; biophysical profile and Doppler of blood circulation is also monitored.

The fetuses' lungs mature earlier in twins, than in single pregnancy; in necessary the amniotic fluid can be investigated by amniocentesis.

Delivery. The success of the delivery to a greater extent depends on the type of presentation of the fetuses, their gestational age and the doctor's skills. Most often there are 3 variations of presentation. 1. Both fetuses are in longitudinal position. 2. Both fetuses are in a transverse position. Even when both of the fetuses are in longitudinal position, they still can have different presentations (both have a cephalic, both in pelvic presentation, one in cephalic presentation and the second in pelvic and the other way around).

In most cases, if the first twin fetus is in cephalic (occipital) presentation, then vaginal delivery is recommended. Such labor should be performed in the operational room (indications for an abdominal delivery can suddenly arise), with the presence of an anesthesiologist and pediatrician-neonatologist. A cesarean section is performed when there are monoamniotic twins, the number of fetuses is more than two, if the body weight of the twins is less than 2500 gr., prolapse of the umbilical cord and in cases when the first fetus is not in occipital presentation. Delivery should be performed very carefully, so as to minimize injury, especially in premature twins.

Clinical course of a delivery:

- during labor the heart activity of both fetuses is monitored; the parturient woman is recommended not to lie on her back (hypotension);
- limit medicamentous analgesia and anesthesia;
- confirm the position and presentation of the fetusus with an ultrasound;
- infuse lactate Ringer solution, oxygenation therapy;
- perform an episiotomy to reduce cranial compression of the fetus;
- quickly clip the umbilical cord to prevent anemization of the second fetus for monozygotic twins;
- immediately after the delivery of the first fetus perform an internal obstetrical examination so that the presentation of the second fetus is confirmed and to see a prolapse of the umbilical cord and to determine the position and presentation of the second fetus;
- if the head or buttocks of the second fetus is fixed in the pelvis, press gently on the uterine fundus, carefully perform amniotomy with the finger over the hole (to prevent cord prolapse) and perform a vaginal delivery
- monitor the heart activity of the second fetus; if bleeding occurs or other serious problems occur (deceleration, persistent bradycardia) a caesarean section is performed;
- if the uterus does not contract within 10 min. after the delivery of the first fetus, begin to infuse oxytocin;
- if a head or buttocks of the second fetus is not fixed in the pelvis, use external manipulations and pressing on the uterus fundus to fix them; if it was successful perform a vaginal delivery;
- if external turn of the second fetus was unsuccessful and it is not possible to delivery in pelvic presentation, perform a caesarean section;

- internal turn of the second fetus on its leg can be performed only by a high-skilled obstetrician during adequate relaxation of the uterus because if not there are frequent cases of serious trauma to the fetus and uterus throughout this procedure. The best results for the fetus is to perform a caesarean section.

After the delivery of twins, the doctor should remember that immaturity, trauma and excessive manipulations during labor, which are accompanied by acute asphyxia, are the most frequent reasons for mortality.

After the birth of the second fetus, continue to introduce oxytocin (5-10 units); cautiously massage the uterus. In the postnatal period, prescribe uterotonics and prophylaxis of infectious complications.

PRETERMLABOR

OB TRIAD

- Pregnancy 20–36 weeks
- ≥ 3 contractions in 30 min
- Dilated ≥ 2 cm or changing

Preterm delivery categories include:

- Extreme preterm: <28 weeks
- Very preterm: <32 weeks
- Moderate preterm: 32–33 6/7 weeks
- Late preterm: 34–36 6/7 weeks

Risk Factors.

- Most common: prior preterm birth (PTB), short transvaginal (TV) cervical length (<25 mm), PROM, multiple gestation, uterine anomaly
- Others: low maternal pre-pregnancy weight, smoking, substance abuse, and short inter-pregnancy interval (<18 months)

Criteria that need to be met to make a diagnosis include:

- Gestational age: >20 weeks but <37 weeks
- Uterine contractions: at least 3 contractions in 30 minutes
- Cervical exam: serial examinations show a change in dilation or effacement, or a single examination shows cervical dilation >2 cm

There are conditions under which stopping labor is either dangerous for the mother and baby or futile

Obstetric: severe abruption placentae, ruptured membranes, chorioamnionitis

Fetal: lethal anomaly (anencephaly, renal agenesis), fetal demise or jeopardy (repetitive late decelerations)

Maternal: eclampsia, severe preeclampsia, advanced cervical dilation.

INTERVENTIONS TO DECREASE PERINATAL M&M

- Intravenous magnesium sulfate for fetal neuroprotection: Maternal IV

- MgSO₄ may reduce the severity and risk of cerebral palsy in surviving very preterm neonates.
- Start infusion if PTB is anticipated <32 weeks gestation regardless of anticipated route of delivery.
- It takes 4 hours of infusion to achieve steady state of Mg in the fetus.
- Antenatal corticosteroid therapy for stimulation of pulmonary surfactant:
 - ✓ A single course of corticosteroids is recommended for pregnant women with gestational age 23–34 weeks of gestation who are at risk of preterm delivery within 7 days. Use in pregnancies 34–37 weeks is controversial.
 - ✓ A complete course is either 2 IM 12 mg doses of betamethasone given 24 hours apart or 4 IM 6 mg doses of dexamethasone given 12 hours apart.

MANAGEMENT OF PRETERM LABOR

- Step 1: Confirm labor using the three criteria listed earlier: gestational age, contraction frequency, cervical exam.
- Step 2: Rule out contraindications to tocolysis. Do not try to prolong pregnancy if obstetric, fetal, maternal complications are present.
- Step 3: Start IV MgSO₄ if <32 weeks for fetal neuroprotection of cerebral palsy. Administer at least four hours before anticipated birth.
- Step 4: Administer IM betamethasone if <34 weeks to stimulate fetal type II pneumocyte surfactant production. A 48-hr course is needed for full effect to take place.
- Step 5: Start tocolytic therapy if <34 weeks to prolong pregnancy to allow for antenatal steroid effect. There is no benefit exceeding 48 hours. MgSO₄, terbutaline, or nifedipine can be used up to 34 weeks. Indomethacin should not be used after 32 weeks due to concerns regarding in-utero closure of the PDA.
- Step 6: Start IV penicillin G if <36 weeks for GBS sepsis prophylaxis (use vancomycin if allergic to penicillin G). First obtain recto-vaginal cultures.

POST-TERM PREGNANCY

- a practical definition is pregnancy that continues ≥ 42 weeks or ≥ 294 days after the first day of the last menstrual period.
- With post-term pregnancy, perinatal mortality is increased two-to threefold. This is a direct result of changes on placental function over time.
- Macrosomia syndrome.
- Dysmaturity syndrome.

Macrosomia syndrome.

- In most patients, placental function continues providing nutritional substrates and gas exchange to the fetus, resulting in a healthy but large fetus.
- Cesarean rate is increased owing to prolonged or arrested labor.

- Shoulder dystocia is more common with risks of fetal hypoxemia and brachial plexus injury.

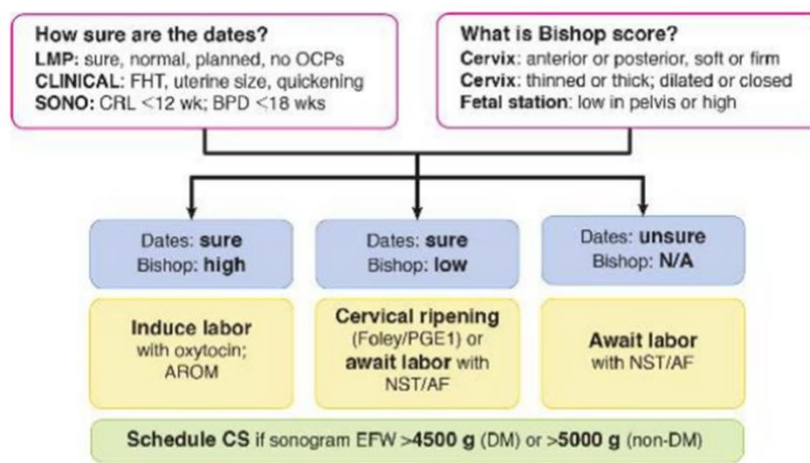
Dysmaturity syndrome.

- In a minority of patients, placental function declines as infarction and aging leads to placental scarring and loss of subcutaneous tissue. This reduction of metabolic and respiratory support to the fetus can lead to the asphyxia that is responsible for the increased perinatal morbidity and mortality.
- Cesarean rate is increased owing to nonreassuring fetal heart rate patterns.
- Oligohydramnios results in umbilical cord compression.
- Hypoxia results in acidosis and in utero meconium passage.

Management

- A Bishop score ≥ 8 is an accurate predictor of successful vaginal delivery with induction of labor.
- A Bishop score ≤ 5 is a predictor of successful vaginal delivery with induction of labor.

Parameter\Score	0	1	2	3
Position	Posterior	Intermediate	Anterior	-
Consistency	Firm	Intermediate	Soft	-
Effacement	0–30%	31–50%	51–80%	>80%
Dilation	0 cm	1–2 cm	3–4 cm	>5 cm
Fetal station	–3	–2	–1, 0	+1,+2



Anomalies of the pelvic bone. Macrosomia in Obstetrics. Cephalopelvic disproportion. Foetal malpresentation and malposition. Breech presentation. Abnormal uterine action. Birth trauma, maternal birth trauma.

Learning objectives

The overall aim of this topic is to gain basic knowledge about anatomical, physiological and biochemical changes during malposition and malpresentation fetus in labour, be familiar with risk factors for disproportions between pelvic cavity and position, presentation and size of the fetus. Management of all these situations including main part of it: establish whether threatened or 'real' disproportion; admit if risk high; check fetal presentation: anterior or posterior *asynclitism*, with one of the parietal bones preceding the sagittal suture (in posterior asynclitism, the posterior parietal bone leads. Significant degrees of asynclitism can result in labour dystocia and a higher risk of operative delivery. In order to achieve all the aims of the topic.

The purpose of classes - to acquaint students with the urgency of this problem, etiopathogenetic features of clinics, diagnosis and treatment of anomalies of uterus contractions.

Basic concepts:

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Secondary arrest of cervical dilatation (SACD) is much less common than the above, said to affect 6% of nulliparas and only 2% of multiparas. Although the commonest cause of SACD is still inefficient uterine activity, relative disproportion is far more likely to be the explanation than with primary dysfunction labour. Secondary arrest does not always indicate genuine cephalon-pelvic disproportion, as inadequate uterine contractions can be correct, resulting in spontaneous vaginal delivery. However, a diagnosis of secondary arrest (especially in a multiparous woman) should prompt a search for obvious problems in the passenger (for example, hydrocephalus, brow presentation, undiagnostic shoulder presentation, large baby, malposition) and the passages (for example, a congenitally small pelvis, a deformed pelvis due to fracture following an accident, or masses in the pelvis). Unfavorable pelvic diameters are rarely a cause of cephalon-pelvic disproportion in the developed world. //the fetus is more commonly the cause of relative disproportion by presenting a large diameter of the vertex due to a malposition or deflexion, or both. In such cases, the dystocia may be overcome If the flexion and rotation to an occipito-anterior position can be encouraged efficient uterine contractions.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- definition of malposition, malpresentation and cephalon-pelvic disproportion,
- current concepts in the pathophysiology of all,
- risk factors for labour and delivery,
- antenatal management,
- deciding mode of delivery,
- conducting a vaginal breech delivery,
- entrapment of the aftercoming head,
- brow and face presentation,
- shoulder presentation
- instrumental vaginal delivery.
- definition of uterine anomalies;
- classification of uterine anomalies,
- methods of diagnosis of uterine anomalies;
- clinic of different forms of uterine anomalies;
- the negative impact of labor abnormalities activity on the mother and fetus;
- treatment policy anomalies uterine contractions.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

- What classification of breech presentation is used?
- What are the diagnostic criteria of breech presentation?
- What is the difference between delivery in cephalic and breech presentation?
- What are the moments of labor biomechanism in breech presentation?
- What hand assistance methods for breech presentation do you know?
- How are contracted pelvises classified and diagnosed?
- What are the peculiarities of biomechanism of delivery in different types of contracted pelvis?
- What are the symptoms of contracted pelvis?
- What are the causes of macrosomia?
- What methods are used to diagnose macrosomia?
- What are pregnancy and delivery peculiarities in big fetus?
- What anomalies of labor activity do you know?
- What are the clinical signs of different anomalies of labor activity?
- What are the methods of diagnostics of different anomalies of labor activity?
- What are the main principles of treatment of patrimonial disactivity?

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A primipara with pelvis size 25-28-31-20 cm has active labor activity. Waters poured out, clear. Fetus weight is 4500 g, the head is engaged to the small pelvis inlet. Vasten's sign as positive. Cervix of uterus is fully dilated. Amniotic sac is absent. The fetus heartbeat is clear, rhythmic, 136 bpm. What is the labor tactics?

- A. caesarean section
- B. vacuum extraction of the fetus
- C. obstetrical forceps
- D. conservative tactics of labor
- E. stimulation of the labor activity

2. If the axis of fetus and uterus are perpendicular, head to the right, this is:

- A. transversal lie, II position
- B. longitudinal lie
- C. oblique lie, I position
- D. oblique lie, II position
- E. transversal lie, I position

3. You have just delivered an infant weighing 2.5 kg (5.5 lb) at 39 weeks gestation. Because the uterus still feels large, you do a vaginal examination. A second set of membranes is bulging through a fully dilated cervix, and you feel a small part presenting in the sac. A fetal heart is auscultated at 60 beats per minute. Select the most appropriate procedure:

- A. internal version
- B. external version
- C. midforceps rotation
- D. low transverse cesarean section
- E. classic cesarean section

4. A 34-year-old multipara was brought to the labor ward with regular labor activity. Her pelvic size is 26-29-32-22 cm. Vaginal examination shows 6 cm cervical dilation, the amniotic sac is unbroken. The fetus is in the breech presentation, with buttocks pressed to the entrance into the lesser pelvis. The promontory cannot be reached, no exostoses. Fetal heart rate is 140/min., expected fetal weight is 2800 g. What labor tactics should be chosen?

- A. Urgent cesarean section
- B. Classic combined external-internal version of the fetus
- C. Delivery through the natural birth canal
- D. External obstetric version of the fetus
- E. Fetal extraction from the pelvic end

5. What type of the manual aids need the patients with a footling?

- A- Manual aid by Tsovyanov I;
- B - Manual aid by Tsovyanov II;**
- C - Classic manual aid;
- D - Breech extraction.

6. What type of the manual aids need the patients with a frank breech presentation?

- A- Manual aid by Tsovyanov I.
- B- Manual aid by Tsovyanov II;
- C - Classic manual aid;
- D - Breech extraction.

7. Multipara, 32 y.o., is in the I stage of labor for 5 hours. Light amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. At internal obstetric examination head of the fetus is pressed to inlet to the small pelvis, fetal bubble is absent. Disclosure of uterine cervix is 2 cm. Choose the optimum labor management?

- A. Medicinal dream
- B. Labor inducing
- C. Cesarean section
- D. Treatment of uterine inertia
- E. Obstetric forceps

8. Woman-in-labor 25 y.o., is in I stage of duly labor during 14 hours with normal patrimonial activity. Sizes of the pelvis 26-28-30-18 sm. Palpitation of the fetus is dull, rhythmical, 85 b/min. Prospective mass of the fetus 3200.0+200 gr. Internal obstetric examination: disclosure of uterine os is complete, head of the fetus is in pelvic cavity. What is the tactics of labor management?

- A. Applying of output obstetric forceps
- B. Applying of cavity obstetric forceps
- C. Conservative labor
- D. Cesarean section
- E. Fetus destroying operation

Typical situations of tasks:

1. N., 21 years old, primipara. Full term of pregnancy. The labor started 8 hours ago. The membranes ruptured 15 minutes later. Pelvic sizes: 25,28,31,20 cm. Fetal head rate 140 per minute with satisfactory characteristics. Per vaginum: the cervix is completely dilated. The amniotic sac is absent. Fetal buttocks are palpated in outlet plane of pelvic. Bitrochanter diameter is in the direct size of pelvic outlet.

Diagnosis?

What type of the manual aids need the patient?

Answer: First at term labor. Second stage of labor. The frank breech presentation.

Management: Vaginal delivery. The manual aid by Tsovyanov I.

2. Primipara F., 25 years old. Pregnancy at term. The labor started 6 hours later. The membranes ruptured 1 hour ago. Pelvic sizes: 23,25,29,18 cm. Fetal head rate 140 per minute with satisfactory characteristics. Uterine contractions are occurring every 7-8 minutes. Per vaginum: the uterine cervix dilatation is 5 sm. The amniotic sac is absent. One fetal foot is palpated in the vagina. Buttocks are in the pelvic inlet.

Diagnosis?

How the delivery must be managed?

Answer: First at term labour I, first stage of labor. Footling presentation. Contracted pelvis I-II degree. Cesarean section should be performed.

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Tasks:

- Subgroup I - to perform external pelviometry, measuring of diagonal conjugate, calculation of true conjugate, to assess measurements of the true and the false pelvis.
- Subgroup II - to assess grade and type of moulding in cephalic presentations.
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Atypical test tasks:

1. A 26-year-old secundipara at 40 weeks of gestation arrived at the maternity ward after the beginning of labor activity. 2 hours before bursting of waters occurred. The fetus was in a longitudinal lie with cephalic presentation. Abdominal circumference was 100 cm, fundal height - 42 cm. Contractions occurred every 4-5 minutes and lasted 25 seconds each. Internal obstetric examination revealed cervical effacement, opening by 4 cm. Amniotic sac was absent. Fetal head was pressed to the pelvic inlet. What complication is the most likely to develop in childbirth?

- A. Discoordinated labor
- B. Precipitous labor
- C. *Cephalopelvic dysproportion
- D. Primary uterine inertia
- E. Secondary uterine inertia

2. A baby was born by a young smoker. The labour was complicated by uterine inertia, shoulders dystocia. The baby's Apgar score was 4. Which of the following is a risk factor for a spinal cord injury?

- A. *Shoulders dystocia
- B. Young age of the mother
- C. Pernicious habits
- D. Uterine inertia
- E. Chronic hypoxia

3. A full term baby born from the 1st noniventful pregnancy with complicated labor was diagnosed with cephalohematoma. On the 2nd day of life the child developed jaundice; on the 3rd day of life there appeared neurological changes: nystagmus, Graefe syndrome. Urine is yellow, feces are goldenyellow. The mother's blood group

is A (II) Rh⁻, the child's - A (II) Rh⁺. On the 3rd day the results of the child's blood test are as follows: Hb- 200 g/l, erythrocytes - $6,1 \cdot 10^{12}/l$, blood bilirubin - 58 $\mu\text{mol}/l$ due to the presence of its unconjugated fraction, Ht- 0,57. In this case the jaundice is caused by:

- A. Hemolytic disease of newborn
- B. Atresia of bile passages
- C. Fetal hepatitis
- D. *Cephalohematoma
- E. Physiologic jaundice

4. A puerperant is 32 years old, it's her first childbirth, term precipitous labor, the III period is unremarkable, the uterus is contracted, tight. Examination of the birth canal revealed a rupture in the left posterior vaginal wall that was closed with catgut. Two hours later, the patient complained of a feeling of pressure on the anus, pain in the perineum, minor vaginal discharges, edema of the vulva. These clinical presentations are indicative most likely of:

- A. *Vaginal hematoma
- B. Hystercervicorrhexis
- C. Hemorrhoids
- D. Hysterorrhexis
- E. Hypotonic bleeding

5. Certain patients are more likely than others to have uterine atony and hemorrhage after delivery. Circumstances that predict possible increased bleeding postpartum include which of the following situations?

- A. hypertensive disorders
- B. pudendal anesthesia for delivery
- C. obesity
- D. *prolonged labor
- E. primigravidas

6. During external obstetrical examination the abdomen of a pregnant woman has a transverse - oval form, at the left lateral uterine wall a round, dense, balloting fetal part is palpated; to the right a voluminous soft, not balloting fetal part is palpated and the presenting part is absent. Fetal palpitation is heard at the umbilical level. Establish the diagnosis.

- A. *Transverse lie, left position

- B. Longitudinal lie, right breech anterior presentation
- C. Oblique lie, left position
- D. Longitudinal lie, cephalic anterior presentation
- E. Longitudinal lie, left breech posterior presentation

3.2. Educational materials, recommendations (instructions) for performing tasks

Anatomically contracted pelvis is classified by form and grade of contraction.

Frequently met types of contracted pelvis:

Generally contracted pelvis:

- infantile pelvis;
- android pelvis;
- Dwarf pelvis.

Flat pelvis:

- simple flat pelvis;
- flat rachitic pelvis;
- pelvis with reduced anterior-posterior diameter in the plane with greatest pelvic dimensions;
- Generally contracted flat pelvis.

Seldom met types of contracted pelvis:

1. Obliquely displaced and obliquely contracted pelvis.
2. Dolichopellic pelvis.
3. Choanoid pelvis.
4. Osteocalcin pelvis.
5. Spondylolisthesis pelvis.
6. Pelvis contracted with exostoses, fractures, pelvic bones tumors.
7. Kyphotic pelvis.

There 4 degrees of pelvic constriction:

I degree – true conjugate is 10,5-9 cm

II degree - 9-7,5 cm

III degree - 7-5,5 cm

IV degree – less than 5,5 cm.

Frequency of occurrence of anatomically constricted pelvis is 2,6-12 %.

Diagnostics of constricted pelvis

Timely diagnostics of constricted pelvis may caution a rate of complications, which can arise during labor or rarely at the end of pregnancy.

Anamnesis, external examination and vaginal examination are of the main diagnostic significance.

We get important information about rickets, bone tuberculosis, osteomyelitis, traumas, late menarche, obstetric history from anamnesis. During external examination attention

is paid to height (pelvis is usually constricted when the height is 145 cm or less), spinal curvatures (kyphosis, scoliosis, lordosis), shortening of lower extremities, immobility in joints, form of lumbosacral rhomb, pendulous abdomen in multipara, peaked abdomen in primipara, signs of infantilism (immature secondary sexual characteristics), intersexuality (tall stature, hypertrichosis, virilizing type pillories).

1. Distention spinarum = 25-26 cm (distance between anterior superior iliac spines);
2. Distention cristarum = 28-29 cm (distance between the most distant points of iliac crests);
3. Distention trochanterica = 31 cm (distance between the most distant points of trochanters);
4. Conjugata externa = 20-21 cm
5. Conjugate diagonals is measured during vaginal examination.
If promontories can't be reached then conjugate diagonals is assumed to be over 12 cm (12,5-13 cm).
6. Conjugate Vera (true conjugate) is equal to anterior-posterior diameter of pelvic inlet.

Additional external measurement:

lumbosacral rhomb, if normal it has regular shape. Vertical size is 11 cm (is equal to true conjugate), transversal size is 9 cm.

Lateral conjugate – distance between the anterior superior iliac spine and posterior superior iliac spine of the same iliac bone (normally is 14,5-15 cm), it is decreased in contracted pelvis.

Pelvic height – distance between ischial tuberosity and pubic symphysis (normally is less than 11 cm, if it is over 11 cm prolonged labor may take place).

Anterior-posterior and transverse diameters of pelvic outlet.

circumference of pelvis is measured with measuring tape pressed under sacrum, between iliac crests on both sides and in the middle of pubic on the front (normally is 85 cm and over)

Pubic symphysis height is measured between its upper and lower edges (normally is 5-6 cm). The higher is pubic symphysis, the lesser is true conjugate.

Oblique diameter – distance between the right anterior superior iliac spine to the left posterior superior iliac spine and opposite. Normally both these sizes are equal to 20-21 cm.

Solov'jev index is estimated by measurement of the circumference of radiocarpal joint. Normally it is 14-18 cm. If it is lower pelvic bones are thin, if it is over 18 cm pelvic bones are thick.

Zangemeister's and Vasten's symptoms are used to estimate match of fetus head to pelvis.

Generally contracted pelvis

It is characterized by regular shape and equal reduction (in 1-2 cm) of all sizes (anterior-posterior, oblique and transverse), pubic angle is acute (less than 90°), pubic and sacrum heights are reduced. Average sizes are D.sp. – 24 cm., D.cr. – 26 cm, D.tr. – 28 cm., C.ext. – 18 cm., C.diagonalis – 11 cm, C.vera – 9 cm.

There are different types of generally contracted pelvis:

Infantile pelvis is diagnosed in infantile underdeveloped women. Pelvis has some puerile signs: sacrum is narrow and isn't flexed enough, promontory is high, pubic arc is narrow, pelvic inlet has round or oval form.

Android pelvis is diagnosed in tall women with the signs of intersexuality. Its build is alike to male pelvis: high conoid cavity, narrow pubic arc.

Dwarf pelvis is a marginal variant of generally contracted pelvis. It is diagnosed in women of proportional build with height of 120-149 cm.

Biomechanism of labor is like to the one in breech labor but has some peculiarities.

First peculiarity (in the I moment of biomechanism) – maximal head flexion and head set with its smallest diameter (diameter suboccipitoparietalis – 9 cm) in one of the oblique diameters of pelvic inlet depending on fetus position. Such set is cuneate and unstylistic.

Second peculiarity is significant head configuration (dolichocephalic configuration) because of reduction of all sizes of pelvis.

Third peculiarity is prolonged head deflexion.

Flat pelvis

Flat pelvis is a pelvis with reduced anterior-posterior diameters and normal transversal and oblique diameters. It has different types:

1. Simple flat pelvis is characterized by reduction of all anterior-posterior diameters due to relocation of sacrum closer to pubic. There is no deformation of pelvis and skeleton, build is normal. Sizes: D.sp. - 26 cm, D.cr. - 29 cm, D.tr. - 30 cm, C.ext. - 18 cm, C.diagonalis. – 11 cm, C.vera – 9 cm.

Labor has more favorable prognosis than in cases of any other type of flat pelvis.

Biomechanism of labor in simple flat pelvis has some peculiarities.

First peculiarity – prolonged high stand of sagittal suture in transverse diameter of pelvic inlet.

Second peculiarity – big fontanel is lower than small fontanel and becomes a guiding point.

Third peculiarity – unstylistic set of a head (Nagele's obliquity, Litzmann's obliquity).

Forth peculiarity – head rotation cannot be performed in pelvic cavity that leads to medium or low transverse stand of a head. If the head is big, clinical discordance may occur.

2. Flat rachitic pelvis is characterized by deformation of the upper part of sacrum that leads to reduction of anterior-posterior diameter of pelvic inlet while other diameters are normal or slightly extended, coccyx has beaked forward inclination. Besides, iliac bones are significantly spread, that's why D.sp. and D.cr. are almost equal, ischial tuberosities spread and pubic angle becomes obtuse (over 90°). Sizes: D.sp. – 26 cm, D.cr. – 26 cm, D.tr. – 31 cm, C.ext. – 17 cm, C.diagonalis – 10 cm, C.vera – 8 cm.

Biomechanism of labor in flat rachitic pelvis has its peculiarities.

First peculiarity – prolonged stand of sagittal suture in transverse diameter.

Second peculiarity – head deflexion and big fontanel descending.

Third peculiarity – Nagele's obliquity.

Forth peculiarity – after passing the inlet head quickly descends onto pelvic outlet, simultaneously flexes, performs internal rotation and deflexed.

3. Generally contracted flat pelvis – is a pelvis with reduction of all diameters but anterior-posterior diameters are reduced most of all. Women usually are low. Significant reduction of all diameters, especially of anterior-posterior and external is

characteristically. Sizes: D.sp. - 23-24 cm, D.cr. - 24-25 cm, D.tr. - 27-28 cm, C.ext. - 15-16 cm, C.diagonalis – 9 cm, C.vera – 7 cm.

Biomechanism of labor is equal to such in generally contracted pelvis or simple flat pelvis depending on which form dominates.

4. Pelvis with reduced anterior-posterior diameter in the plane with greatest pelvic dimensions is characterized by reduction of anterior-posterior diameter in the plane with greatest pelvic dimensions. This type of contracted pelvis is diagnosed with X-ray.

Dolichopelvic pelvis

It is characterized by reduction of one or more transverse diameters in 0,5 cm or more with normal or extended true conjugate.

Biomechanism of labor in dolichopelvic pelvis:

First peculiarity: high direct stand of a head.

Second peculiarity: if occiput faces front, head flexes intensely and passes all pelvic dimensions without rotation and is born alike to when occipitoanterior position of vertex, if occiput faces back, head rotation may occur in pelvic cavity and delivery may end spontaneously. If the head is big, rotation may not occur and delivery is ended with caesarean section.

Pregnancy and delivery management in contracted pelvis

Pregnant women with anatomically contracted pelvises are hospitalized at the term of 37-38 weeks of pregnancy for the selection of delivery method. Delivery course in contracted pelvis depends on the grade of discordance and complications. Caesarean section is the only option in contraction of the 3rd and 4th degrees. It also can be performed if contraction of the 1st or 2nd degree is combined with other obstetric pathology.

Clinically contracted pelvis occurs during delivery as a result of inequality in diameters of fetal head and mother's pelvis independent to their actual sizes. The main causes of that are anatomically contracted pelvis, big head of fetus, head defluxion, protracted pregnancy, myomas which prevent advance of the head, abnormal development of feminine genitalia and fetus.

Conditions of clinically contracted pelvis diagnostics:

- cervical dilatation over 8 cm;
- absence of fetal bladder;
- empty urinary bladder;
- normal uterine contractions.
- Symptoms of clinical inequality during delivery:
- positive or even Vasten's sign, positive Zangemeister's sign;
- symptoms of urinary bladder compression;
- hyperextension of uterus, high position of contraction ring;

- absence of advance of the head whilst in full cervical dilatation and normal delivery activity;
- insufficient attachment of cervix to presenting part;
- appearance of bearing-downs whilst in high stand of fetus head;
- edema of cervix which may possibly spread onto vagina and vulva.
- If two or more signs are present the diagnosis of clinically contracted pelvis is stated and caesarean section is performed. In cases of dead fetus embryectomy is chosen

Problems of macrosomia in obstetrics, macrocosmic pregnancy and delivery

Term 'big fetus' is used if by the end of pregnancy weight of fetus is 4000 g and more in cephalic presentation or 3700 g and more in breech presentation. Fetus weighting over 5000 g is called giant.

Frequency of macrocosmic labor grows and varies between 5,2-14,4%.

Frequency of patrimonial traumatism, including rupture of uterus, hypoxia of fetus, postnatal complications increase in macrocosmic labor. Perinatal lethality of big fetuses is 2-3 times higher than lethality of fetuses with normal weight. Clinically contracted pelvis occurs 6 times more frequent.

Pregnancy and delivery in breech presentation

Breech presentation is a presentation that is characterized by pelvic pole position of fetus over pelvic inlet.

Frequency of breech presentation in term labor with one fetus is 3-3,5%.

Classification

I. Frank breech:

- incomplete or extended breech (buttocks presentation);
- Complete or flexed breech (buttocks and feet presentation).

II. Footling breech:

- incomplete (one feet presentation);
- complete (both feet presentation);
- Kneeling presentation.

Diagnostics

Abdominal examination:

- round firm balloting head in the area of uterine fundus;
- irregularly shaped soft unbolting presenting part is palpated over/in pelvic inlet;
- Fetal heartbeat is auscultated on the left or on the right above navel depending on fetal position.

Differential diagnostics of different kinds of presentations based on results of vaginal examination

Presentation	Vaginal examination
Frank breech	<ul style="list-style-type: none">• palpation of a big and soft presenting part• identification of ischial tubers, sacral bone, anal orifice, genitalia• possible identification of inguinal curve in incomplete breech, and feet near buttocks in complete breech• ischial tubes and anus of fetus are in the same plane
Footling breech	<ul style="list-style-type: none">• palpation of heel bone, short even fingers, thumb can't be abducted and its mobility is limited• thumb can't be pressed down to sole
Face presentation	<ul style="list-style-type: none">• identification of firm cylinders and jaws, mouth and nose of fetus• mouth and molar crests have triangular shape
Hand falling in shoulder position or oblique lie	<ul style="list-style-type: none">• thumb is easily pressed down to palm• heel bone can't be palpated

Pregnancy care

Antenatal clinic

Necessary recommendations to pregnant women at the term of 30 weeks to induce spontaneous turn of fetus:

- endwise position on the side opposite to fetus;
- Knee-elbow position for 15 min 2-3 times a day.

Complex of corrective gymnastic exercises in one of the existent methodic is prescribed since the 32nd up to the 37th weeks.

Contraindications to gymnastic exercises:

- threatened premature labor;
- placental presentation;
- low insertion of placenta;
- Anatomically contracted pelvis of II - III grade.

External cephalic version **is not performed** at the antenatal clinic.

Necessity of hospitalization to maternity obstetric clinic is determined at the term of 38 weeks basing on the next indications:

- aggravated obstetric-gynecological history;
- feto-maternal disease;
- Extra genital pathology;
- Opportunity to perform external cephalic version.

Maternity obstetric service

Diagnosis specification:

- performing of ultrasound examination;
- evaluation of state of fetus (biophysical profile - BPP, Doppler sonography if necessary);
- estimation of readiness of maternal organism to delivery (Bishops scale);
- estimation of possibility of performing of external cephalic version.

Plan of labor management is formulated in council with anesthesiologist and neonatologist and then negotiated with a patient.

External cephalic version in full-term pregnancy leads to increasing of amount of physiological deliveries in cephalic presentation.

Indications:

- Incomplete breech in full-term pregnancy and alive fetus.

Conditions:

- presumed weight of fetus < 3700,0 g,
- normal sizes of small pelvis;
- empty urinary bladder;
- US after external version is available;
- satisfactory condition of fetus on BPP and absence of abnormal development;
- normal mobility of fetus, enough quantity of amniotic fluid;
- normal uterine tonus, unbroken fetal bladder;
- readiness of operating room to emergency care in the case of complications;
- Skilled qualified specialist acquainted with procedure of version.

Contraindications:

- Fetal-maternal disease when decision making of external version (bleeding, fetal distress, preeclampsia);
- aggravated obstetric-gynecological anamnesis (recurrent miscarriage, perinatal loss, infertility in anamnesis);
- polyhydramnios or oligohydramnios;
- multiple pregnancy;
- anatomically constricted pelvis;
- cicatricial deformity of vagina and cervix;
- III grade of head deflexion on US;
- placental presentation;
- severe extragenital pathology;

- uterine scar, peritoneal commissures;
- hydrocephaly and neck tumors in fetus;
- abnormal development of uterus;
- Tumors of uterus and annexes.

Procedure of external cephalic version:

- advise position with angle of 30-40° in direction of fetal spine;
- breech of fetus is abducted from pelvic inlet by the hands of physician that are inserted between mons pubis and breech of the fetus (a);
- breech of fetus is carefully shifted in direction of fetal position (b, c);
- head is shifted in direction opposite to fetal position (d);
- Version is finished when head is shifted to pelvic inlet and breech to uterine fundus.

If the first try was unsuccessful the second try perform is not reasonable.

Complications:

- abruption placenta;
- fetal distress;
- Rupture of uterus.

Labor management

Birth in time.

Conservative labor management:

- estimate indications, make sure that there are all necessary conditions for safe vaginal delivery and no indications to caesarean section;
- follow the course of the I period of labor by filling in the portogram (do not fill in table 2 in portogram), cardiotocography registration for 15 min every 2 hours;
- in the case of breaking of waters, immediate vaginal examination should be performed to exclude prolapse of funnies;
- II period should be managed with mobilized vein for intravenous infusion of 5 IU of oxytocin in 500,0 ml of normal saline (up to 20 drops per minute);
- Episiotomy if necessary; pudendal anesthesia;
- II period of delivery should be managed in presence of anesthesiologist, neonatologist.
-

A. Extended and flexed breech (Tsivians manual aid method I)

I.Labour of breech and feet:

- woman should push during the cut of breech;
- if perineum isn't able to spread enough, episiotomy is performed;

- breech appear by itself up to navel;
- both thumbs of physician are on the back surface of thighs, other fingers are on lumbosacral region of fetus;
- carefully hold breech but don't pull

Don't pull fetus for inguinal curve anticipatorily without indications (fetal distress). Hold fetus by thighs but not by sides and abdomen because liver or kidneys can be damaged.

II. Labour of hands:

- fetus which is born up to navel is taken with the thumbs on breech and sacral region and with other fingers on front surfaces of thighs;
- body is moved down until the lower angle of shoulder blade appears;
- during down-directed traction the front hand is born from under symphysis; after substantive birth of the front hand, breech is lifted to mother's abdomen to let the rear hand appear itself; if the hands of fetus cannot appear unassisted it is accounted to be nuchal arms and classical manual maneuver of shoulder labor should be performed.

Classical manual maneuver of hands labor:

- with one hand (when I position – left hand) grab legs of fetus in the region of podetial joint and lift forward and slightly to the side opposite to the spine of fetus, closer to mother's thigh (if I position – to right thigh);
- insert the second hand in vagina following the back of fetus up to mother's sacral hollow and then follow the hummers up to the elbow and extract rear hand;
- the arm is pulled at elbow;
- the front hand is extracted after its changing to the rear position and also from the side of sacral hollow;
- grab pelvis and front surfaces of thighs of fetus with both hands (thumbs on the breech, 4 fingers of each hand on thighs; don't touch abdomen of the fetus) and turn through 180°;
- back of the fetus is under symphysis;
- The second arm is freed similar to the first from the side of sacral hollow.

III. Labor of the head:

A. In a case of uncomplicated delivery, absence of nuchal arms the head is born in a flexed position:

- physician's arm is put under the body of fetus, so the body lays on an arm and elbow of physician;
- assistant helps labor of the head by maintaining mild pressure over symphysis that prevents head defluxion;

- the body is lowered under the level of perineum for the formation of fixating point in suboccipital fossa with the lower border of symphysis;
- the body is lifted over perineum level;
- Head appears substantively in a flexing position around fixating point.

B. If the classical manual maneuver of hands labor was applied for labor of shoulders and arms, the head is born with the help of Mauriceau maneuver:

- physician's arm is put under the body of fetus, so the body lays on an arm and elbow of physician;
- put index and ring fingers on the cheek-bones of fetus and middle finger into its mouth for abduction of jaw and head flexion;
- use the second hand to hold shoulders of fetus from the back side;
- carefully flex the head to sternum with index and middle fingers until the pressure on jaw results in scalp birth;
- provide traction to your side;
- assistant pushes with palmar surface of his arm over symphysis, fixating the head in flexing position;
- Carefully apply up (forward) traction for the head birth in a flexed position.

B. Footing breech:

In a case of footing breech caesarean section is performed. Vaginal birth is provided only when:

- II period of labor – Tsivians manual aid method II is applied to provide complete cervical dilatation and breech lowering;
- Second fetus birth in the case multiple pregnancy.

Indication to caesarean section:

- presumed weight of fetus is over 3700,0 g;
- footling breech;
- head deflexion of the III grade on US;
- Neck tumors of fetus and hydrocephaly.

Classification of birth activity anomalies:

I. Pathological preliminary period (false labor).

II Powerless labor (hypoactivity or inertness of the uterus):

- 1) primary;
- 2) secondary;
- 3) parodynia weakness: a) primary; b) secondary.

- III. Excessively strong birth activity (uterine hyperactivity).
- IV. Discoordinated birth activity:
 - 1) discoordination;
 - 2) hypertone of the inferior uterine segment (reverse gradient, in-version);
 - 3) uterine tetanus (spasmodic labor pains);
 - 4) circular dystocia (contraction ring).

1. PATHOLOGICAL PRELIMINARY PERIOD

The preliminary period is observed in 33 % pregnant women at the term of pregnancy of 38—40 weeks. The normal preliminary period is characterised by infrequent, weak spasmodic pain in the under-belly and loin, which appears against the background of normal uterine tone. Its duration may reach 6—8 h. Mature neck of uterus is diagnosed in 87 % women.

The pathological preliminary period is characterised by painful, intermittent by force and sensation dilating pains, which arise against the background of increased uterine tone. The pains are similar to labor pains, but do not lead to structural changes and cervical dilatation. The pains stimulate the pregnant woman, lead to the violation of the diurnal sleep rhythm and total activity. The duration of pathological preliminary period makes more than 8—12 h.

The pathological preliminary period is observed in women with functional changes of central nervous system regulation (fear of labor, neurosis), neurocirculatory dystonia, endocrine system malfunction, vegetative disorders. The pathological preliminary period may directly turn into uterine inertia.

Treatment:

- sedatives and debilitants (diazepam, promedol);
- if it is ineffective — single-stage application of tocolytic therapy with beta-adrenoceptor agonists (hexoprenalin 25 mg (5 ml) diluted in 500 ml of sodium chloride isotonic solution and introduced i.v. drop-by-drop slowly 10—15 drops per min);
- preparation to delivery by intravaginal introduction of prostaglandin E2.
- Contraindications to beta-adrenoceptor agonists application:
 - hypersensitivity;
 - premature placenta detachment;
 - uterine hemorrhage;
 - endometritis;
 - extragenital pathology at decompensation stage;
 - myocarditis;
 - hyperthyroidism;
 - glaucoma.

Side effects of beta-adrenoceptor agonists: headache; vertigo; tremor; tachycardia; ventricular extrasystole; heart pains, ABP reduction.

If tachycardia arises (>100 bprn), introduction of verapamil and potassium preparations is administered to the parturient woman.

2. POWERLESS LABOR (WEAK UTERINE CONTRACTIONS)

Powerless labor (PL) is a condition with insufficient intensity, duration and frequency of labor pains, therefore smoothing, dilation of the uterine neck and fetus advancement at its correspondence with pelvic dimensions are decelerated.

There are differentiated primary and secondary types of PL. Primary PL arises at the very beginning of delivery and lasts during the period of dilation. PL arising after a period of long-term regular birth activity and manifesting itself with typical signs indicated above is called secondary.

PL may be diagnosed during 4—6 h of clinical observation and during 2 h if hystrography is possible.

Excessively intensive birth activity develops unexpectedly. Strong labor pains take place in a short interval of time, uterine contractions frequency is more than 5 in 10 min, which promotes quick and sufficient dilation of the uterine orifice.

Parturition is considered rapid if it lasts less than 6 h in primipara women and 4 h in secundipara women, and accelerated — less than 4 and 2 h accordingly. Such types of delivery cause injuries of the uterus and fetus (deep ruptures of the uterus, vagina, perineum, premature detachment of normally located placenta, hypotonic bleeding, cord rupture, cerebral hemorrhage, cephalohematomas).

Treatment:

1. Oxytocin (deaminooxytocin or sandost, sandopar 25—50 IU, in the active phase only) or preparation containing oxytocin (pituitrin, hyphotocin, mammophysin).

2. Prostaglandin E₂ (dinoprost, prostin E₂, prostarmon E, menzaprost-1) 0.5 mg — pills, 5 ml — ampoules (before 4 cm cervical dilation).

3. β -adrenoceptor blocking agents (obsidan, propranolol) 5 mg/400 ml of physiological solution.

4. Apropen (1 % — 1 ml) — peripheral and central M- and 11-anticholinergic drug — relaxes the neck of uterus, intensifies uterine contractions.

5. Ozonized transfusion media.

6. Cesarean section if uterine inertia is combined with fetal hypoxia.

3. DISCOORDINATED BIRTH ACTIVITY

The frequency of disordinated birth activity (DBA) makes 1-3%. There are no coordinated contractions in different uterine parts (right and left, superior and inferior parts, violation between uterine parts up to fibrillation and tetanus). It usually develops at the 1st stage of delivery till the uterine neck dilates to 5—6 cm.

The clinical picture is characterised by the hypertone of the inferior segment, irregular, strong, sharply painful dysdynia that reminds the picture of threatening hysterorrhexis.

Clinical signs:

- pain;
- violated rhythm of labor pains;

- no dynamics of cervical dilation;
- no head advancement;
- hypertone of the inferior uterine segment (reverse gradient);
- spasmodic paroxysms (uterine tetany);
- dystonia of the neck of uterus.

The character of birth activity is detected on the basis of quantitative assessment of the three main processes:

- 1) dynamics of uterine contractions;
- 2) dynamics of cervical dilation;
- 3) dynamics of the advancement of the presenting part of the fetus along the parturient canal.

Assessment methods:

1. Uterine activity assessment:

- subjective sensation of the parturient woman (inaccurate, different threshold of pain sensitivity);
- palpation;
- external cardiotocography (single-channel and multichannel);
- internal tocography.

2. The cervix of uterus: vaginal examination; cervicodilatometry.

3. Descending part: vaginal examination; perineal US.

Treatment. Delivery stimulation therapy with oxytocin, prostaglandins and other uterotonics at DBA is absolutely contraindicated, otherwise uterine tetanus is possible.

The basic components of DBA treatment.

1. Anticholinergic drugs.

2. Anesthetics (tramal, tramadol, promedol, preparations of morphine type).

3. beta-adrenoceptor agonists (partusisten, intrapartal).

4. Psychotherapy, electroanalgesia, seduxen, relanium, narcosis.

5. Peridural anesthesia.

6. Amniotomy.

7. Cesarean section.

Conditions of administration of uterotonics:

- absence of fetal bladder;
- correspondence of fetal dimensions to the maternal pelvis.

Contraindications:

- clinically and anatomically contracted pelvis;
- operated uterus;
- anomalous positions and presentations of the fetus;

- fetal distress;
- complete placental, presentation;
- premature detachment of the normally and low located placenta;
- vaginal stricture;
- renewed perineal rupture of the 3rd degree;
- dystocia, atresia, scar changes of the neck of uterus;
- hypersensitivity.

Treatment:

— terbutaline in the dose of 250 meg i.v. slowly during 5 min or salbutamol — 10 mg in 1 L of physiological liquids for i.v. infusions or Ringer's lactate — 10 drops a min.

Criteria of birth activity character assessment:

A. Tocographically (Table 1):

Table 1. Tocographic Criteria of Birth Activity Assessment

	Hypo-dynamics	Norm	Hyper-dynamics
Labor pains frequency per 10 min	<2	2-5	> 5
Basal tone, mm of mercury	<8	8-12	>12
Labor pains intensity (amplitude), mm Hg	<30	30-50	> 50
Labor pains duration, sec	<50	60-100	> 100
Irregular rhythm, min	3	1-2	<1
Activity, Montevideo units	<100	100-250	> 250

B. By the cervical dynamics (Table 2):

Table 2. Birth Activity Assessment by Cervical Dynamics

	Hypo-dynamics	Norm	Hyper-dynamics
Latent phase (duration)	>	7.5 h (5)	<
(Smoothing of the uterine cervix, the rate of dilation up to 3—4 cm)		0.35 cm/h	
Active phase (duration)	>	2-3 h (1-1.5)	<
(The rate of dilation from 4 to 8 cm)		1.5 cm/h	
Deceleration phase (duration)	>	1.5-2 h (1-1.5)	<

(The rate of dilation from 8 to 10 cm)		1.0 cm/h) (1.5)	
Duration of the 1 st stage	> 18(14)	10-12 h (6-7)	<4

3.3. Requirements for the results of work.

- To perform an fetal heart tones auscultation.
- To prescribe an adequate treatment of fetal hypoxia.
- Ultrasonography assessment.
- To evaluate of fetal heart tones during electronic fetal monitoring.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

1. Multipara is in the 1st stage of labor for 7 hours. Contractions last 25 sec , occur every 5-6 min, they are painful and spread from lower segment upwards. . Auscultation of the fetus is clear, rhythmical, 160 b.p.m. During internal obstetric examination was found out that uterine cervix is 1 cm long, opened up to 3 cm. Head of the fetus is above the entrance of the small pelvis. What is likely complication of labor?

- A. Uterine inertia
- B. Strong labor activity
- C. Threaten hysterorrhesis
- D. *Discoordination of labor activity
- E. Distocia of uetrine cervix

2. Multipara was admitted to maternal hospital with painful contractions , that occur every 2 min. Opening of the uterine cervix is 2 sm. Two hours after giving of spasmolytics , she complains about painful contractions again. Opening of uterine cervix is the same. The most likely diagnosis?

- A. Weakness of labor activity
- B. Active stage of labor
- C. Latent phase of labor
- D. Preliminary period
- E. *Discoordination of labor activity.

3. Multipara, 32 y.o., is in the I stage of labor within 5 hours. Clear amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. During internal obstetric examination head of the fetus is pressed to inlet of the small pelvis, bith tumor is absent. The uterine cervix is opened up to 2 cm. Choose the right labor management?

- A. *Labor induction

- B. Medicinal dream
- C. Cesarean section
- D. Treatment of uterine inertia
- E. Obstetric forceps

4. Primagravida is in I stage of labor for 9 hours. Head of the fetus is engaged to inlet of the small pelvis. Contractions are weak, irregular. . Auscultation of the fetus is clear, rhythmical, 136 bp.m. At vaginal examination uterine cervix is flattened, thickened, opened up to 4 cm. The amniotic membranes are present. During of internal examination, situation are the same in 4 hours . The most likely diagnosis?

- A. Intrauterine hypoxia of fetus
- B. *Uterine inertia
- C. Premature separation of normally posed placenta
- D. Discoordination of labor activity
- E. Preeclampsia of light degree

5. Primapara, 30 y.o., full-term pregnancy , had pathological preliminary period. The amniotic fluid had flown out 6 hours ago. There is no labor activity. Head is engaged in the pelvic inlet. Auscultation of fetus is clear, rhythmical, 142 b.p.m. During internal obstetrical examination uterine cervix is “immature”. Choose the right management of labor?

- A. Prolongation of pregnancy and antibiotic therapy
- B. Prostaglandin's administration
- C. Labor stimulation
- D. *Conservative tactic and antibacterial therapy in 12 hours
- E. Cesarean section

6. Primapara, 37 y.o. is in the I stage of labor within 10 hours. Contractions last 20-25 sec , occurevery 6-7 min. Position of the fetus is longitudinal, head is in the pelvic inlet plane. During internal obstetrical examination: uterine cervix is 1 cm long, opened up to 4 cm. Amniotic sac is absent. The most likely diagnosis?

- A. *Primary uterine inertia
- B. Pathologic preliminary period
- C. Secondary uterine inertia
- D. Physiological preliminary period
- E. Discoordination of labor activity

**Obstetric bleeding in pregnancy, labour and postpartum period.
Haemorrhagic shock. DIC - syndrome. Intensive therapy and resuscitation in case
of obstetric haemorrhage.**

LEARNING OBJECTIVES

The overall aim of this topic is to gain basic knowledge about the etiology, pathogenesis, clinics, diagnostics and treatment of pathological conditions that may cause obstetric haemorrhage. During the course of teaching the material, students develop clinical thinking on this topic, which allows them to further solve problems associated with obstetric haemorrhage.

Basic concepts:

Equipment

- Multimedia equipment (computer, projector, screen), TV.
- Obstetric models and obstetric instruments (pelvimeter, obstetric stethoscope, centimeter tape).
- Professional algorithms, structural-logical schemes, tables, videos.
- Results of laboratory and instrumental researches, situational tasks, patients, medical histories.

EDUCATIONAL TIME – 4 h

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

The incidence of obstetric haemorrhage is 5-10%, but it is the most common cause of maternal disease, disability and mortality (20-25%). One of the most important factors is the increase in the number of cesarean sections. The profuse obstetrical haemorrhage during some minutes can become fatal because of belated elimination of blood and its components deficiency. During haemorrhage at the III trimester of pregnancy, the acute fetus hypoxia which requires immediate labour when there is no time for waiting of stable normalization of hemodynamic index and the fulfilment of full capacity of infusion-transfusion therapy often occurs. Physiological postnatal haemorrhage after the ending of the III labour stage should be no more than 0.5% of a woman's body weight (>0,5% - pathological).

All other bleeding during pregnancy is pathological. Massive obstetric haemorrhage is more often associated with placenta previa or premature placental abruption, anomalies of placentation, postnatal hypo- and atony of uterus, embolism by amniotic fluids, uterus rupture. The profuse obstetrical haemorrhage can lead to haemorrhagic shock or accompanied by disorders of homeostasis system.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- pathological conditions may cause obstetrical bleeding,
- evaluate laboratory researches: analysis of blood, urine, reaction to determine HCG and others and US data for extra-uterine pregnancy, hydatidiform mole, placenta previa and premature detachment of a normally located placenta,
- learn data of clinics-laboratory researches for miscarriages, extra-uterine pregnancy, trophoblastic disease, placenta previa and premature detachment of a normally located placenta.
- make a plan for research and therapy for miscarriages, extra-uterine pregnancy, trophoblastic disease, placenta previa and premature detachment of a normally located placenta.
- pathogenesis, clinics, diagnostics and treatment of miscarriages, extra-uterine pregnancy, trophoblastic disease, placenta previa and premature detachment of a normally located placenta.
- pathogenesis, clinics, diagnostics and treatment of haemorrhagical shock.
- pathogenesis, clinics, diagnostics and treatment of DIC—syndrome.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

- Assess the general condition of pregnant woman
- determining the volume of blood loss (Libov's method, Nelson's formula, Algover's shock index, Moore's hematocrit method)
- management of the third stage of labor
- routine observation and evaluation of the integrity of the placenta and its membranes;
- manual removal of the placenta
- identify Kulencampf's, "phrenicus", Blumberg symptoms.
- external massage of the uterus, external maneuvers for delivering placenta.
- Catheterization of peripheral or central vein.

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. At survey of a placenta which was just allocated, presence of defect in the size 2x3 see fixed. Bleedings are not present. What tactics is most justified?

- A. External massage of a uterus.
- B. Assignment of uterotonic agents
- C. * Manual audit of a cavity of the uterus.
- D. Observation over the puerpera
- E. Tool audit of a cavity of the uterus

2. Twice pregnant 25 years. In the third period of labors the bleeding without attributes of branch of a placenta has appeared. At manual branch of a placenta presence of a placenta, evolved in a myometrium fixed. Tactics of the doctor?

- A. * Laparotomy, a hysterectomy.
- B. Tool secretion of an afterbirth
- C. Application of uterotonic agents
- D. A hemotransfusion.
- E. Prophylaxis of a postnatal inflammation of a uterus

3. At the puerpera a massive bleeding after a birth of two at a birth through natural patrimonial ways. The children's place and patrimonial ways are whole. The uterine fundus is higher than a an umbilicus , the uterus at a palpation soft, does not react to introduction of agents reducing a uterus. What most authentic reason of a bleeding?

- A. Damage of a cervix of a uterus
- B. *Atony of a uterus
- C. A hysterorrhesis
- D. A delay of parts of a placenta
- E. A hypotonia of a uterus

4. At the parturient woman with the serious form of a preeclampsia right after the bleeding began birthes of a fetus. The afterbirth is whole, patrimonial ways are whole. The uterine fundus is lower than a umbilicus2 sm, dense. At external massage of a uterus

the bleeding has amplified, a blood is liquid and without clots. What diagnosis can be assumed?

- A. A hysterorrhesis.
- B. A hypotonic bleeding
- C. A delay in a uterus of parts of a fetus
- D. *A coagulopathic bleeding, the DIC syndrome
- E. An embolism amniotic waters

5. At carrying out of operation the caesarian section in connection with a complete placental presentation, after erasion of a placenta has arisen an appreciable bleeding from a site of a placental platform. The rests of a placental tissue which do not leave a napkin, a uterus soft, badly reduced are marked. The diagnosis of a true partial increment of a placenta is put. Specify the most rational tactics concerning a stopping of a bleeding.

- A. To enter intravenously uterotonics.
- B. To remove it is acute the rests of a placental tissue.
- C. To carry out sewing together of sites of a bleeding.
- D. To carry out a dressing of the main vessels.
- E. * To carry out operation of a hysterectomy without appendages.

6. Primapara, 22 y.o., after delivery of a newborn, 4000 g mass, the hemorrhage form patrimonial paths has started. Bloodloss – 20 % of CBV (Circulating blood volume), BP 100/60 mm, shock index – 1. Diagnosis:

- A. Hemorrhagic shock I degree
- B. Hemorrhagic shock III degree
- C. Thrombushemorrhagic shock
- D. *Hemorrhagic shock II degree
- E. Septic shock

7. In Woman-in-labor in the early puerperal period hemorrhage appeared. Bloodloss is 1500 ml (1,8 %). General state is severe, the consciousness is confused, anergic stupor, anxiety, body t° - $35,7^{\circ}\text{C}$, pale skin, acrocyanosis. Tachicardia 130-140 b/min, CVP (Central venous pressure) – 20 mm, RR (respiration rate) 40 in min, diuresis per hour 15-20 ml/h, Ht –0, 25, shock index – 1,4, Hb –70 g/l. What should be the doctor's tactics?

- A. Cold on the lower abdomen.
- B. *Laparotomy. Total hysterectomy without appendages.
- C. Manual revision of uterine cavity and massage of the uterus.
- D. Applying of ligating clamps on parametrium.
- E. Introduction of ether tampon.

8. At Multypara with placental presentation the uterine hemorrhage have appeared. Total bloodloss – 500 ml, BP 100/60 mm, Ps – 100 in 1 min, pale skin. Determine the shock index:

- A. 1.5
- B. 0.5

C. *1.0

D. 0.8

E. 2.0

9. At woman-in-labor in early puerperal period hemorrhage appeared from patrimonial paths have appeared. Total bloodloss –1000 ml, BP –90/70 mm, Ps – 120 b/min, pale skin, cold sweat, olyguria. Determine the grade of hemorrhagic shock:

A. 0

B. I

C. *II

D. III

E. IV

10. At woman-in-labor in early puerperal period hemorrhage appeared from patrimonial paths have appeared. Total bloodloss –1000 ml, BP –90/70 mm, Ps – 120 b/min, pale skin, cold sweat, olyguria. Determine the total volume of infusive therapy in connection with total bloodloss:

A. 2

B. * 1.5

C. 2.5

D. 1

E. 3

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

- Subgroup I – determining the volume of blood loss (Libov's method, Nelson's formula, Algover's shock index, Moore's hematocrit method)
- Subgroup II – management of the third stage of labor
- Subgroup III - to assess the responses of subgroups I and II and make adjustments.

Atypical situations of tasks:

1. Pregnant 22 years in a duration of gestation of 37 weeks; in an anamnesis a late misbirth. At night suddenly began a bleeding from sexual ways, up to 200 ml. A position of a fetus is longitudinal, the head above an input in a small pelvis. Heartbeat of a fetus is clear, rhythmical, 140 hits / minutes. At vaginal research it is revealed, that the canal of a cervix of a uterus passes 1 transversal finger. What reason of a bleeding?

Answer: I pregnancy, 37 week of gestation term. Longitudinal lie with head presentation of the fetus. Labor I, in term, first stage of labor. A placental presentation.

2. In a maternity home has arrived a pregnant with complaints to a whining back pain and spreading bloody discharge from a vagina. A duration of gestation of 36-37 weeks. Objectively: the sizes of a pelvis normal, a circle of a stomach – 102 sm, height of standing of a uterine fundus – 38 sm. Above an input in a pelvis there is a big soft part of a fetus, in a uterine fundus - more dense of the round form. Heartbeat of a fetus 160 heart-rate., is higher than a umbilicus at the left. P.V.: the cervix of a uterus dense, is open on 5 sm, the amniotic bubble, edge of a placenta is determined, presents the pelvic end. What obstetric tactics is applicable at the further conducting pregnant?

Answer: I pregnancy, 36-37 weeks of gestation term. Longitudinal lie with head presentation of the fetus. Labor I, before the term, first stage of labor. Laparotomy. Caesarian section

3. 37 weeks primigravida in term. A fetus alive. A pelvis 26-28-31-20. three days ago at absence of patrimonial activity of 50-60 ml has appeared bloody discharge from sexual ways. In two day the bleeding has repeated. A vaginal examination: the cervix of a uterus is short, the canal passes a finger. Behind internal fauces the spongiform tissue is determined. The head of a fetus is mobile above an input in a small pelvis. After research the bleeding has amplified. The diagnosis?

Answer: I pregnancy, 37 week of gestation term. Longitudinal lie with head presentation of the fetus. Labor I, in term, first stage of labor. Placental presentation

4. In a maternity home it is delivered pregnant, showing complaints to a headache and pains in epigastric area. Pulse 100 in 1 mines, BP 170/100 mm.hg., edemas of the person, a stomach, legs. The sizes of a uterus corresponds to term of the worn pregnancy, it is intense and morbid at a palpation, palpitation of a fetus is muffled, discharge from a vagina is bloody. What obstetric tactics is applicable at the further conducting pregnant?

Answer: cesarean section urgently

5. Pregnant 25 years it is delivered in a maternity home with pregnancy of 34 weeks and complaints on bright bloody discharge with clots which have appeared after the act of a defecation. The head of a fetus at a uterine fundus. Palpitation of a fetus - 140 hits in one minutes. Patrimonial activity is absent. A vaginal examination: the cervix of a uterus in length of 3 mm, fauces passes the end of a finger, through a vagina massive formation of a soft consistence is palpated, discharge is bloody, bright. What diagnosis the most authentic?

Answer: I pregnancy, 34 week of gestation term. Longitudinal lie with head presentation of the fetus. Labor I, before the term, first stage of labor. A placental presentation.

3.2. Educational materials, recommendations (instructions) for performing tasks

Classification

1. Threat of an abortion (abortus imminens);

2. Incipient abortion (abortus incipiens) ;
3. Inevitable spontaneous abortion (abortus protrahens);
4. Incomplete spontaneous abortion;
5. Complete spontaneous abortion;
6. Abortion which did not take place (missed abortion).

Clinics-diagnostic criteria

Symptoms of a miscarriage:

- pain syndrome: pain, connected to the contraction of the uterus;
- increased uterus tone;
- bleeding of different degrees of severity;
- structural changes in the uterine cervix.

The last two symptoms are the basis for the differential diagnostics of the stages of a miscarriage. During a threat of an abortion there are no bleeding and structural changes in the cervix.

Bleeding during spontaneous abortion, incipient abortion, inevitable abortion, incomplete spontaneous abortion

Clinical picture:

- cramp-like, spasmodic pain;
- bleeding of different severity.

Diagnostics:

- evaluation of the pregnant woman's general condition;
- examination of the cervix uterus with mirrors, bimanual examination;
- evaluation of the volume of blood loss.

Treatment:

- instrumental curettage of the uterus under intravenous narcosis (essential – histological test of the received material);
- preparations, which contract the uterus (10 units of oxytocin droplet i\ v or 0,5 mkg methylergometrine i\ v or i\ m);
- if the bleeding continues - 800 mkg misoprostole rectally;
- antibacterial therapy if indicated.

Extra-uterine pregnancy (ectopic, EP) – an implantation of the fertilized ovum outside the uterine cavity. The most frequent localization of an EP – fallopian tubes.

Risk factors:

- Inflammatory diseases of the uterus and uterine appendages in the anamnesis.
- cicatricial adhesions in the organs of the small pelvis due to operations in the past on the internal genitals, pelviperitonitis, abortions.
- Hormonal dysfunction of the ovaries.
- Genital infantilism.
- Endometriosis.
- Prolonged use of intrauterine contraceptives.
- Auxiliary reproductive technologies.

Diagnostics.

Clinical signs.

1. Signs of pregnancy: delay or missed menstruation, swelling of the breasts, change in taste, smell and other sensations characteristic for pregnancy, signs of early gestosis (nausea, vomiting, etc.), positive immunological reactions to pregnancy (HCG in blood serum and urine).

2. Menstrual dysfunction: spotting, bloody vaginal discharge: - after a delay in menstruation; with the beginning of the next menstruation; before the next expected menstruation.

3. Pain syndrome: unilateral spasmodic or constant pain in the lower abdomen; sudden intensive pain in the lower abdomen; peritoneal symptoms in the lower abdomen of different degrees of severity; irradiating pains to the rectum, perineum area and sacrum.

4. Signs of intra-abdominal bleeding (in case of EP): dullness of percussion sound in the flanks and abdomen; positive Kulencampfa symptom (presence of signs of irritation of the peritoneum with the absence of local muscular pressure in the lower areas of the abdomen); when the patient is in horizontal position there is a positive bilateral "phrenicus" symptom, and in a vertical position - dizziness, loss of consciousness; in case of considerable hemoperitoneum – positive Blumberg symptom; progressing decrease in haemoglobin, erythrocytes, haematocrit from blood analysis results.

5. Decrease in the patient's general condition (in case of EP): weakness, dizziness, loss of consciousness, cold sweats, collapse, hemodynamic dysfunction, faintness, reflex vomiting, meteorism, diarrhea.

Data from gynecologic exam: cyanosis of the mucous membrane of the vagina and cervix uterus, the sizes of the uterus are less than for the expected pregnancy term, unilateral increase and tenderness of the uterine appendages, bulging of the vaginal fornix (in the case of hemoperitoneum), acute pain during palpation of the posterior vaginal fornix ("Douglas' cry"), pain during cervical excursion.

Specific laboratory tests: qualitative or quantitative test for HCG.

Instrumental methods of examination: ultrasound (absence of the fetal egg in the uterine cavity; visualization of the embryo outside of the uterine cavity; detection of a non-uniform structure in the field of projection of the fallopian tubes; significant amount of free fluid in the Douglas pouch); laparoscopy (retor-shaped thickening of the fallopian tubes with a crimson - cyanotic colour; rupture of the fallopian tubes, bleeding from the ampular opening or from a ruptured place in the fallopian tubes, presence of coagulated or fresh blood in the abdominal cavity and in the Douglas pouch, presence of elements of the fetal egg in the abdominal cavity).

Diagnostic curettage of the walls of the uterine cavity:

- Absence of elements of the fetal egg in the curettage material;
- Presence of decidual tissue in the curettage material.

Diagnostic curettage of the walls of the uterine cavity is performed in the absence of an ultrasound and with informed consent from the patient for this manipulation.

In case of small term of delay in menstruation, and it is in interest of the woman to keep the uterine pregnancy and the absence of symptoms of an intra-abdominal bleed it is necessary to choose conservative tactics, observing the clinical signs, ultrasound in dynamics, level of HCG in blood serum.

Puncture of abdominal cavity through the posterior vaginal fornix.

It is performed when there is no ultrasound for the diagnostics of a tubal abortion. The presence of fresh blood in the punctate - one sign of EP.

In case of clinical signs of an intra-abdominal bleed, puncture of the abdominal cavity through the posterior vaginal fornix is not performed – it delays the beginning of laparotomy.

Differential diagnostics.

Diagnostics of ectopic pregnancy are simple in patients with amenorrhea, signs of pregnancy, pain in the lower abdomen and bleeding. But it is necessary to exclude the following conditions:

1. Twisting of an ovarian cyst or acute appendicitis.
2. Aborted uterine pregnancy.
3. Hemorrhage in the yellow body.

Clinical signs	Progressing ectopic pregnancy	Tubal abortion	Rupture of the ovarian tubes
Signs of pregnancy	positive	positive	positive
Patient's general condition	Satisfactory	Periodically faints, short-term losses of consciousness, frequent periods of unsatisfactory general condition	Collaptoid state, clinical picture for massive blood loss, progressive deterioration of the general condition
Pain	Absent	Attacks which periodically repeat	Present in the middle of acute attack
Discharge	Absent or insignificant bloody discharge	Dark bloody discharge, which appears after pain attack	Absent or insignificant bloody discharge
Vaginal examination	Uterus does not correspond to the estimated pregnancy term, near the uterus is a retor- ted formation, sensitive, fornix is	The same, pain in the uterus is increased, formation without clear contours, posterior fornix is sensitive	The same, "bloating uterus" symptoms, pain in the abdomen and uterine ligaments on the affected side, bulging at the posterior fornix
Additional methods of examination	Ultrasound, levels of β -HCG, laparoscopy	Culdocentesis, laparoscopy	Is not performed

Treatment for EP.

Principles for conducting patients with ectopic pregnancy:

1. Suspicion of ectopic pregnancy is an indication for urgent hospitalization.
2. Early diagnostics helps reduce the amount of complications and gives the possibility of alternative methods of treatment.
3. In the case of the established diagnosis of EP it is necessary to perform urgent operative intervention (laparoscopy, laparotomy). Operative treatment is the optimum. In modern practice, conservative methods of treatment are possible.
4. In the case of expressed clinical picture of ectopic pregnancy, presence of hemodynamical dysfunctions, hypovolemia the patient is to be immediately hospitalized

for emergency surgical intervention using laparotomy access. If the clinical picture is not clear, there are no signs of hypovolemia and internal bleeding – ultrasound of the pelvic organs and/or laparoscopy.

5. On the pre-admission stage in case of EP the volume of urgent help is determined by the general condition of the patient and the volume of blood loss. Infusion therapy (volume, speed of introduction of solutions) depends on the stage of hemorrhagic shock.

6. Poor condition of the patient, presence of expressed hemodynamic dysfunctions (hypotonia, hypovolemia, hematocrit less than 30%) - absolute indications for operative intervention by laparotomy access with the removal of the fallopian tubes and providing antishock therapy.

7. Provide complex approach to treatment of women with extra-uterine pregnancy which includes:

- a) Operative treatment;
- b) Control of bleeding, hemorrhagic shock, blood loss;
- c) Conducting the postoperative period;
- d) Rehabilitation of reproductive function.

8. Operative treatment can be provided with laparotomy or laparoscopic access.

Advantages of laparoscopic access include:

- decrease in the time of the operation;
- decrease the duration of the postoperative period;
- decrease the duration of stay in the hospital;
- decrease the amount cicatricial changes in the anterior abdominal wall;
- cosmetic effect.

9. The performance of organ-saving operations during EP is accompanied by risk in the postoperative period of development of persistence of the trophoblast, which is the result of incomplete removal from the fallopian tubes and abdominal cavity. The most effective method of prevention of this complication is careful washing of the abdominal cavity with 2-3 liters of physiological solution and unitary introduction of 7.5 - 100 mg methotrexate i/m during the first 24-48 hours after the operation.

Operations used in the case of tubal pregnancy:

1. Salpingostomy (tubotomy). Longitudinal salpingostomy is performed. After the removal of the fetal egg, salpingostomy is usually not sutured. In the case the chorionic villi do not grow into the muscular membrane of the fallopian tube, only curettage is performed.

2. Segmentary resection of the fallopian tubes. The segment of the fallopian tubes is removed where the fetal egg is located, then an anastomosis is made between two ends of the tube. If it is impossibility to perform salpingo – salpingo anastomosis then it is possible to tie off both ends and perform anastomosis later.

3. Salpingectomy. This operation is performed for a tubal pregnancy accompanied by massive bleeding. The operation and hemotransfusion is performed in that case simultaneously.

Conservative treatment of EP.

Treatment of progressing EP with methotrexate can be done only in third level institutions of public health services where it is possible to determine β – subunit of HCG in blood serum and perform a trans-vaginal ultrasound.

Indications for the use of methotrexate in the case of EP.

In order to avoid the introduction of methotrexate during a normal uterine pregnancy or an abortion which has not taken place, it is prescribed only in the following cases:

1. Increased level of β – subunit of HCG in blood serum after organ-saving operations on the fallopian tubes, performed due to progressing extra-uterine pregnancy.
2. Stabilization or increased level of β – subunit of HCG in blood serum during 12-24 hours after separate diagnostic curettage or vacuum aspiration if the size of the fetal egg at the area of the uterine appendages does not exceed 3,5 cm.
3. During trans-vaginal ultrasound it is discovered that the fetal egg has a diameter no more than 3,5 cm at the area of the uterine appendages and the level of β – subunit of HCG is 1500 IU/l, the absence of the fetal egg in the uterine cavity.

Postoperative period.

If the placenta is found in the abdominal cavity after the operation, its condition is evaluated with an US and the determining the level of subunits of HCG. In these cases, there is a very high risk of intestinal obstruction, fistula, sepsis. The use of methotrexate is counter-indicated, as it is accompanied by severe complications, first of all - sepsis. The reason for sepsis is massive necrosis of the placenta.

Bleeding during the second half of the pregnancy:

- placenta previa;
- premature detachment of a normally located placenta;
- rupture of the uterus

Placenta previa - complication during pregnancy where the placenta is located in the lower segment of the uterus lower than the presented part of the fetus, blocking fully or partially the internal uterine os. During physiological pregnancy, the lower edge of the placenta does not reach any closer than 7 cm to the internal os. Placenta previa is seen in 0,2-0,8 % of all delivers.

Classification of placenta previa

1. Complete presentation - the placenta completely blocks the internal os.
2. Incomplete presentation - the placenta partially blocks the internal os:
 - a) Lateral presentation - 2/3 of the area of the internal os is blocked;
 - b) Marginal presentation – the edge of the placenta meets the internal os.
3. Low placenta previa (placement) – the placenta is implanted in the lower uterine segment less than 7 cm from the internal os without blocking it.

In connection with migration of the placenta or its growth, the type of presentation can change as the pregnancy continues.

Clinical-diagnostic criteria:

The risk group for placenta previa is women who have transferred:

- endometritis with cicatricial dystrophic changes in the endometrium;
- abortions, complicated by inflammatory processes;
- benign uterine tumours, in particular submucous myoma nodes;
- action of chemical products on the endometrium;
- women with hypoplastic uterus.

Clinical symptoms

Pathognomonic symptom – bleeding, which can periodically repeat during the pregnancy between 12 and 40 weeks, occurring spontaneously or after physical activity, having risky character:

- with the beginning of uterine contractions at any term during the pregnancy;
- it is not accompanied by pain;
- it is not accompanied by increased tonus of the uterus.

The severity of the condition is caused by volume of blood loss:

- during complete presentation - massive;
- during incomplete - it varies from small to massive.

Anemia, as a result of bleeding, occurs, repeatedly. During this pathology, the lowest contents of haemoglobin and erythrocytes occurs in comparison with other complications during pregnancy which are accompanied by bleeding.

Frequently, incorrect positioning of the fetus occurs: diagonal, transverse, breeched presentation, incorrect insertion of the head. Premature birth is possible.

Diagnostics

1. Anamnesis.

2. Clinical displays - occurrence of repeated bleeding, not accompanied by pain and increased uterus tonus.

Obstetrical examination:

a) External examination:

- High standing of the presented part;
- Diagonal, transverse fetal position;
- The tonus of the uterus is not increased;

b) Internal examination (performed only in the conditions of an operation room):

- Doughy tissue in the fornix, swelling, pulsation of vessels;
- Impossible to palpate the presented part through the fornix.

In case of bleeding of specific character, the presentation is not meaningful because the obstetrical tactics are determined by the volume of blood loss and the condition of the woman.

US is of great importance to determine the location of the placenta and to establish a correct diagnosis.

Placenta previa with bleeding is an urgent indication for hospitalization.

Algorithm of examining a pregnant woman with bleeding in the hospital:

- Specify the anamnesis;
- Evaluate the general condition, volume of blood loss;
- General instrumental tests (blood type, Rhesus factor, general blood analysis, coagulogram);
- External obstetrical examination;

- Examination of the uterine cervix and vagina in an operational room with the help of vaginal mirrors to exclude such reasons for bleeding as cervical polyp, cervical cancer, rupture of a varicose node, evaluate vaginal discharge;
- Additional methods of examination (US) if indicated, if there is no need for urgent delivery.

Treatment:

Treatment tactics depend on the volume of blood loss, conditions of the patient and fetus, character of the presented part, term of the pregnancy, maturity of the fetus's lungs.

Principles for conducting patients with placenta previa:

1. In case of small blood loss (250 ml), absence of symptoms of hemorrhagic shock, fetal distress, absence of labor activity, immaturity of the fetus's lungs before 37 weeks term - waiting tactics.
2. Bleeding that has stopped - US, prepare the fetus's lungs. The purpose of waiting tactics – prolong the pregnancy to term of a viable fetus.
3. In case of progressing uncontrollable bleeding (more than 250 ml), accompanied by symptoms of hemorrhagic shock, fetal distress, regardless of the pregnancy term, condition of the fetus (live, distress, dead) - urgent (emergency) delivery.

Clinical variants:

1. Blood loss (up to 250 ml), there are no symptoms of hemorrhagic shock, fetal distress, term of pregnancy - less than 37 weeks:
 - hospitalization;
 - tocolytic therapy when indicated;
 - quicken the maturing of the fetus's lungs before 34 weeks of pregnancy (dexamethasone 6 mg every 12 hours for 2 days);
 - monitoring the woman and fetal condition.
 - If bleeding progresses more than 250 ml – delivery by Cesarean section.
2. Considerable blood loss (more than 250 ml) with premature term of pregnancy – regardless of the presented part – emergency Cesarean section.
3. Blood loss (up to 250 ml) with mature pregnancy:

Under the conditions of an operational room, determine the presentation:

- In case of partial placenta previa, intact amniotic sac and cephalic presentation, active uterine contractions, perform amniotomy. If the bleeding stops, delivery can be performed vaginally. After the birth of the baby - i/m introduction 10 units of oxytocin, carefully observe the contractions of the uterus and character of vaginal discharge. If bleeding continues - Cesarean section;
 - During complete or incomplete placenta previa, wrong fetal position (pelvic, diagonal or transverse) perform a Cesarean section;
 - During incomplete placenta previa, dead fetus perform amniotomy, if the bleeding stops – vaginal delivery.
4. Blood loss (more than 250 ml) mature pregnancy regardless of the presentation - emergency Cesarean section.

5. Complete placenta previa: diagnosed by US, without bleeding – hospitalization till mature term for delivery, Cesarean section at 37-38 weeks.

In the early postnatal period - careful supervision of the woman's condition. If the bleeding reoccurs after Cesarean section and the volume of blood loss is more than 1%

of body weight - urgent relaparotomy, hysterectomy without the appendages, if necessary – ligation of the internal iliac arteries by an expert.

Compensation for the blood loss, treatment of hemorrhagic shock and DIC - syndrome is performed when indicated.

Postnatal secondary (late) bleeding

Main causes for late postnatal bleedings:

- delay of parts of the placenta or its membranes;
- discharge of necrotic tissue after delivery;
- separation of sutures on the wound on the uterus (after C-section or ruptured uterus).

More often late postnatal bleeding arises 7-12 days after delivery.

Algorithm for medical help:

1. Evaluation of blood loss (appendix N 1).
2. Catheterization of peripheral or central vein.
3. Instrumental revision of the uterine cavity under i/v narcosis.
4. I/v introduction of uterotonics (oxytocin 10-20 units in physiological solution - 400,0 or 0,5 mkg of methylergometrine).
5. If the bleeding continues – misoprostol 800 mkg rectally.
6. Restore blood volume.
7. If blood loss > 1,5% of the woman's body weight – laparotomy, hysterectomy, if it still continues – ligation of the internal iliac arteries.

Disorders of blood coagulation (postnatal afibrinogenemia, fibrinolysis):

- restore blood volume;
- correct hemostasis.

Prevention of postnatal bleedings:

1. During pregnancy:

- evaluate the risk factors for the occurrence of bleedings;

Factors which assist in the occurrence of bleedings in the postnatal period

Previous pregnancy	Factors, which occurred during the pregnancy	Factors, which occurred during the delivery
Primipara	Complete placental entation	Stimulation of delivery
More than 5 deliveries in anamnesis	Placental detachment	Long or difficult delivery
Pathology in attachment or discharge of placenta	Hydramnion	Fast delivery
Operations on the uterus in the anamnesis, including sections	Multiple pregnancy	Emergency Cesarean section
Long or difficult delivery in anamnesis	Intrauterine fetal death	Delivery with obstetrical complications
Background diseases – Hypertension, Diabetes mellitus, Hemophilia, etc.	Severe pre-eclampsia, HELLP syndrome	Chorioamnionitis
Placenta previa	Marginal placenta previa	Low placenta previa

etes, coagulation disorders		
Anemia	Hepatitis	DIC – syndrome
Hysteromyoma	Conditions connected anemia	General or epidural anesthesia

- Diagnostics and treatment of anemia;
- Hospitalization, readiness to give medical help to pregnant women of high risk for bleedings: antenatal bleeding, bleedings in previous deliveries, hydramnion, multiple pregnancy, large fetus.

2. During delivery:

- anesthesia during labor;
- avoidance of long deliveries;
- active conduction of the third period of labor;
- use of uterotonic preparations during the third period of labor;
- routine observation and evaluation of the integrity of the placenta and its membranes;
- prevention of traumatism during labor.

3. After labor:

- Inspection and examination of the birth canal;
- Attentive supervision throughout 2 hours after delivery;
- In woman of high risk - iv introduction of 20 units of oxytocin for 2 hours after the delivery.

Methods for determining the volume of blood loss

1. Libov's Method

Volume of blood loss is determined by weighing the napkins used, which are soaked in blood

Volume of blood loss = $B / 2 \times 15 \%$ (blood loss less than 1000 ml) or $\times 30\%$ (blood loss more than 1000 ml).

Where B - weight of the napkins, 15 % and 30 % - error size (amniotic fluid, physiological solution).

2. Nelson's formula

The percentage ratio of the total amount of blood loss is figured:

$$\frac{0,036 \times \text{original blood volume}}{\text{body weight}} \times \text{hematocrit}$$

$$\text{original blood volume (ml/kg)} = \frac{24}{0,86 \times \text{original hematocrit}} \times 100$$

3. Determine the blood loss by the density of blood and the hematocrit

Blood density, kg/ml	Hematocrit	Volume of blood loss,
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1057-1054	44-40	Up to 500
1053-1050	38-32	1000
1049-1044	30-22	1500
Less than 1044	Less than 22	More than 1500

4. Algover's Shock index

$$\frac{\text{Heart rate}}{\text{BPs}}$$

Shock index =

Where BPs – systolic blood pressure

Normally Algovera's index = 1.

By determining the index size it is possible to conclude about the size of blood loss

Algovera's index	Volume of blood loss (% blood volume)
0,8 and less	10 %
0,9-1,2	20 %
1,3-1,4	30 %
1,5 and more	40 %

Note: Algovera's index is not informative in patients with hypertension

5. Moore's hematocrit method

$$BL = BV(n) \times (Ht(n) - Ht(a)) / Ht(n)$$

Where:

BL – blood loss; BV (n) – normal blood volume; Ht (n) – normal hematocrit (in woman – 42);

Ht (a) – actual hematocrit determined after blood loss is stopped and hemodynamics are stabilized

For rough amount of blood loss in pregnant women it is possible to use the modified Moore's formula:

$$BL = M \cdot 75 \cdot \frac{0,42 - Ht(a)}{0,42}$$

Where: BL – blood loss; (ml); M – woman's body weight (kg); Ht (a)- patient's actual hematocrit (l/l)

3.3. Requirements for the results of work.

- To perform an fetal heart tones auscultation.
- To prescribe an adequate treatment of fetal hypoxia.
- Ultrasonography assessment.
- To evaluate of fetal heart tones during electronic fetal monitoring.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

1. 10 minutes after delivery a woman discharged placenta with a tissue defect 5x6 cm large. Discharges from the genital tracts were profuse and bloody. Uterus tonus was

low, fundus of uterus was located below the navel. Examination of genital tracts revealed that the uterine cervix, vaginal walls, perineum were intact. There was uterine bleeding with following blood coagulation. Your actions to stop the bleeding:

- A. *To make manual examination of uterine cavity
- B. To apply hemostatic forceps upon the uterine cervix
- C. To introduce an ether-soaked tampon into the posterior fornix
- D. To put an ice pack on the lower abdomen
- E. To administer uterotonics

2. A 22-year-old woman, gravida 1, para 0 arrived with complaints of sharply painful contractions that occur every 3-4 minutes and last for 35-40 seconds. Amniotic sac is intact. The fetus is in transverse lie, fetal heartbeats are not affected. Contraction ring is acutely painful, located obliquely at the level of umbilicus. What is the most likely diagnosis?

- A. Excessive uterine activity during labor
- B. Discoordinated labor
- C. *Threatening uterine rupture
- D. Uterine tetany

3. A 24-year-old patient (gravida 2, para 2) has just delivered vaginally an infant weighing 4,300 g after a spontaneous uncomplicated labor. She has had no problems during the pregnancy and labor. The placenta delivers spontaneously. There is immediate brisk vaginal bleeding of greater than 500 ml. Although all of the following can be the cause for postpartum hemorrhage, which is the most frequent cause of immediate hemorrhage as seen in this patient?

- A. *uterine atony
- B. retained placental fragments
- C. coagulopathies
- D. uterine rupture
- E. vaginal and/or cervical lacerations

4. A 24-year-old woman (gravida 2, para 0, abortus 1) is seen in the emergency department because of vaginal bleeding and abdominal cramps. Her LMP was 10 weeks ago. History is unrevealing except for an induced abortion 2 years ago without complications. She presently denies instrumentation for abortion. Physical examination reveals a BP of 110/70 mm Hg, pulse 120, and temperature 38,8°C. The abdomen is tender with slight rebound in the lower quadrants. The pelvic examination reveals blood in the vault and a foul-smelling discharge from the cervix, which is dilated to 2 cm. The

uterus is 8- to 10-week size and tender, and no adnexal masses are palpated. What is the most likely diagnosis?

- A. pelvic inflammatory disease (PID)
- B. septic abortion
- C. twisted ovarian cyst choriocarcinoma
- D. *septic abortion
- E. hydatidiform mole

5. A 24-year-old woman (gravida 2, para 0, abortus 1) is seen in the emergency department because of vaginal bleeding and abdominal cramps. Her LMP was 10 weeks ago. History is unrevealing except for an induced abortion 2 years ago without complications. She presently denies instrumentation for abortion. Physical examination reveals a BP of 110/70 mm Hg, pulse 120, and temperature 38.8°C. The abdomen is tender with slight rebound in the lower quadrants. The pelvic examination reveals blood in the vault and a foul-smelling discharge from the cervix, which is dilated to 2 cm. The uterus is 8- to 10-week size and tender, and no adnexal masses are palpated. Which of the following is definitive initial therapy in this case?

- A. hysterectomy
- B. bed rest and antibiotics
- C. hysterotomy
- D. outpatient antibiotics
- E. *curettage after antibiotics

6. A 26-year-old woman complains of bloody discharges from the genitals for the last 14 days, abdominal pain, general fatigue, weakness, weight loss, fever, chest pain, obstructed respiration. 5 weeks ago she underwent an induced abortion in the 6-7 week of gestation. Objectively: the patient is pale and inert. Bimanual examination revealed that the uterus was enlarged up to 8-9 weeks of gestation. In blood: Hb - 72 g/l. Urine test for chorionic gonadotropin gave the apparently positive result. What is the most likely diagnosis?

- A. Uterine carcinoma
- B. *Chorioepithelioma
- C. Metroendometritis
- D. Uterus perforation
- E. Uterine fibromyoma

7. A 26-year-old woman whose last menstrual period (LMP) was 2½ months ago develops bleeding, uterine cramps, and passes tissue per vagina. Two hours later, she is still bleeding heavily. What is the indicated procedure?

- A. *uterine curettage
- B. vaginal packing
- C. compression of the hemorrhoids
- D. intravenous (IV) fibrinogen
- E. hysterectomy

8. A 26-year-old woman whose last menstrual period (LMP) was 2½ months ago develops bleeding, uterine cramps, and passes tissue per vagina. Two hours later, she is still bleeding heavily. What is the most likely diagnosis?

- A. inevitable abortion
- B. premature labor
- C. twin pregnancy
- D. *incomplete abortion
- E. threatened abortion

9. A 27-year-old G3P3 has delivered a 4200 g female after a 16-hour labor in which contractions were augmented with oxytocin. The placenta delivered intact. Her perineum has a second-degree laceration. After repair of the laceration, the patient continues to bleed heavily. She has lost 350 ml of blood. At this step you should assess uterine tone and do which of the following?

- A. place a second large bore IV line
- B. place a foley catheter
- C. *do a manual exploration of the uterus for retained products of conception
- D. inspect the cervix and upper vagina for lacerations
- E. do a bedside ultrasound to evaluate for retained products

10. A 28-year-old female patient complains of having haemorrhage from the genital tracts for 1 month. 6 months ago she had natural delivery and gave birth to a girl weighing 3100g. Objectively: the uterus is enlarged to 9-10 weeks, mobile, painless, of heterogenous consistency. Examination reveals vaginal cyanosis, anaemia and body temperature rise up to 37, 8oC. There is a significant increase in hCG concentration in the urine. What is the likely diagnosis?

- A. Uterine fibromyoma
- B. *Uterine chorionepithelioma
- C. Pregnancy
- D. Hydatidiform mole
- E. Endometritis

PRACTICAL LESSON № 35.

Pregnancy and labour in women with extragenital diseases. Maternal-foetal blood incompatibility. Perinatal infections. Prevention of vertical HIV transmission.

LEARNING OBJECTIVE is to gain basic knowledge about physiological changes in postpartum period, physiology of lactation and breastfeeding, primary care of newborn in order to make recommendations for management of puerperium and neonatal period and advice woman on discharge.

BASIC CONCEPTS:

- Clinical manifestations, the characteristics of the course and methods of diagnostics of general diseases of cardiovascular, respiratory, alimentary, urinary, hemopathy and endocrine pathologies in pregnant women.
- Characteristics of the disease course and pregnancy supervision, indications for hospitalization in different extragenital pathology.
- Prenatal and intranatal risk factors, perinatal incidence of disease and morbidity.
- The methods of delivery in different extragenital pathology.
- Characteristic of course and possible complications in delivery process in obstetric patients with different extragenital pathology.
- Etiopathogenesis of HD of the fetus and infant.
- Classification and clinic of HD.
- Methods of ante- and postnatal diagnosis of HD
- Principles of isoimmunization therapy and HD in the antenatal and early neonatal periods
- Methods of isoimmunization prevention

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

Pregnancy causes considerable changes in all systems and organs of mother, worsening the course of her present diseases, that leads to apparent risk of the woman's life. Knowledge of the given subject is necessary in order timely to diagnose and treat possible complications of different systems of mother's organism, and for the prevention aiming in optimal strategy of pregnancy and delivery management.

Among the clinical forms of immunopathology of the vaginosis of the most known and learned a small amount of hemolytic diseases (HD) to the fetus and non-malignancy, which develops in the midst of the insane organisms of the mothers and antibodies of the fetus after The knowledge of the nutrition of the etiopathogenesis of ailments, the peculiarities of obstetric and perinatal tactics, allows in the significant world to change the number of unwelcoming inheritances for the fetus, because of the relevance of the inception of this pathology.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Pelvis from anatomical and obstetric points of view.
- Pelvic floor.
- The dimensions of the fetal head and body.
- Signs of fetal maturity.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

Prenatal and intranatal risk factors, perinatal incidence of disease and morbidity.

The methods of delivery in different extragenital pathology.

Characteristic of course and possible complications in delivery process in obstetric patients with different extragenital pathology.

Etiopathogenesis of HD of the fetus and infant.

Classification and clinic of HD.

Methods of ante- and postnatal diagnosis of HD

Principles of isoimmunization therapy and HD in the antenatal and early neonatal periods

Methods of isoimmunization prevention

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. The posterior rectus fascia (sheath) ends at the

- (A) insertion of the rectus muscles
- (B) insertion of the anterior rectus sheath
- (C) arcuate line (semicircular line, linea semicircularis, line of Douglas)
- (D) area approximately 3-4 cm below the umbilicus
- (E) area approximately 2-3 cm above the pubic symphysis

2. Sacrospinous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine

- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

3. Sacrotuberous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

4. Ilioinguinal ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

5. Arcuate ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

6. Formed by the superior and inferior pubic rami and covered by a central membrane through which a nerve, artery, and vein pass

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

7. The internal pudendal vessels and pudendal nerve exit the pelvis but then reenter through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

8. Divides and demarcates the greater and lesser sciatic foramen

- (A) obturator foramen
- (B) greater sciatic foramen

- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

9. The piriformis muscle, gluteal vessels, and posterior femoral cutaneous nerves pass through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

10. Four anterior and four posterior openings through which pass small nerves

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

11. Which of the following statements is FALSE?

- (A) The ischium has a body and two rami
- (B) The internal surface of the body of the ischium provides attachments for the levator ani muscle and coccygeus muscle
- (C) The superior ramus is located cephalad to the inferior ramus in the standing position
- (D) The superior ramus forms the dorsolateral portion of the obturator canal
- (E) The ischial tuberosity is the lowest portion of the pelvis in the erect or sitting posture and bears the weight of the human frame in the sitting position

12. Regarding the pubis, which of the following statements is FALSE?

- (A) The pubis has a body and two rami
- (B) The superior edge of the body of the pubis, lateral to the midline, has a raised area called the anterior iliac crest a common landmark
- (C) The inferior ramus is the attachment of the adductor magnus and brevis, and obturator internus muscles
- (D) The inferior rami form the lower portion of the pubic arch
- (E) Inferiorly, the pubic bone is the attachment for the urogenital diaphragm

13. The sacrum

- (A) is formed from 11 or 12 small fused vertebrae
- (B) has an uppermost anterior portion called the obstetrical conjugate
- (C) in women has a concave pelvic surface
- (D) is separated from the vertebrae that make up the coccyx by the sacrococcygeal joint
- (E) most often is the limiting factor in determining the size of the pelvic outlet

14. Which of the following is a muscle of the external genitalia?

- (A) the gluteus
- (B) the sartorius

- (C) the superficial transverse perineal
- (D) the deep transverse perineal
- (E) the levator ani

15. The term pudenda includes the

- (A) mons pubis
- (B) vulva
- (C) labia
- (D) external genitalia
- (E) all the above

16. The term perineum describes

- (A) the entire area between the thighs from the symphysis to the coccyx, bounded inferiorly by the skin and superiorly by the levator muscles of the pelvic diaphragm
- (B) the anus and perianal area
- (C) the superficial skin layer of the vulva
- (D) the tendon joining the muscles deep to the external genitalia
- (E) bulbocavernosus, ischiocavernosus, and transverse perineal muscles as a complex

17. The clitoris

- (A) consists of a single crurum, a short body, and the glans clitoris, with overlying skin called the prepuce
- (B) is attached to the pubic bone by a suspensory ligament
- (C) contains within the shaft the corpora cavernosa, a collection of dense connective tissue that serves as support for the anterior-inferior portion of the vagina
- (D) is supplied very sparsely with nerves originating primarily from the terminal branch of the ilioinguinal nerve in most women
- (E) plays a secondary role in erotic stimulation in most women when compared to the role of the vagina

18. Which of the following statements regarding the muscles of the external genitalia is TRUE?

- (A) The bulbocavernosus muscle surrounds the distal vagina and vestibule on each side as a single continuous strip of muscle, much like other sphincters
- (B) The ischiocavernosus muscle takes origin from the ischial tuberosity and inferior ischial ramus and inserts upon the inferior pubic ramus on each side of the pelvis
- (C) The superficial transverse perineal muscle arises from the ischial tuberosity and inferior ischial ramus and inserts between the posterior vagina and anterior rectum
- (D) The perineal body serves as a central connection for all the superficial muscles of the external genitalia except the transverse perineal muscle which inserts directly on the external anal sphincter
- (E) The muscles of the external genitalia are usually spared at the time of episiotomy when the levator ani muscle is routinely divided

19. Which of the following statements about the vagina is FALSE?

- (A) The vagina is a 7-10 cm canal connecting the internal and external genitalia from the vestibule to the uterine cervix

- (B) It is a hollow, distensible, fibromuscular tube with the apex (vault) having an H-shaped lumen and the external opening being flattened in the dorsal-ventral dimension
- (C) The body of the vaginal tube is flattened in its normal resting state
- (D) The mid-portion of the vaginal axis is nearly perpendicular to the lower sacrum in the adult human female in a standing position
- (E) The posterior fornix (back wall of the vagina) is approximately 2 cm longer than the front wall and is directly connected to the peritoneal pouch (posterior cul de sac, retrouterine space, or pouch of Douglas) directly behind the uterus

20. When the infantile uterus is examined, one finds that

- (A) the cervix is larger than the corpus (body of the uterus)
- (B) the position is always anteflexed
- (C) the cervix is the same size as the corpus
- (D) the body is larger than the cervix
- (E) it is as large as the adult organ in the immediate newborn period

21. The portio vaginalis of the cervix is that part which

- (A) extends cephalad from the vagina
- (B) protrudes into the vagina
- (C) forms an internal isthmus
- (D) is normally covered with endocervical epithelium
- (E) all the above

22. Which of the following statements regarding the uterus is FALSE?

- (A) The uterus has a body (corpus), composed mainly of smooth muscle, and a cervix, composed mainly of connective and elastic tissues, that are joined by a transitional portion (isthmus)
- (B) It is an estrogen-dependent organ measuring about 7.5 cm long by 5 cm in width, and 4 cm anterior to posterior diameter in an adult female
- (C) After puberty the uterus weighs about 50 grams in the nullipara and 70 grams in the multipara
- (D) It lies between the bladder anteriorly and the pouch of Douglas in front of the rectum posteriorly, with the cervical portion extending into the abdomen and into the vagina
- (E) The opening at the distal tip of the cervix is called the internal os

23. The uterus and adnexa are normally mobile structures, but they do have some relatively fixed anatomic characteristics. Which, if any, of the following statements about their relationship and/or positions is FALSE?

- (A) Anteflexion means that the uterus is bent forward on itself
- (B) The ovaries can be normally found caudad to the cervix
- (C) The round ligaments are normally attached to the uterus anterior to the insertion of the fallopian tubes
- (D) Adnexa refers to the tube, ovary, and their connecting structures
- (E) All statements are true

24. Regarding the anatomy of the fallopian tube, which of the following statements is FALSE?

- (A) Fallopian tubes are a conduit from the peritoneal to the uterine cavity
- (B) Each fallopian tube traverses the superior portion of the broad ligament attached by a mesentery (mesosalpinx)
- (C) The fallopian tube has four distinct areas in its 8-12 cm length: the portion that runs through the uterine wall (interstitial or cornual portion), the part immediately adjacent to the uterus (isthmic portion), the mid-portion of the tube (ampulla), and the distal portion containing the finger-like fimbria that expels the ovum (infundibular portion) to begin its passage toward the ovary
- (D) The longest of the fimbriae (fimbria ovarica) is attached to the ovary
- (E) Each tube is covered by peritoneum and consists of three layers: serosa, muscularis, and a nonciliated mucosa

25. Which of the following statements about the ovary is FALSE?

- (A) The ovaries normally change in size through-out a woman's lifetime
- (B) The ovary is supported in its normal anatomic position by the infundibulopelvic ligament and the ovarian ligament
- (C) The ovary produces both hormones and germ cells
- (D) The ovary lies in the ovarian fossa of the true pelvis, overlying the iliac vessels
- (E) The ovary produces the estrogens and androgens that regulate sexual desire in the human female

26. The pelvic peritoneum covers all of the following pelvic structures EXCEPT the

- (A) fimbria of the fallopian tube
- (B) uterine fundus
- (C) round ligament
- (D) uterorectal pouch of Douglas
- (E) uterosacral ligament

27. Which of the following statements regarding the female urethra is FALSE?

- (A) The urethra is a hollow, multi-layered tube 2.5 to 5 cm long, connecting the bladder with the outside world
- (B) The urethral-vesical junction is located at the level of the mid-trigone
- (C) There is no true anatomic sphincter within the urethra
- (D) The lower two-thirds of the urethra is contiguous with the anterior vaginal wall
- (E) The intrinsic "increased" resting tone of the urethra provides part of the continence mechanism for urinary control

28. The nerve supply to the vulva may be characterized as being

- (A) mediated via the pudendal nerve
- (B) a complex arrangement of Meissner's corpuscles
- (C) most dense of the prepuce of the clitoris
- (D) derived mainly from the nerves of spinal cord segments S-2,3,4
- (E) all the above

29. Which of the following statements regarding the innervation of the vagina is true?

- (A) The upper two-thirds of the vagina is largely innervated by sympathetic fibers from the presacral nerve
- (B) The vagina receives only parasympathetic fibers from the hypogastric plexus and pelvic splanchnic nerves. It is one of the few organs without sympathetic innervation
- (C) The upper vagina has more touch and pain fibers than the lower vagina
- (D) The vagina has more nerve endings per surface area than the clitoris, and therefore is probably the major organ involved in achievement of female orgasm

30. Branches of the internal iliac artery include all of the following EXCEPT the

- (A) pudendal artery
- (B) obturator artery
- (C) superior gluteal artery
- (D) ovarian artery
- (E) inferior vesical artery

31. Which of the following statements regarding the vessels of the vagina is FALSE?

- (A) The arterial supply of the vagina comes from the cervicovaginal branch of the uterine artery, inferior vesical, middle hemorrhoidal, and internal pudendal arteries
- (B) Venous drainage of the vagina is accomplished through an extensive plexus rather than through well-defined channels
- (C) The lymphatic drainage is such that the superior portion of the vagina (along with the cervix) drains into the external iliac nodes, the middle portion into the internal iliac nodes, and the lower third mainly into the superficial inguinal nodes and internal iliac nodes
- (D) Being a relatively avascular organ, the vagina is predisposed to atrophic changes in older patients

32. Opens the abdomen through the linea alba and can be extended from symphysis pubis to xiphoid without dividing the muscles of the abdomen

- (A) midline incision
- (B) Pfannenstiel incision
- (C) Maylard incision
- (D) Cherny incision
- (E) paramedian incision

33. A low transverse incision extended downward and through the anterior rectus fascia, with the anterior rectus sheath separated from the underlying muscles, from the pubis to near the level of the umbilicus

- (A) midline incision
- (B) Pfannenstiel incision
- (C) Maylard incision
- (D) Cherny incision
- (E) paramedian incision

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity hospital, labor & delivery ward, neonatal department with pregnant and newborns.

Tasks:

- Subgroup I – play situational tasks as patients
- Subgroup II - play situational tasks as doctors
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. Pregnant with blood group B (III) Rh (-) 24 weeks of pregnancy revealed titer Rh antibody 1: 8. The first pregnancy ended antenatal fetal death due to Rh-conflict. The general condition is satisfactory. Tonus of uterus is normal. Position of the fetus is longitudinal, presenting part is head, heart rate - 146 beats / min. No edema. Your tactics?

- A. Natural labor, waiting tactics.
- B. Repeat analysis for Rh antibodies after 2 weeks
- C. Send for consultation to therapist.
- D. Send for consultation to immunologist.
- E. Dynamic observation in antenatal clinic.

2. A pregnant 22 years old. Pregnancy is first. The examination determined Rh negative blood type A (II) in December. From history was found that as a child she spent hemotherapy. A man has Rh-positive blood type 0 (I) gr. How often do research to determine the blood of pregnant rhesus antibodies?

- A. Definition of antibodies in the blood of pregnant each month.
- B. Determination of antibody 1 per month in the first half of pregnancy and 2 times a month in the second half.
- C. Determination of antibodies in the blood of pregnant women during her first visit, at 20 weeks term, then every 4 weeks
- D. Determination of antibody every two weeks.
- E. Determination of antibodies twice during pregnancy.

3. Second gravida has the blood group 0 (I) Rh (-), at term 35 weeks of pregnancy was diagnosed antenatal fetal death. Three days ago determined titer Rh antibody 1: 128, ultrasound signs of hepatosplenomegaly, ascites of the fetus, placenta edema, non-stress test was abnormal. From the proposed delivery refused pregnant. What is the reason antenatal fetal death?

- A. Rh - immunisation
- B. Intrauterine infection
- C. Congenital defect of the fetus
- D. ABO conflict
- E. Fetal hypoxia

4. Second gravida, in term 34 weeks of gestation during next visit complained of shortness of breath and a rapid increase in the abdomen. OBJECTIVELY: height of fundus of the uterus is 40 cm, abdominal circumference is 102 cm. Presenting part is head, its movable above the pelvic inlet, fetal heart 132 bpm. / Min. During ultrasound examination was diagnosed polyhydramnios, ascites and hydrothorax in the fetus, placenta is thick. Choose tactics management of pregnancy.

- A. Determine fetal biophysical profile
- B. Determine blood flow in the vessels of the umbilical cord with dopplerometry
- C. ECG
- D. Labor induction
- E. amniocentesis is necessary to do

6. Second gravida C., at 28 weeks of pregnancy has the Rh- antibodies titer 1: 8. She gave birth child with symptoms of hemolytic disease. When should you check Rh- antibodies titer?

- A. Re-determination of antibodies in 1 week
- B. Re-determination of antibodies in 1 month
- C. Re-determination of antibodies in 3 weeks
- D. Re-determination of antibodies in 1 day
- E. Re-determination of antibodies after 2 weeks

7. A. A pregnant, 34 weeks gestation, is at the department of pathology. She has Rh- antibodies titer 1:32. From history, she had ectopic pregnancy with level of Rh- antibodies 1: 2 in 14 weeks. What should you do?

- A. Re-determination of antibodies in 1 day
- B. Cordocentesis
- C. Early delivery
- D. Blood transfusion
- E. ECTG

8. 24 years old pregnant with Rh-negative blood, has been registered in the antenatal clinic at 9 - 10 weeks. Pregnancy is third; first pregnancy finished normally six years ago, the child is healthy; second - miscarriage at 16 - 17 weeks of pregnancy. After birth detected diabetes class "B". The titer of Rh-antibodies 1: 16-1: 32. Correct tactic is:

- A. prolongation of pregnancy, prescribe needed dose of insulin.
- B. prolonging pregnancy, dietotherapy
- C. prolongation of pregnancy with regular determination of blood glucose.
- D. prolongation of pregnancy with the introduction of the suspension lymphocytic blood man.
- E Stop pregnancy (abortion).

9. Time to give anti-D-immunoglobulin in puerperium period is:

- A. In the first 24 hours after birth.
- B. In the early postnatal period.
- C. During the first 72 hours.

- D. During the first 96 hours.
- E. After 1 month postpartum.

10. Secundipara, 26 y.o. addressed to the department of pathology pregnancy in the term 32-33 weeks. Blood A (II), Rh-negative. From the history she gave birth for two Rh-positive healthy kids. Antibody titers during pregnancy is on the level 1:32, not growing. The patient must be delivery:

- A. gestational age 34-35 weeks.
- B. At 37-38 weeks.
- C. Immediately.
- D. At 40 weeks.
- E. Since the beginning of the spontaneous labor.

3.2. Educational materials, recommendations (instructions) for performing tasks

Pregnant woman's cardiovascular system

Pregnancy cause serious changes in mother's cardiovascular system, burdening course of all existing diseases, what can make a danger for woman's life.

Presence of cardiovascular pathology reflects at clinical course of the pregnancy, childbirth and puerperal period. Pregnant woman with cardiovascular diseases during pregnancy can have adaptation failure. In this group of women is observed high maternal mortality and high perinatal mortality. In-time diagnostic in the beginning of pregnancy, prevention of complications and supporting therapy are preventive therapy of critical conditions at labours with cardiovascular diseases.

Managing delivery through natural delivery tracts subject to pregnancy term and heart pathology data:

Under absence of cardiac insufficiency or under minimal signs – delivery through natural delivery tracts using spasmolytics, and analgetics.

Under deterioration hemodynamic indications during childbirth against the background cardiotropic therapy – shutdown second period of pregnancy by application of obstetric forceps.

At patients with cardiac insufficiency IIA, IIB and III stages:

Delivery at 37-38 weeks with preliminary labor induction. This tactics is recommended if in process of antepartum preparation turns on well to increase hemodynamic indications correspondingly 1 stage of cardiac insufficiency and fetal condition is satisfactory;

Premature delivery in terms of 28-36 weeks of pregnancy under absence of positive results of treatment during 12-14 days, if happens increase or presence of persistent pulmonary hypertension; stabilization hemodynamic indications after pulmonary edema or thromboembolism during 2 weeks; active rheumatism;

Delivery leads under presence of therapist, anaesthetist and constant monitor's control after mother and fetal conditions, CVP control, ECG data, rheopulmonography, hystero-graphy, fetal cardiotocography.

In postnatal and early postnatal periods – bleeding prevention with oxytocin and methylergometrine.

Delivery by cesarean section

Indications for cesarean section because of heart diseases:

Combined insufficiency of aortic and mitral valves;

Mitral stenosis II-III stages;
Valve prosthesis under effect absence from treating cardiac insufficiency;
Arterial thromboembolism, carried during pregnancy;
Bacterial endocarditis;
Paravalvular fistula;
Multivalve heart prosthesis;
Complications or unsatisfactory effects from surgical correction of heart defect;
Restenosis, recanalization, traumatic insufficiency after mitral commissurotomy;
Pulmonary edema, carried during pregnancy;
Aortic coarctation, also after surgical correction;
Contra-indications for cesarean section:
Severe decompensation under megalocardia;
Liver cirrhosis;
Severe damages of heart rhythm;
Complex innate malformations of blue type;
Severe pulmonary hypertension;
Cesarean section must be done with serious preparations.

Diseases of respiratory system

Bronchial asthma – is observed at 1% of pregnant women, almost 1/3 of patients observe improvement of disease, 1/3 – worsening, 1/3 – does not have any changes in disease course. Progress of asthma during pregnancy usually comes after carried respiratory disease, mostly at late terms.

Treating BA in pregnant women

Treatment program consists from next components:

Teaching patients;
Objective mark and monitoring lungs function;
Revealing and elimination factors which cause aggravation of disease;
Basic pharmacotherapy;
Aggravation treatment plan;
Preparation and managing childbirth at pregnant women with BA;

Managing childbirth at pregnant woman with BA

Patients must get basic therapy (inhal, corticosteroids, prolonged bronchial spasmolytic), which they were using before childbirth;
Patients, who previously took system steroids, are recommended hydrocortisone introduction each 8 hours and during 24 hours after childbirth;
Under operative delivery is excepted use of thiopentone, morphine, alfa-tubocurarin (these drugs can cause asthmatic fit); peridural anesthesia can be used, as like as general anesthesia;
In postnatal period is excepted using PGE-2 alfa and ergometrine, which can cause asthmatic fit. High caution must be followed under prescription pain-killers and antipyretics at patients with aspirin asthma.

Diseases of digestive apparatus

Managing tactics for pregnancy and delivery under gastric ulcer.

Under uncomplicated ulcerous disease pregnancy is possible and even causes positive influence on disease course. Disease does not cause any negative influence on fetal development and delivery can originate through natural delivery tracts.

In case when pregnancy accompanies with relapse of ulcerous disease in 2 weeks before delivery it is necessary to make a preventive course of treatment.

In cases when conservative therapy appeared to be insufficient is recommended to course delivery through natural delivery tracts with simultaneously introducing thin gastric tube in gastric for control after gastric material searching for possible bleeding.

If gastrorrhagia starts in first delivery period, it is an indication for urgent laparotomy, cesarean section and operative treatment of gastric ulcer with following drainage of abdominal cavity. If ulcer bleeding appears at second pregnancy term this needs an urgent delivery under careful anaesthetization by forceps operation with following operative ulcer treatment.

If gastric bleeding stopped after using conservative methods, it is recommended to make delivery at the background of antiulcer therapy. Relapses of bleeding are indications for urgent operative intervention.

Under origin of ulcer disease complications during pregnancy is possible operative intervention with following saving pregnancy.

Managing tactics for pregnancy and childbirth under biliary dyskinesia

Among diseases of digestion system diseases of biliary system occur one of the main places. Pregnancy can cause negative influence on dyskinesia course. Usually aggravation of condition can be observed during first part of the pregnancy. Mostly suffer women with different neurotic and psychoneurotic reactions, signs of emotional and vegetovascular lability.

Pregnancy also predispose for forming gallstones because of gall stagnation in gall bladder because of uterus pressure and decrease of moving activity of gall bladder, because of hyperestrogenemia.

One of the main tasks for treating pregnant woman with biliary dyskinesia by hypertension type is elimination of neurotic disorders, creation favourable conditions for work, elimination of conflict situations.

For normal functional condition of CNS is set sedative drugs; favourable influence sometimes cause novocaine 1% by tablespoonful 3-4 times a day before 20-30 min before meal or 2% solution intramuscularly by 3-4ml every day.

Hypotonic biliary dyskinesia can show itself under pregnancy, but does not cause any effect on pregnancy course.

In treating such patients is reasonable managing diet #5 with cholecystokinetics and other products, which promote bowel emptying, which reflex gall evacuation from gall bladder.

From medicamental agents are recommended cholagogue preparations from cholecystokinetic group, mineral waters with primary high mineralization, significant content of sulphate or chlorides what mostly stimulates cholepoiesis.

Pregnancy and delivery managing tactics under chronic cholecystitis

Diagnosis of exacerbation during pregnancy estimates on the ground of anamnesis, objective data and results of instrumental examination methods. But estimation of gathered data must be done according to possible changes under normal pregnancy.

Treatment principles during aggravation:

Diet #5;

M- anticholinergic drugs;

Inotropic spasmolytics (drotaverin, papaverine);

Under presens of accompanying hypotensial, hypokinetic dyskinesia – prokinetics, cholekinetics;

Herbat therapy;

Antibacterial therapy, antiparasitic therapy;

Delivery must be done according to obstetric situation under in-time pregnancy.

Pregnancy tactics managing under cholelithiasis

Target of conservative treatment of pregnant woman under cholelithiasis exacerbation is improvement of gall outflow and motor function of gall bladder and its ducts and also fight with infection. In this case usually treatment does not differ from usual treatment for cholecystitis.

If cholestasis cannot be prevented conservatively, it is an indication for operative treatment independently from pregnancy term. Cholecystectomy should be done in the end of II term because of less possibility of spontaneous abortion. Delivery can be done through natural delivery tracts.

Diseases of urinary system in pregnant woman

Among extragenital diseases of pregnant woman kidney's pathology occurs second place. Their frequency vary from 0,1% till 10%. Kidney's disease render unfavourable influence in pregnancy and childbirth course and postnatal period and fetal condition. Under pyelonephritis in 40% of cases pregnancy complicates with late gestosis.

Pregnancy complicates course of pyelonephritis and glomerulonephritis, what is complicated with hormonal, humoral and anatomic changes in organism:

Because of hormonal influence on special receptor in ureter, during pregnancy are observed disorders of urodynamics in upper urinary tracts;

Because of uterine compression by pregnant uterus appears ectasias of upper urine tracts (most to the right);

During pregnancy can be observed slackening of ligamentous apparatus forming nephroptosis, what promote vesicoureteral reflux and kidney infection.

Medical examination of pregnant women with urine system diseases

1 stage – nephrologist consultation, if is needed – ambulatory examination. On this stage is done initial clinical-laboratory estimation of the status for deciding the question about saving pregnancy. If is needed for more complex examination patients are guided into nephrological department.

2 stage – hospitalization in nephrological department. During first 4-5 days exempt besides common clinical examinations determine daily proteinuria, glomerular filtration rate, clierens and excretion of urine acid, blood ferments, also USD of kidneys and other examinations are done.

On the first stage or after ending examinations on the second stage set indications for preventive treatment. For this is set acetylsalicylic acid in small doses – up to 125mg/day, curantyl – 225mg/day for preventing placental insufficiency and connected with it complications at the second part of pregnancy.

3 stage – ambulatory observation after pregnant women from risk group. Periodicity of observations depends on circumstances, but doctor must examine pregnant woman not less than 1 time per month. If is needed – iteratively hospitalization in nephrological department.

4 stage – examination in postnatal period ambulatory or in nephrological department.

Pregnancy managing tactics

In-time and rightly treated pyelonephritis does not cause any danger for pregnancy and fetal. But patients with pyelonephritis must be refered to high risk of gestation complications group.

Determine III risk stages:

I risk stage – patients with noncomplicated pyelonephritis, appeared during pregnancy;

II risk stage – patients with chronic pyelonephritis, which was before pregnancy;

III risk stage - patients with pyelonephritis and hypertension or azotemia, pyelonephritis of just one kidney.

Patients with I and II risk stages can have pregnancy. They must stay in clinic registration. Under III risk stage pregnancy is contraindicated.

Sick pregnant women with pyelonephritis must be hospitalized under each exacerbation, under gestosis signs or fetal condition deterioration (hypoxia, hypotrophy).

Delivery

Under pyelonephritis is recommended delivery through natural delivery tracks. During pregnancy are prescribed spasmolytics, analgesics, and fetal asphyxia prevention. Delivery be cesarean section must be done only by obstetric indications.

Treatment of the patients with pyelonephritis under pyelonephritis

Restoration of urine passage;

Diet with sour drinks;

Herbal diuretics;

Antibiotic therapy;

In I term penicillin and oxacylin(3-4g per day) or ampicillin (0,5x4 in a day)during 8-10 days are predicted.

Starting from II pregnancy term cephalosporins can be prescribed, treatment course 4-8 days.

Aminoglycosides can be used only after 20th gestation week, but in 2-5% of patients this drugs cause nephrotoxic or ototoxic action, that's why they can be prescribed only under saved kidney functional ability and hearing diseases absent.

Chemoprophylaxis – urosulfan, ethazol, nevigramon;

Deintoxication and infusion therapy;

Vitamin therapy;

Sedative therapy;

Pregnancy managing tactics under glomerulonephritis

There are III risk stages:

I (minimal) risk stage – patients with latent form;

II (evident) - nephrotic form;

III (maximal) – pregnant women with hypertension and combined forms of chronic glomerulonephritis, with acute glomerulonephritis, with exacerbation of chronic glomerulonephritis, with all forms of disease with azotemia. Under III risk stage pregnancy is contra-indicated.

Under latent form of chronic glomerulonephritis pregnancy is possible.

Patients with nephritic form of glomerulonephritis impress on badly because of severe edemas and

expressed biochemical shifts. But mostly they can be treated symptomatically.

Pregnancy is not forbidden if are possible conditions for thorough observation and long stationary treatment.

Under hypertension and combined forms because of kidney and cardiovascular system function damages pregnancy is contra-indicated. If acute glomerulonephritis was carried more than 1 year ago before pregnancy and was achieved full restoration, pregnancy can be saved and usually it runs without complications.

Under latent form of glomerulonephritis women can delivery in-time and independently.

Under nephritic, hypertension and combined forms develops fetal hypoxia and also appears threat of antenatal death. That is the reason for early delivery by cesarean section.

Pregnancy tactics for pregnancy complicated with urolithiasis

Pregnant women with urolithiasis must be observed in antenatal clinic by obstetrician-gynecologist and urologist.

Indications for hospitalization:

Often colic attacks;

Pyelonephritis addition;

Late gestosis addition;

Deterioration of fetal condition;

Symptoms of abortion;

Treatment should be done by conservative methods.

Indications for operation:

Anuria, caused by ureter occlusion with stone;

Septic condition, caused by calculous pyelonephritis;

Pyonephrosis;

Blood diseases

Anemia – pathologic condition, which is characterized with decreased number of red blood cells and/or haemoglobin in blood.

Classification

Etiology

Anemia caused by feeding:

siderotic anemia;

B12 - folic anemia;

Folic deficit anemia;

Hemolytic anemia:

Because fermentative damages;

Talasemia;

Drepanocytic anemia;

Other inherited hemolytic anemias;
Acquired hemolytic anemias;

Aplastic anemia:
Erythroblastopenia;
Other aplastic anemias;
Acute posthemorrhagic anemia;
Anemias under chronic diseases:
Under neoformations;
Other chronic diseases;
By degree of severity:

Severity stage	Haemoglobin concentration	Hematocrit
Light	109-90g/l	37-31%
Middle	89-70g/l	30-24%
Severe	69-49g/l	23-13%
Very severe	< 40g/l	< 13%

Frequency of anemia's is 15-20% of all diseases during pregnancy, and last years has tendency for growth.

The most widespread among pregnant women is asiderotic anemia (95%).

Treatment and prevention of asiderotic anemia in pregnant women

Pregnant women are assigned adequate diet with increased content of Fe, proteins, vitamins and microelements, iron-containing meds are assigned only in severe forms. Only intolerance of oral Fe preparations or insufficient absorption in intestine are indications for intramuscular introduction. (250mg on each 1g/l of haemoglobin less than normal).

Red blood cells mass transfusion can be done only by vital indications before pregnancy.

Folate deficit anemia can be observed at multipara women under multiply pregnancy, preeclampsia, long use of antiepileptic or oral contraceptives.

Megaloblastic anemia, caused by cyanocobalamin insufficiency (vit B12), in pregnant woman can be observed very rarely (under atrophy of stomach mucus membrane or its resection).

Hemolytic anemia can be observed in 1,5% of all pregnant woman anemia cases. Hypoplastic anemia takes 0,44%. Under sickle-cell anemia is very high frequency of maternal mortality and half of pregnancies ends with abortion, stillbirth or neonatal death.

Leukemia is a contra-indication for pregnancy. In 25% after delivery was observed fatal outcome.

Idiopathic thrombocytopenic purpura (Werlhof's disease)

Is characterized with forming in spleen antibodies against own red blood cells. This pathologic process can be decreased by corticosteroids (prednisolon – 20-60mg/day), which are assigned during all pregnancy. If there is no effect – splenectomy.

Preparing pregnancy for delivery under blood diseases:

Examination of red blood condition;

Examinations of hemostasia system (concentration of fibrinogen; coagulation time; protrombin); under any changes in hemostasia system consultation of haematologist is needed.

Consultations of other specialists under present in pregnant woman extragenital pathology;

In-time treatment of pregnancy complications;

Assignment of complex antianemic therapy, vitamin therapy if is needed – hemotransfusions.

Making plan for managing childbirth according anemia severity stage, obstetric anamnesis, extragenital pathology.

Childbirth management:

Delivery must be managed conservatively;

Monitore all life indications;

Prevention of fetal asphyxia

Prevention of hypo-, and atonic bleeding;

Prebention of infections in case if inopportune water passages;

Complications during pregnancy under anemia

Premature or late waters passage.

powerless labor from 9,8 till 37% (because of chronic hypoxia);

Slow delivery with infection development;

Premature placental separation;

Atonic an hypertonic bleeding in postnatal period. Introduction of uterotonics. Till third day doctor must be prepared for manual extraction of placenta and examination of the uterus cavity if it is neede.

DIC-syndrome;

Infection during delivery and postnatal period. In 12% of cases postnatal period complicates with septic diseases.

Intrauterin fetal asphyxia, intra- and neonatal death of the fetal, stillbirth.

Managing tactics for postnatal period for women with anemia

Prescription of antianemic therapy immediately after childbirth.

Prevention of hypogalactia, mastitis and other pyoseptic diseases.

For increasing effect from antianemic therapy and hypovitaminosis E and A is recommended use of tocopherols 50mg in a day under anemia of I stage, and under II-III stages – vit E, intramuscularly during 2-4 days.

Enhanced feeding in postnatal period. Breast feeding of child not less 10-11 months.

Endocrine diseases in pregnant woman

By WHO, in pregnant woman differ three main types of pancreatic diabetes: DM I type (insulin depending), II type (insulin independent) and diabetes of pregnant woman.

Clinical signs of DM in pregnant woman

Clinical symptoms of DM are: thirst, polyuria, loss of weight, weakness, skin and vaginal itch, neurodermatitis, furunculosis, carbuncles, cataract, pyorrhea, caries.

Rigors, quickened heart rate, hyperhidrosis, depended on food intake, - appearance of them during starvation and disappearance under intake of carbohydrates are character for hypoglycemia.

Hypertension reactions during pregnancy make preconditions for progressing such complications as diabetic glomerulosclerosis, retinopathy, neuropathy. Decrease of organism resistance in aggregate with changed position of abdominal cavity and small pelvis organs promote ascending urinal tract infection.

In first term of pregnancy DM has no features. In second part of pregnancy in most patients course of DM become worse: increases thirst, polyuria, increases sugar level in blood and urine and increases organism necessity in insulin. Appearance of acidosis is a dangerous complication, which tells us about deep disorders in metabolic processes; acidosis is a precursor of diabetic coma.

Deterioration of DM course in second pregnancy term is because:
Increased kidney capacity for sugar, what leads to significant sugar loss with urine;
Insufficiency of carbohydrates assimilability, what leads to acidosis and coma;
Hyperfunction of front lobe of hypophysis. Increased production of ACTH by hypophysis and placenta leads to stimulation of kidneys cortex activity and increased level of cortisol; cortisol assists changing glycogen into glucose, what increases hyperglycemia and glycosuria.

Increased number of somatotropin leads to stimulation in pancreas development of L-cells, which produce glycogen which an antagonist of insulin.

Dig meaning in DM course during pregnancy has functional condition of liver. In patients with DM liver function is inadequate (liver is poor with glycogen and its cells undergeo fatty degeneration). This explains inclination to acidosis. It is known that patient condition increases before childbirth – sugar level in blood decreases, then decreases in urine and necessity in insulin decreases.

Complications during pregnancy and delivery in patients with DM.

All observed complications depends from vascular changes in mother and from compensation stage of carbohydrate metabolism. Mostly compications are observed at II and III terms of pregnancy. To this complications are carried gestosis (up to 50%); hydramnion (up to 50-60%); pyelonephritis (30%); antenatal fetal death (50%); premature delivery (31,1%); malformations of development (6-10%) etc.

Managing pregnancy:

Diet;

daily ration calorie content – 30-35 kcal/kg, under obesity – 25 kcal/kg, under body mass deficit – 40 kcal/kg;

carbohydrates must contain 45-50% of day calorage, proteins – 20-30%, fat – 25-30%; fully are excluded easy digestible carbonhydrates, are recommended meals fullli wth cellulose;

feeding regiment

breakfast – 25% of all day calories;

second breakfast – 25% of all day calories;

lunch - 35% of all day calories;
dinner – 15% of all day calories; besides main food intakes are recommended 1-2 additional food intakes;
insulinization (human insulin); measure of efficiency are euglycemia fasting and during the day, absence of ketoacidosis and episodes of hyperglycemia;
if is needed – correction of insulin therapy and absence of obstetric complications – hospitalization in endocrinologic department;
under pregnancy complications present – hospitalization in extragenital pathology department;

Contra-indications for saving pregnancy under DM:

Insulin-dependent DM with presence of fast progressive vascular complications (angiopathy, retinopathy, neuropathy, glomerulosclerosis);
Presence of labile (inclined to ketoacidosis) or insulin-dependent forms of DM, which is noncompensated;
Prior long decompensation with hepatodystrophy, pyoinflammatory processes.
Combination of DM and mother Rh immunization;
Combination of DM and tuberculosis;
Combination of DM with cardiovascular system diseases with blood circulation abnormality and active rheumatism.

Selection of delivery methodic

Delivery at most patients with DM is made through natural maternal passages.

Complications during delivery

Birth activity slackening;
Progressive fetal hypoxia;
Forming of clinically narrow pelvis, laboured excretion of shoulders and head under big fetal;

Postnatal period

At 25% of pregnant woman DM course after delivery did not changed at 25% is observed temporary deterioration of common condition at the expense of subinvolution of uterus, infection processes, diet abnormality or incorrect dose of insulin.

In first 2-3 days after delivery need in insulin decreases to 4-5 units. Starting from 3-4 days after delivery, dose of introducing insulin restores till previous numbers. To the third twenty-four hours after childbirth takes place normalization of ACTH, cortisol, catecholamine and all this leads to hypoglycemia in 50% of pregnant woman, especially after decreasing level of insulin.

After childbirth is needed prescription of antibiotic with immune correctors, anticoagulants, plasma transfusion, glucose solutions.

Discharge from department is possible after glycemia correction and adjustment of insulin dosage. Usually up to 7-10th day after delivery insulin doses became as like as they were before pregnancy.

Cushing's syndrome

Etiology. Excess secretion of corticosteroids can be caused by pituitary adenoma, suprarenal gland tumor (adenoma, cancer), and also ectopic ACTH-producing tumor.

Clinical picture. Patients have lipopexia on face (moon face), occiput, in girdle of superior extremity (buff hump) and stomach. In 30-75% of cases - amenorrhea is observed. Other symptoms include purple stretches on the stomach, hirsutism, arterial hypertension and proximal muscles weakness. In 40% of patients with Cushing's syndrome psychic disorders can be observed.

Prognosis for pregnant woman is unfavourable – in 50-60% cases pregnancy ends with artificial abortion, premature delivery or fetal death.

Treatment: depends on disease reason and pregnancy term. If Cushing's syndrome was diagnosed in I pregnancy term, it is an indication for abortion and suprarenal gland and hypophysis tumor resection. In II pregnancy term - spontaneous abortions. If pregnancy can be saved question about treatment is decided individually. If disease is diagnosed in III pregnancy term than before delivery is assigned metirapon and after – radical treatment.

Adrenocortical insufficiency (Addison's disease)

Etiology:

Autoimmune affection of adrenal glands;

Tuberculosis of adrenal glands;

Necrosis of adrenal glands tissue (haemorrhage, mycotic lesion);

Metastasis in adrenal glands;

Hypoadrenal crisis – raucous fall of corticosteroids level.

Clinical signs: appetite loss, nausea, vomiting, stomach ache, hypovolemia, arterial hypotension, shock.

Treatment: emergency – fast blood volume restoration+hydrocortisone each 6 hours by 100mg intravenously during 24 hours! After condition improvement and stabilization high dose of hydrocortisone gradually decrease.

Managing childbirth and postnatal period.

High risk of fetal death under treatment absence (40-50%);

High risk of hypoadrenal crisis;

In early terms of pregnancy is needed to differentiate nonspecific symptoms (nausea, vomiting) with vomiting of pregnant;

During delivery introduce increased dose of hydrocortisone (100mg each 6 hours during delivery);

After childbirth dose gradually decrease till supporting level;

Breast feeding is not forbidden;

Under in-time started suprarenal insufficiency treatment non complications are observed, because suprarenal glands start to produce hormones since III pregnancy term;

True hypertaldosteronism

(Conn's syndrome).

Is characterized with arterial hypertension, hypokaliemia, increased secretion of aldosterone and significant decrease of rennin activity in plasma combination.

Causes:

Adenoma of adrenal gland (60%);

Hyperplasia of adrenal gland cortex;

Cancer of adrenal glands;

In pregnant woman observes very rarely. Because of this influence on pregnancy is studied not enough. It is known that aldosterone penetrate placenta. In normal pregnancy course level of aldosterone and deoxycorticosterone increases, but regulation of hormone secretion stays at the former level.

Treatment: under adrenal gland cortex hyperplasia – hypotension preparations with potassium diuretics.

Pheochromocytoma.

is a tumor from chromaphine tissue, which produce a lot of adrenalin and noradrenaline.

Clinical picture:

head ache, hyperhidrosis, tachycardia, uneasiness, stenocardia;

paroxysmal character of manifestation;

complains on weakness between attacks;

presence of hypertension crisis's (50%) – from few times per month up to few times per day, duration from one minute to few hours;

body mass loss (increased basal metabolism);

Treatment: during pregnancy patient take therapy of alfa- adrenoreceptor blocking agent (under treatment absence is high level of mother and fetal mortality).

Isoantigenic incompatibility of maternal and fetal blood

Isoimmunization – one of the clinical forms of immune pregnancy failure that arises conditional upon incompatibility of maternal and fetal organisms for different antigens and leads to severe disorders in the state of fetus and baby.

The main forms are:

Rh- isoimmunization;

AB0- isoimmunization.

Rh isoimmunization – humoral immune answer to fetus erythrocytal antigenes of Rh group. Antibodies (Ab) get through placenta and cause extravascular hemolysis and anemia conditioning erythroblastosis of fetus.

Risk factors:

Artificial abortion in anamnesis;

Spontaneous abortion in anamnesis;

Rh-positive blood type transfusion in anamnesis;

Ectopic pregnancy;

Absence of specific prophylactics of Rh incompatibility after the end of previous pregnancy;

Rh incompatibility during previous pregnancies.

Risk of isoimmunization is heightened by:

Placental abruption;

Surgery (manual removal of placenta, caesarean section, amniocentesis) in anamnesis or during existent pregnancy;

Virus infection (herpes, cytomegalovirus).

AB0 incompatibility develops in conditions of incompatibility of maternal and fetal blood groups and presence of Ab to erythrocytes of fetal blood group. Group-specific Ab may be produced in maternal organism as an answer to hemotherapy, vaccines and therapeutic serums, contact with bacteria that contain A and B antigenic factors.

In most cases immune incompatibility happens when maternal blood type is 0(I) and fetal blood type is A(II), seldom B(III) or AB(IV). AB0 isoimmunization can be the cause of different forms of hemolytic disease (HD) of newborn from subclinical form to severe erythroblastosis and antenatal fetal death. Although whilst in AB0 incompatibility fetal erythrocytes are quickly destroyed in maternal organism and Ab synthesis doesn't catch so as a rule the form of the disease is mild.

It is wise to make AB0-specified Ab test in women with recurrent miscarriage or antenatal fetal death in anamnesis.

Ab0 incompatibility smoothes pregnancy course whilst in Rh incompatibility. Rh incompatibility arises more often if mother and fetus have the same or common blood types of AB0 system.

Diagnostics of immune conflict

Anamnesis: blood transfusion without regard to Rh group, abortions, stillbirth or babies with HD, data of specific prophylactics of isoimmunization during previous pregnancies.

Rh-Ab titre test: rise and instability of Rh-Ab titre indicates on Rh incompatibility. In titre 1:32 and higher HD arises more often, the risk of antenatal fetal death is high.

AB0-specific Ab test is performed in pregnant women with O(I) blood type that have spontaneous abortions, stillbirth, child death from HD in anamnesis.

Diagnostics of HD of fetus

Ultrasound examination allows to visualize symptoms of an early and fully developed hydrops fetalis.

Symptoms of an early stage of hydrops fetalis:

polyhydramnion;

hepatosplenomegaly.

Symptoms of a fully developed hydrops fetalis:

growth of echogenicity of fetal intestines;

cardiomegaly and pericardial effusion;

ascites and hydrothorax;

“Buddha” posture;

motion activity diminution;

placenta thickening.

Ultrasonic scanning is carried out in pregnant women from the risk group for Rh incompatibility:

before 30 weeks of pregnancy once a month;

after 30 weeks of pregnancy twice a month;

on appearance of fetal damage symptoms every day up to delivery.

Cardiotocography – symptoms of chronic hypoxia of fetus and decrease of compensatory ability of fetoplacental complex.

Transabdominal amniocentesis is carried out after 26 weeks of pregnancy.

A question of necessity of amniocentesis is solved depending upon Ab titre and anamnesis data. If there are indications to amniocentesis a woman must be treated in the health care institution of the 3rd level.

Indications to amniocentesis:

Ab titre 1:64 and higher;

4-fold titre growth in repeated test in 2 weeks;

Ab titre growth and ultrasonic symptoms of HD of fetus;
stillbirth, children with HD in anamnesis.

Contraindications:

threatening premature birth;
fever.

Amniotic fluid test allows to estimate fetal anemia severity.

In the case of development of fetal HD, rise of the concentration of bilirubin in amniotic fluid and growth of amniotic fluid optical density (AFOD) indicates severity level of the HD.

If AFOD is 0,1 or lower then pregnancy can be prolonged, if AFOD is 0,15 or over then delivery preparation should be started.

Amniotic Fluid Optic Density		Bilirubin concentration in amniotic fluid, mg/l
Fetus state		
0,15 – 0,20	0 – 2,8	Risk of fetal HD development is low
0,21 – 0,34	2,9 – 4,6	Risk of fetal HD development is mild
0,35 – 0,70	4,7 – 9,5	Risk of fetal HD development is high
Over 0,70	Over 9,5	Risk of fetal HD development is extremely high

Cordocentesis – umbilical cord blood taking through anterior abdominal wall of a woman (is carried out at the health care institution of the 3rd level if there are trained specialists). In fetal blood we measure:

hemoglobin and hematocrit;

blood group and Rh-factor;

bilirubin level;

reticulocytes amount;

serum protein;

fetal erythrocytes-fixed Ab.

If fetal blood is Rh-negative further analysis are not necessary.

Postnatal diagnostics of hemolytic disease of newborn (HDN) – blood group, Rh-factor and bilirubin level, speed of hourly bilirubin level rise, Hb and Ht levels are measured in blood of umbilical cord vessels. Coombs direct test is carried out on peripheral blood of fetus.

Tactics of pregnancy care and delivery management

On the stage of antenatal clinic:

Rh-Ab titre is measured in blood on the first visit, in 20 weeks and later every 4 weeks.

If pregnant woman has 0(I) blood type we measure her husband's blood type and identify the risk group for newborn for AB0 incompatibility.

On the stage of maternity obstetric service:

Delivery in women with Rh-negative blood type with isoimmunization is carried out prematurely depending on blood Ab titre.

Indications to premature delivery in Rh-incompatibility:

Ab titre 1:64 (critical level);

4-fold titre rise in repeated test;

AFOD 0,35-0,70 and over, bilirubin level in amniotic fluid is 4,7-9,5 mg/l;

ultrasonic symptoms of HD of fetus;

stillbirth or babies with HD in anamnesis.

Straight after baby's birth umbilical cord is clamped to prevent of anti-Rh Ab getting into baby's bloodstream, placental end of umbilical cord is not clamped (to decrease the risk and volume of fetomaternal transfusion). In the case of caesarean section manual removal of placenta is not performed.

Prophylactics of Rh-immunization

Prophylactics during pregnancy without previous immunization of pregnant woman is carried out by intramuscular injection of 1 dose (300 mcg) of anti-Rh (D) immunoglobulin:

at the term of pregnancy of 28-32 weeks;

in case of symptoms of threatened spontaneous abortion before 28 weeks of pregnancy;

after amniocentesis or chorion biopsy;

after molar pregnancy removal;

after ectopic pregnancy;

after abortion (not later than in 48 hours);

after mistaken transfusion of Rh-positive blood to Rh-negative woman;

after platelet concentrate transfusion;

in clinical situations that are accompanied by fetus cells arriving in maternal bloodstream;

placenta abruption, uterine bleeding (of an unknown etiology);

trauma of pregnant woman (e.g. car crash).

In pregnancy term less than 13 weeks dose of anti-Rh (D) immunoglobulin is 75 mcg, in pregnancy term over 13 weeks – 300 mcg.

Prophylactics after birth of Rh-positive baby: intramuscularly 1 dose (300 mcg) of anti-Rh (D) immunoglobulin during first 72 hours.

Contraindications to injection of anti-Rh (D) immunoglobulin – anamnesis data of anaphylactic or severe system reactions to human immunoglobulin.

Prophylactics of HD caused by AB0 incompatibility is not performed during pregnancy.

Unspecific drug prophylactics and treatment of Rh incompatibility is not performed in pregnant women.

Jaundice of the newborn – appearing of visible yellow tincture of skin, sclerae and/or mucosae as a result of bilirubin blood level rise in newborn.

Early jaundice – appears during the first 36 hours after birth. Jaundice that appeared during the first 24 hours after birth is always a symptom of pathology.

“Physiological” jaundice – appears after the first 36 hours after birth and is characterized by total bilirubin level rise in blood serum not more than up to 205 mmol/l.

Complicated “physiological” jaundice– physiological jaundice that is accompanied by changes in a state of newborn.

Prolonged (protracted) jaundice – is diagnosed after the 14th day in mature newborns and after the 21th day in premature newborns.

Late jaundice – appears after the 7th day of newborn’s life.

Methodics of clinical examination and staging of jaundice

Skin colour: check for yellow discoloration of skin should be held on a fully naked baby in condition of sufficient (optionally daylight) illumination.

Yellow skin tinction spread: It is wise to use modified Kramer’s scale for estimation of jaundice appear stages and correlation with bilirubin blood level. An alternative to the visual estimation with Kramer’s scale can be bilirubin skin level analysis with percutaneous bilirubinometry.

Time of jaundice appear:

Child age (hours)	Jaundice localization	Conclusion
24	Any	
24-48	Extremities	“dangerous jaundice”
>48	Foots, arms	

Immediate phototherapy should be started after symptoms appearing of a “dangerous jaundice”.

Clinical state of a newborn

Clinical state of newborn should be estimated on appearance of jaundice:

Grade of child adequacy, reflex activity.

Adequacy of breast feeding that should take place not less than 8 times a day.

Skin turgor state and mucosae wetness

Liver and spleen sizes.

Diction rate and urine character.

It is extremely important to check newborns with jaundice for symptoms of central neural system disorders (kernicterus):

Early symptoms – appearance of lethargy, drowsiness, torpidity and sucking reflex repression.

Acrimony, muscular hypertonia, high sound scream, possible temperature rise at a later period.

At terminal stage child develops opisthotonus, convulsions, apnea, monotonous high-pitch cry, deep stupor or coma.

3.3. Requirements for the results of work.

Which are clinical signs, course features and diagnostic methods of cardiovascular diseases at pregnant woman?

What are the methods for delivery under cardiovascular pathology at pregnant woman?

Which are clinical signs, course features and diagnostic methods of respiratory diseases at pregnant woman?

What are the methods for delivery under respiratory diseases at pregnant woman?

Which are clinical signs, course features and diagnostic methods of diseases of digestion system at pregnant woman?

Which are clinical signs, course features and diagnostic methods of kidney diseases at pregnant woman?

Indications for hospitalization under kidney diseases?

Which are clinical signs, course features and diagnostic methods of blood diseases at pregnant woman?

What are the possible complications during pregnancy at labour with blood disease?

Which are clinical signs, course features and diagnostic methods of endocrine system diseases at pregnant woman?

What are the possible complications during childbirth at labors with endocrine diseases?

Describe the AB0 and Rh systems.

Explain the pathogenesis of essential hypertension fetus and infant.

Bring GC classification of the fetus and infant.

Describe the clinical characteristics of different forms of GC.

List the diagnostic methods GC fetus and infant.

Describe the main treatment of hemolytic disease in the antenatal period.

State the principles of treatment of hemolytic disease in the early neonatal period.

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. Pregnant with blood group B (III) Rh (-) 24 weeks of pregnancy revealed titer Rh antibody 1: 8. The first pregnancy ended antenatal fetal death due to Rh-conflict. The general condition is satisfactory. Tonus of uterus is normal. Position of the fetus is longitudinal, presenting part is head, heart rate - 146 beats / min. No edema. Your tactics?

A. Natural labor, waiting tactics.

B. Repeat analysis for Rh antibodies after 2 weeks

C. Send for consultation to therapist.

D. Send for consultation to immunologist.

E. Dynamic observation in antenatal clinic.

2. A pregnant 22 years old. Pregnancy is first. The examination determined Rh negative blood type A (II) in December. From history was found that as a child she spent hemotherapy. A man has Rh-positive blood type 0 (I) gr. How often do research to determine the blood of pregnant rhesus antibodies?

A. Definition of antibodies in the blood of pregnant each month.

B. Determination of antibody 1 per month in the first half of pregnancy and 2 times a month in the second half.

C. Determination of antibodies in the blood of pregnant women during her first visit, at 20 weeks term, then every 4 weeks

D. Determination of antibody every two weeks.

E. Determination of antibodies twice during pregnancy.

3. Second gravida has the blood group 0 (I) Rh (-), at term 35 weeks of pregnancy was diagnosed antenatal fetal death. Three days ago determined titer Rh antibody 1: 128, ultrasound signs of hepatosplenomegaly, ascites of the fetus, placenta edema, non-

stress test was abnormal. From the proposed delivery refused pregnant. What is the reason antenatal fetal death?

- A. Rh - immunisation
- B. Intrauterine infection
- C. Congenital defect of the fetus
- D. ABO conflict
- E. Fetal hypoxia

4. Second gravida, in term 34 weeks of gestation during next visit complained of shortness of breath and a rapid increase in the abdomen. OBJECTIVELY: height of fundus of the uterus is 40 cm, abdominal circumference is 102 cm. Presenting part is head, its movable above the pelvic inlet, fetal heart 132 bpm. / Min. During ultrasound examination was diagnosed polyhydramnios, ascites and hydrothorax in the fetus, placenta is thick. Choose tactics management of pregnancy.

- A. Determine fetal biophysical profile
- B. Determine blood flow in the vessels of the umbilical cord with dopplerometry
- C. ECG
- D. Labor induction
- E. amniocentesis is necessary to do

6. Second gravida C., at 28 weeks of pregnancy has the Rh- antibodies titer 1: 8. She gave birth child with symptoms of hemolytic disease. When should you check Rh- antibodies titer?

- A. Re-determination of antibodies in 1 week
- B. Re-determination of antibodies in 1 month
- C. Re-determination of antibodies in 3 weeks
- D. Re-determination of antibodies in 1 day
- E. Re-determination of antibodies after 2 weeks

7. A. A pregnant, 34 weeks gestation, is at the department of pathology. She has Rh- antibodies titer 1:32. From history, she had ectopic pregnancy with level of Rh- antibodies 1: 2 in 14 weeks. What should you do?

- A. Re-determination of antibodies in 1 day
- B. Cordocentesis
- C. Early delivery
- D. Blood transfusion
- E. ECTG

8. 24 years old pregnant with Rh-negative blood, has been registered in the antenatal clinic at 9 - 10 weeks. Pregnancy is third; first pregnancy finished normally six years ago, the child is healthy; second - miscarriage at 16 - 17 weeks of pregnancy. After birth detected diabetes class "B". The titer of Rh-antibodies 1: 16-1: 32. Correct tactic is:

- A. prolongation of pregnancy, prescribe needed dose of insulin.
- B. prolonging pregnancy, dietotherapy
- C. prolongation of pregnancy with regular determination of blood glucose.

D. prolongation of pregnancy with the introduction of the suspension lymphocytic blood man.

E Stop pregnancy (abortion).

9. Time to give anti-D-immunoglobulin in puerperium period is:

A. In the first 24 hours after birth.

B. In the early postnatal period.

C. During the first 72 hours.

D. During the first 96 hours.

E. After 1 month postpartum.

10. Secundipara, 26 y.o. addressed to the department of pathology pregnancy in the term 32-33 weeks. Blood A (II), Rh-negative. From the history she gave birth for two Rh-positive healthy kids. Antibody titers during pregnancy is on the level 1:32, not growing. The patient must be delivery:

A. gestational age 34-35 weeks.

B. At 37-38 weeks.

C. Immediately.

D. At 40 weeks.

E. Since the beginning of the spontaneous labor.

Practical lesson № 36.

Placental dysfunction, hypotrophy of the foetus, foetal distress. Anomalies of development of fertilized ovum.

Learning objective is to gain basic knowledge about placental dysfunction, fetal growth retardation, fetal distress and anomalies of fetal egg, be able to differentiate between certain signs and symptoms that can be common to both disease processes and to physiologic adaptations of pregnancy, obtain knowledge about methods of obstetrical examination, appropriate prenatal counseling and supervision in order to provide successful obstetric outcome

Basic concepts:

- definition, etiology and pathogenesis of placental dysfunction,
- classification of placental dysfunction,
- abnormalities of the ovum, risk pregnancy for abnormalities of the fetus,
- etiology and clinic polyhydramnios and oligohydramnios,
- methods of diagnosis and treatment of polyhydramnios and oligohydramnios

D. organizational stage

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

In recent years, among the causes of neonatal and infant mortality top ranks congenital abnormality of the fetus. In every 5th child registered pathology, antenatal there, and 30% of the causes of various diseases or are the backdrop for their appearance.

Early diagnosis of congenital fetal pathology contributes to the birth of a healthy child. Knowledge of modern methods of antenatal diagnosis of the fetus during uncomplicated pregnancy helps detect fetal pathology in the early stages of pregnancy.

E. control of basic knowledge (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Pelvis from anatomical and obstetric points of view.
- The dimensions of the fetal head and body.
- Signs of fetal maturity.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

To have specialized conceptual knowledge acquired in the learning process.
To be able to solve complex problems and problems that arise in professional activities.
Clear and unambiguous communication of own conclusions, knowledge and explanations to specialists and non-specialists.
To be responsible for making decisions in difficult conditions.
To have deep knowledge of the structure of professional activity.
To be able to carry out professional activities that require updating and integration of knowledge.

To be able to effectively form a communication strategy in professional activities.
To be responsible for professional development, ability to further professional training with a high level of autonomy.

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. The posterior rectus fascia (sheath) ends at the

- (A) insertion of the rectus muscles
- (B) insertion of the anterior rectus sheath
- (C) arcuate line (semicircular line, linea semicircularis, line of Douglas)
- (D) area approximately 3-4 cm below the umbilicus
- (E) area approximately 2-3 cm above the pubic symphysis

2. Sacrospinous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

3. Sacrotuberous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

4. Ilioinguinal ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

5. Arcuate ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

6. Formed by the superior and inferior pubic rami and covered by a central membrane through which a nerve, artery, and vein pass

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament

(E) sacral foramina

7. The internal pudendal vessels and pudendal nerve exit the pelvis but then reenter through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

8. Divides and demarcates the greater and lesser sciatic foramen

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

9. The piriformis muscle, gluteal vessels, and posterior femoral cutaneous nerves pass through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

10. Four anterior and four posterior openings through which pass small nerves

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

11. Which of the following statements is FALSE?

- (A) The ischium has a body and two rami
- (B) The internal surface of the body of the ischium provides attachments for the levator ani muscle and coccygeus muscle
- (C) The superior ramus is located cephalad to the inferior ramus in the standing position
- (D) The superior ramus forms the dorsolateral portion of the obturator canal
- (E) The ischial tuberosity is the lowest portion of the pelvis in the erect or sitting posture and bears the weight of the human frame in the sitting position

12. Regarding the pubis, which of the following statements is FALSE?

- (A) The pubis has a body and two rami
- (B) The superior edge of the body of the pubis, lateral to the midline, has a raised area called the anterior iliac crest a common landmark
- (C) The inferior ramus is the attachment of the adductor magnus and brevis, and obturator internus muscles

- (D) The inferior rami form the lower portion of the pubic arch
- (E) Inferiorly, the pubic bone is the attachment for the urogenital diaphragm

13. The sacrum

- (A) is formed from 11 or 12 small fused vertebrae
- (B) has an uppermost anterior portion called the obstetrical conjugate
- (C) in women has a concave pelvic surface
- (D) is separated from the vertebrae that make up the coccyx by the sacrococcygeal joint
- (E) most often is the limiting factor in determining the size of the pelvic outlet

14. Which of the following is a muscle of the external genitalia?

- (A) the gluteus
- (B) the sartorius
- (C) the superficial transverse perineal
- (D) the deep transverse perineal
- (E) the levator ani

15. The term pudenda includes the

- (A) mons pubis
- (B) vulva
- (C) labia
- (D) external genitalia
- (E) all the above

16. The term perineum describes

- (A) the entire area between the thighs from the symphysis to the coccyx, bounded inferiorly by the skin and superiorly by the levator muscles of the pelvic diaphragm
- (B) the anus and perianal area
- (C) the superficial skin layer of the vulva
- (D) the tendon joining the muscles deep to the external genitalia
- (E) bulbocavernosus, ischiocavernosus, and transverse perineal muscles as a complex

17. The clitoris

- (A) consists of a single crurum, a short body, and the glans clitoris, with overlying skin called the prepuce
- (B) is attached to the pubic bone by a suspensory ligament
- (C) contains within the shaft the corpora cavernosa, a collection of dense connective tissue that serves as support for the anterior-inferior portion of the vagina
- (D) is supplied very sparsely with nerves originating primarily from the terminal branch of the ilioinguinal nerve in most women
- (E) plays a secondary role in erotic stimulation in most women when compared to the role of the vagina

18. Which of the following statements regarding the muscles of the external genitalia is TRUE?

- (A) The bulbocavernosus muscle surrounds the distal vagina and vestibule on each side as a single continuous strip of muscle, much like other sphincters

- (B) The ischiocavernosus muscle takes origin from the ischial tuberosity and inferior ischial ramus and inserts upon the inferior pubic ramus on each side of the pelvis
- (C) The superficial transverse perineal muscle arises from the ischial tuberosity and inferior ischial ramus and inserts between the posterior vagina and anterior rectum
- (D) The perineal body serves as a central connection for all the superficial muscles of the external genitalia except the transverse perineal muscle which inserts directly on the external anal sphincter
- (E) The muscles of the external genitalia are usually spared at the time of episiotomy when the levator ani muscle is routinely divided

19. Which of the following statements about the vagina is FALSE?

- (A) The vagina is a 7-10 cm canal connecting the internal and external genitalia from the vestibule to the uterine cervix
- (B) It is a hollow, distensible, fibromuscular tube with the apex (vault) having an H-shaped lumen and the external opening being flattened in the dorsal-ventral dimension
- (C) The body of the vaginal tube is flattened in its normal resting state
- (D) The mid-portion of the vaginal axis is nearly perpendicular to the lower sacrum in the adult human female in a standing position
- (E) The posterior fornix (back wall of the vagina) is approximately 2 cm longer than the front wall and is directly connected to the peritoneal pouch (posterior cul de sac, retrouterine space, or pouch of Douglas) directly behind the uterus

20. When the infantile uterus is examined, one finds that

- (A) the cervix is larger than the corpus (body of the uterus)
- (B) the position is always anteflexed
- (C) the cervix is the same size as the corpus
- (D) the body is larger than the cervix
- (E) it is as large as the adult organ in the immediate newborn period

21. The portio vaginalis of the cervix is that part which

- (A) extends cephalad from the vagina
- (B) protrudes into the vagina
- (C) forms an internal isthmus
- (D) is normally covered with endocervical epithelium
- (E) all the above

22. Which of the following statements regarding the uterus is FALSE?

- (A) The uterus has a body (corpus), composed mainly of smooth muscle, and a cervix, composed mainly of connective and elastic tissues, that are joined by a transitional portion (isthmus)
- (B) It is an estrogen-dependent organ measuring about 7.5 cm long by 5 cm in width, and 4 cm anterior to posterior diameter in an adult female
- (C) After puberty the uterus weighs about 50 grams in the nullipara and 70 grams in the multipara
- (D) It lies between the bladder anteriorly and the pouch of Douglas in front of the rectum posteriorly, with the cervical portion extending into the abdomen and into the vagina

(E) The opening at the distal tip of the cervix is called the internal os

23. The uterus and adnexa are normally mobile structures, but they do have some relatively fixed anatomic characteristics. Which, if any, of the following statements about their relationship and/or positions is FALSE?

- (A) Antelexion means that the uterus is bent forward on itself
- (B) The ovaries can be normally found caudad to the cervix
- (C) The round ligaments are normally attached to the uterus anterior to the insertion of the fallopian tubes
- (D) Adnexa refers to the tube, ovary, and their connecting structures
- (E) All statements are true

24. Regarding the anatomy of the fallopian tube, which of the following statements is FALSE?

- (A) Fallopian tubes are a conduit from the peritoneal to the uterine cavity
- (B) Each fallopian tube traverses the superior portion of the broad ligament attached by a mesentery (mesosalpinx)
- (C) The fallopian tube has four distinct areas in its 8-12 cm length: the portion that runs through the uterine wall (interstitial or cornual portion), the part immediately adjacent to the uterus (isthmus portion), the mid-portion of the tube (ampulla), and the distal portion containing the finger-like fimbria that expels the ovum (infundibular portion) to begin its passage toward the ovary
- (D) The longest of the fimbriae (fimbria ovarica) is attached to the ovary
- (E) Each tube is covered by peritoneum and consists of three layers: serosa, muscularis, and a nonciliated mucosa

25. Which of the following statements about the ovary is FALSE?

- (A) The ovaries normally change in size through-out a woman's lifetime
- (B) The ovary is supported in its normal anatomic position by the infundibulopelvic ligament and the ovarian ligament
- (C) The ovary produces both hormones and germ cells
- (D) The ovary lies in the ovarian fossa of the true pelvis, overlying the iliac vessels
- (E) The ovary produces the estrogens and androgens that regulate sexual desire in the human female

F. formation of professional skills (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity hospital, labor & delivery ward, neonatal department with pregnant and newborns.

Tasks:

- Subgroup I – play situational tasks as patients
- Subgroup II – play situational tasks as doctors

- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. On receiving antenatal appeared pershovahitna 30 years. The gestational age according to the latest monthly 20 weeks. From history revealed that she suffered from high fever SARS in early pregnancy and took treatment (antibiotics, antipyretic drugs). When screening ultrasound diagnosed with microcephaly. Identify tactics.

- + A. Abortion.
- B. follow-up, ultrasound control after 1 month.
- C. Hold amniocentesis.
- D. It is necessary to do a biopsy of the placenta.
- E. Run kordotsentez.

2. Pershorodillya 20 years ba-hatovoddyam is in labor with hours. Maternity active activities. One fruit, in the main presentation. The heartbeat of the fetus does not suffer. Roz-kryttya cervix 4 cm. The bag of water out intense contractions. Determine the tactics of delivery:

- A. prostahlan-dynamy induce labor.
- V. expectant management.
- C. Caesarean section.
- B. The dream vacation.
- + E. Amniotomy.

3. Normally the number of amniotic waters at full-term pregnancy:

- AA + 600-1500 ml.
- B. 500-600 ml.
- C. 1600-2000 ml.
- D. 2000-2300 ml.
- E. 2000-2500 ml.

4. Number of amniotic waters at Polyhydramnios:

- A. 600-1500 ml.
- B. 500-600 ml.
- + C. More than 1500 ml.
- D. More than 2,000 ml.
- E. More than 2500 ml.

5. Possible cause polyhydramnios:

- A. Chronic infection
- B. Diabetes
- C. Rhesus conflict
- D. fetal malformations
- + E. all mentioned.

6. The main complaint of pregnant women with acute polyhydramnios:
 - A. Loss of appetite.
 - B. Dyspnea.
 - C. ailments.
 - D. The feeling of heaviness and pain in the abdomen and lower back.
 - + E. all mentioned.
7. The main diagnostic criteria for Polyhydramnios:
 - A. Pale skin, increased venous drawing on his stomach.
 - B. bypass the stomach and the height of standing uterus more pregnancy.
 - C. uterus spherical shape.
 - D. unstable fetal position, fetal parts palpable with difficulty or not defined.
 - + E. all mentioned.

3.2. Educational materials, recommendations (instructions) for performing tasks

Placental dysfunction (PD) – a clinical syndrome, caused by morphological and functional changes in the placenta and its infringement of the compensatory-adaptive possibilities. The reasons for placental dysfunction can be infringements of maturing and the formation of the placenta in women with pathologies of the endometrium, ovary-hypophysis and adrenal glands disorders, previous abortions and miscarriages. Pre-eclampsia, risk of miscarriage, overdue pregnancy, iso-serological blood incompatibility of the mother and fetus, genital infantility and other extra-genital pathologies (dysfunction of the adrenal glands, diabetes, thyrotoxicosis, etc.). play a great role in the occurrence of placental dysfunction, Thus, a complex of transport, trophic, endocrine and metabolic disorders of the placenta can occur, which is the basis for pathology of the fetus and newborn. The degree and character of influence of the pathological condition of the pregnant woman on the fetus depends upon many factors: the term of the pregnancy, the length of influence, condition of compensatory-adaptive mechanisms in the "mother-placenta-fetus" system.

Classification of PD:

- I. by the clinical-morphological signs:
 - a) primary (early) placental insufficiency (before 16 weeks) occurs during the formation of the placenta during implantation, early embryogenesis and placentation under the influence of genetic, endocrine, infectious and other factors. Enzyme insufficiency of the decidual tissue (during dysfunction of the ovaries, anatomical structural disorders, disorders in the location of the placenta attachment, and also defects of vascularization and the problems in the maturing of the chorion) play a valuable role in the development of primary placental dysfunction. Primary insufficiency can assist in the development of congenital disorders of the fetus, stillborn pregnancy. Clinically, it appears as risk of miscarriage in early terms. On occasion, primary placental dysfunction can develop into secondary.
 - b) secondary (late) placental dysfunction, as a rule, occurs in the late terms of pregnancy, after 16 weeks, under the influence of different maternal factors.

II. by the clinical course:

a) acute – acute disturbances of decidual perfusion and disturbances of the utero-placental blood circulation play a leading role in its development. This kind of placental dysfunction appears as large infarctions of the placenta, preterm detachment of a normally located placenta. As a result, death of the fetus and the termination of the pregnancy can occur quickly.

b) chronic – very frequent pathology (it is observed in approximately every third pregnancy woman in the group of high risk). It can occur in the II trimester and last for a long time.

III. by the condition of the compensatory-adaptive reactions:

a) relative – when the compensatory reactions in the placenta are preserved. Vital support of the fetus is caused by compensatory reactions, which operate on the tissue (increase the number of reabsorbing villa, capillaries of terminal villa, functioning syncytial nodes), cellular and subcellular levels of the syncytiotrophoblast. Infringements of maturing of the placenta and immune disorders have certain value in the development of this type of PD.

b) absolute - most difficult form of chronic PD. It is characterized by the development of damage to the placenta of involution-dystrophic, circulatory and inflammatory character, which is accompanied by the absence of compensatory-adaptive reactions of the chorion at the tissue level.

Diagnostics of disorders of the functions of the placenta.

1. Determine the degree and character of changes in the placenta. \

a) hormonal researches:

Hormonal methods of diagnostics of PD consist of determining the level of hormones in the amniotic fluid, patient's blood and urine. But, it cannot be limited to the research of one hormone only one time. It is advisable to use dynamic supervision of a complex of hormones in the placental complex, placental lactogen (PL) and chorionic gonadotropin (CG) – to diagnose the condition of the syncytiotrophoblast of the placenta; estrogen (estradiol-E2 and estriol-E3) – to evaluate the function of the placental complex; progesterone (Pg)-to diagnose the condition of the uterine-placental-fetal system (see table 1).

2. Determine the condition of the fetus and placental system.

a) measure the height of the uterine fundus over the pubis symphysis and the circumference of the abdomen in dynamics.

Special attention should be paid during external measurement in the II and beginning of the III trimester when the received sizes are comparison to the term of the pregnancy, which shows any fetal growth retardation. It is convenient to use a gravidogram, where normal measurements of the height of the uterus fundus are marked. The lack of 20 mm in the size of the uterus or more at 32-33 weeks is basis for considering the presence of hypotrophy of the fetus.

b) determine the sizes of the fetus with an ultrasound.

c) study the respiratory activity of the fetus with an ultrasound.

d) determine the movement activity of the fetus with an ultrasound.

It is performed at 7-8 weeks of pregnancy, but its evaluation has the greatest value in the III trimester when the fetus does 5 and more movements in 30 minutes. Thus, an

increase in general movement activity of the fetus is considered compensatory reactions, a decrease - an adverse sign.

e) ultrasound of the urinary functions of the kidneys of the fetus by the amount of excreted urine.

The latter is determined by the difference between the volume of the urinary bladder during the first US and the repeated US in 1 hour. The given test is especially valuable when diagnosing hypotrophy of the fetus, during which the excretion of the urine decreases to 15-18 ml (normal – 24-27 ml). Also consider, that a decrease in the speed of urine excretion of the fetus is observed during gestosis of the pregnant women, in those cases there is no growth retardation by data from the US. The degree of decrease in the production of urine is directly dependant on the severity of gestosis, which is connected not only to fetal growth retardation, but also to the infringement in the regulation of the kidney functions.

f) evaluation of the fetal heart activity.

Along with auscultation, the most accessible and widespread method of evaluating the fetal heart activity is cardiotocography, registration of fetal heart rate (HR). Cardiomonitoring shows initial and expressed signs of suffering of the fetus as a result of fetal distress.

The basic treatment for placental dysfunction:

- 1) Improving the uterine-placental blood circulation;
- 2) Normalizing the gas exchange between the mother and fetus;
- 3) Improving the metabolic functions of the placenta;
- 4) Acting on the fetus, through the placenta and using the para-placental way of exchange.

Different methods and different means influence multiple functions of the placenta at once. Normalizing the uterine-placental blood flow, certainly, improves the transport of nutrients and gas exchange, which is an important factor in the synthesis of hormones. Correcting the metabolic changes leads to the improvement of gas exchange and normal function of the placenta which in turn, improves the haemodynamics of the placenta.

Normalizing the uterine-placental blood flow is the basic link in normalizing the function of the placenta; it is achieved by using vasodilating means or preparations which relax the uterus, along with actions directed on normalizing the reocoagulate properties of the blood:

- a) physical methods of action (electro-relaxation of the uterus, electrophoresis of magnesium, thermal procedures on the renal area, diathermy, inductothermy, etc.) reflex the biometry and lead to the dilation of vessels;
- b) abdominal decompression removes extra muscle work of the uterus by overcoming of the tonus of the abdominal muscles. It leads to an increase in blood flow in the uterus and improves placental perfusion. Besides that, it leads to an increase in the synthesis of estriol and an increase in the transport function of the placenta;
- c) hyperbaric oxygenation is applied to improve the function of the placenta and fetal condition, especially in pregnant women heart disorders. It preserves the activity of the respiratory enzymes, assists in normalizing the carbohydrate metabolism;
- d) medicament means. Aminophylline or teophylline, vasodilating substances, are used; they can be introduced by i/v by stream or droplet introduction. Complamin,

teonicole are used for the same purposes. It should be noted that hypersensitivity is possible in pregnant woman and so individual doses of complamin should be selected. Considerable improvement in the uterine-placental blood circulation causes vaso-active preparation trental. It has vasodilating action, decreases the resistance of peripheral vessels, increases the collateral blood circulation. The preparation improves the rheological properties of blood and microcirculation, and it can be used in hospitals and female consultations.

Example of treatment plan:

I. In the hospital:

Treatment of the basic pathology of the pregnancy;

Oxygen therapy - inhalation of mixed oxygen for 30-60 minutes 2 times per day;

Preparations which influence metabolism: glutamic acid 1,0 gr. x 3 times a day, methionine 0,25-0,5 gr x 3 times a day.

Galaxorbin as ferroplex 1 tab. x 3 times a day.

Coccarboxilase 50 mg i\m every day.

Vaso-active substances: trental, partusisten, isadrin, aminophylline i\v or per os (i\v with glucose or physiological solution). I\v introduction + 3x per os (in pills). Course of the vaso-active substances is 4-6 weeks, of them 5-7 days – infusion therapy, and the other days – per os. Complamin (teonicole) 0,15 gr. per os with food 3 times a day can be used as vaso-active substances.

Reopolyglucin 10 % solution 400-500мл every day i\v droplets, 3-4 times, or 2-3 times a week (it can be used as a loading liquid before introducing vaso-active substances).

Native plasma – 150 ml i\v droplets for low protein in the blood (below 6%).

When introducing large doses of glucose it is used with insulin - 1 unit for 4 gr. of dry substance.

II. In the female consultation:

Diathermy at the renal area – up to 10 sessions alternating with ultraviolet irradiation (10 sessions).

Diet rich in fiber and vitamins (boiled meat, fish, cheese);

I\v introduction of glucose 40% - 20,0 with corglicon 0,06% - 0,5 ml gradually every day or every other day (10 injections);

Coccarboxilase i\m 50 mg every day, for 10-14 days;

Aminophylline 0,15 gr per os 2 times a day and 0,2 gr suppositories at night, for 14 days (or no-shpa, papaverin);

Trental 1 pill 3 times a day or isadrin 0,005 gr (under tongue) 3 times a day in combination with finoptin (isoptin);

Orotate potassium 0,5 gr 3 times a day;

Ferroplex (conferon) 1 dragee (capsule) 3 time a day;

Methionine 0,5 gr 3 times a day;

Ascorutin 1 pill 3 times a day.

If not effective during 2 weeks – hospitalization

Prevention of placental dysfunction

- 1) eliminating the influence of harmful factors during the period before conception and especially during the first days and weeks of pregnancy:
 - a) eliminating smoking, alcohol, taking of medicines (without prescription from the doctor);
 - b) before pregnancy (and during pregnancy) sanitation of sites of infection, treatment of chronic diseases.
- 2) after the patient becomes pregnant, it is necessary to explain to her the role of high-grade balanced food, high-grade and extra sleep.
- 3) finding the group of high risks and registering them for regular medical check-ups.

Fetal distress syndrome

According to order of the Ministry of Health of Ukraine №900 from 27.12.2006 about the statement of the clinical report about obstetrical help for "Fetal distress during pregnancy and during birth ", the terms "chronic hypoxia of the fetus ", "acute hypoxia " are not clinical, because for the diagnostics of these disorders, indicators of oxygen contents in the fetus (metabolic acidosis) are not used in routine medical practice. So, all disorders of the functional condition of the fetus at the present are distinguished as "fetal distress". The concept "chronic fetal hypoxia", "acute fetal hypoxia" are not used.

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Respiratory distress syndrome in newborns (respiratory disorder syndrome) – non-infectious pathological processes (primary atelectasis, disease of the hyaline membrane, hydropic- hemorrhagic syndrome) that form in the prenatal and early neonatal periods of development of an infant and breathing; it appears as respiratory disorders.

Fetal distress syndrome means hypoxia.

Hypoxia of the fetus - insufficient supply of oxygen to the tissue and organs or their incomplete digestion of the oxygen. This term was recommended by the World Health Organization, but it is not the only one: the terms fetal distress ("suffering") and asphyxia (without pulse; but has dyspnea, i.e. a lack of oxygen and accumulation of carbonic gas in the organism) also exist. The term hypoxia of the fetus and asphyxia of newborns are not used.

The consequences of oxygen insufficiency for a fetus during different periods of pregnancy are different. In early terms (before 16 weeks), when organs and systems are forming, expressed hypoxia can be accompanied by embryo growth delay and the occurrence of development anomalies. Oxygen starvation in later pregnancy terms can lead to fetal growth retardation, defects of the central nervous system in the fetus and newborns, infringement of the processes of the infant's adaptation after birth; in special cases it can be the reason for stillborn deliveries or death in infants.

Depending on the duration, chronic and acute fetal distress is distinguished. Chronic distress develops when there is an insufficient supply of oxygen to the fetus throughout a long period of time due to diseases of the mother's internal organs (diabetes, chronic diseases of the lungs, kidneys, anemia, etc.), complicated course of the pregnancy (gestosis, risk of miscarriage, over-due pregnancy, immunological incompatibility of the mother and fetus blood by Rhesus factor, pre-natal fetal infection). Chronic distress also can be the result of smoking, use of alcohol, drugs during pregnancy. Acute fetal distress, as a rule, occurs during the delivery (in connection with anomalies of labor activity, entanglement of the umbilical cord, prolapse or compression of loops of the umbilical cord, short umbilical cord). Less often, acute fetal distress is observed during the pregnancy during life-threatening conditions of the mother (premature detachment of the placenta, rupture of the uterus). Sometimes, chronic and acute distress is observed together.

Anomalies of fetal egg.

Causes of congenital malformations and fetal diseases are numerous, varied in nature. By etiological basis distinguish three types of defects: a) hereditary, or endogenous (gene mutations, chromosomal aberrations, endocrine disease, "perezrivannya" gametes, age of parents); b) exogenous (physical factors - radiation, mechanical,

chemical - pharmaceuticals, household chemicals, hypoxia, malnutrition, biological - viruses, mycoplasma, protozoan infections (izomunizatsiya); c) multifactorial (due to the combined influence of genetic and exogenous factors). Anomalies of fetal development can occur in different periods of ontogeny. Depending on the time of action of harmful factors and therefore destruction facility entails the following form defects:

- hametopatiyi and blastopatiyi - due to changes in the genetic apparatus may also arise in the process of maturing germ cells during fertilization or in the early stages of crushing fertilized cell (the first 15 days);
- pregnancy mainly suspended in 3-4 weeks after the injury or death of the embryo;
- Embriopatiyi - arising in the period from the 16th day after the 10th week after fertilization;
- During this period the formation of germs all important organs (organogenesis) process is enhanced differentiation of cells and tissues; embryo is extremely sensitive to the action of damaging factors; pregnancy often ends in spontaneous abortion, birth of a child with a deformity or stillbirth;
- Fetopatiyi - diseases and functional disorders that occur in the fetus under the influence of exogenous factors during the 11th week of pregnancy and birth.

By congenital developmental disorders include the following:

- agenesis - the complete absence of authority;
- Aplasia - the lack of organ availability of its vascular legs;
- Hypoplasia - underdevelopment of the body;
- Malnutrition - body weight reduction;
- Hypertrophy - increasing body weight;
- Macrosomia - increasing the length and weight of the fetus;
- Heterotypiya - the presence of cells or tissues in the body to another organ where they should not be;
- Ectopia - shift authority;
- Atresia - lack of channels or holes;
- Stenosis - narrowing the channel or hole;
- Nerozdilennya (merger) of: twins, are not divided, called pahamy to this title add Latin term which means confluence (torakopahy, kraniopahy);
- nerozdilennya limbs or their parts - webbing;
- Dyshroniya - violation of the pace of development.

Classification of congenital malformations (WHO, 1995):

- congenital malformation of organs and systems: central nervous system and sense organs; face and neck; cardiovascular system; respiratory system; the digestive system; musculoskeletal system; urinary system; genitals; endocrine glands; skin and its appendages; litter; other defects;
- Multiple congenital malformations, chromosomal syndromes; genetic syndromes; syndromes caused by exogenous factors; syndromes of unknown etiology; Multiple unspecified flaws.

There are also isolated (localized in one organ), system (within the same organ systems) and multiple (in the bodies of two more) flaws.

Malformations of CNS Hydrocephalus is characterized by obstruction to one of the sections of the circulation of cerebrospinal fluid. Hydrocephalus consists mainly of water supply stenosis brain open hydrocephalus (ventricular enlargement pidpavutynnoyi subarachnoid brain and of the brain due to obstruction of the outflow tract system pozashlunochkovoyi CSF), Dandy-Walker syndrome (a combination of hydrocephalus, posterior fossa cyst, cerebellar defects worm, cyst of 'yednuyetsya of the ventricular cavity IV). Vascular plexus papilloma - neoplasms, which is localized at the lateral ventricles vestibule. It is presented villous tissue, histologically similar to tissue intact vascular plexus has a benign course and is usually combined with hydrocephalus. Vascular plexus papillomas diagnosed using CT or neurosonography.

Neural tube defects. This term unite anencephaly, tsefalotsele and spina bifida. Spina bifida - a defect median dorsal vertebral arches, accompanied by "exposing" the contents of the spinal canal. Spina bifida can be part of genetic syndromes (with isolated mutant) or chromosomal abnormalities (trisomy 13th and 18th pairs of chromosomes, tryploidiya, unbalanced translocation chromosome or ring), the result

of the fetus teratogenic factors during organogenesis. There cystic form of spinal hernia formation of the hernia sac containing the lining of the brain and / or substance of the brain and hidden form that is not accompanied by the formation of hernia protrusion. Spinal hernia often associated with hydrocephalus, congenital heart defects and urinary and reproductive systems. Prognosis depends on the level and extent of lesion, presence of associated anomalies. Survival of children who received treatment in the early neonatal period not exceeding 40%, and 25% of them are paralyzed. In case of pathology and the presence of non-viable fetus displayed abortion. Indications for early abortion is a rapid increase ventrykulomehaliyi and makrokraniiyi. Anencephaly - the absence of the cerebral hemispheres and most of the cranial vault, accompanied by a defect in the frontal bone above the supraorbitalnoyi (nadochnoyamkovoyi) areas, the lack of temporal and occipital bones. The upper part of the head covered with a vascular membrane. Structures medium and intermediate brain is partially or completely destroyed. Pituitary and diamond-shaped hole primarily saved. Typical manifestations could be considered bulging eyes, large tongue, a short neck. Risk factors include maternal diabetes. In animal experiments found TERATOGENICITY ionizing radiation, salicylates, sulfanilamides, increased carbon dioxide in the blood. Sonographic diagnosis can be established as early as 12-13 weeks of pregnancy. Among the fruits of this disease 32% are born alive. When intrauterine diagnosis of anencephaly abortion displayed in any of its term.

Tsefalotsele (splitting the skull) - bulging cranium content through bone defect. The term "cranial meninhotssele" refers bulging through the defect only meninges. The presence of the hernia sac brain tissue denoted by the term "encephaloceles." Tsefalotsele - a rare pathology and is a component of many syndromes - genetic syndrome (Meckel syndrome, median clefts face) and non-genetic (amniotic constriction). Prognosis depends on the presence of brain tissue in the hernia sac and related hydro- or microcephaly. The displayed abortion at any stage.

Microcephaly (mikroencefaliya) - a clinical syndrome, characterized by reducing the circumference of the head and mental retardation. The incidence of - 1.6 per 1 000 live births. Microcephaly is polyetiological disease, the development of which play an important role genetic (chromosomal aberrations, monogenic defects) and environmental factors. Prognosis depends on the presence of combined anomalies. Trisomy 13 th and 18 th chromosome syndrome and Meckel belong to fatal injuries. In the absence of associated anomalies prognosis depends on the size of the head: the lower it is, the lower the index of intellectual development. Microcephaly - an incurable disease. Obstetric tactics - abortion.

Prenatal screening methods make it possible to detect neural tube defects and other abnormalities in the fetus (Down syndrome, and others.) At 15-20 weeks of pregnancy. These methods include: - Ultrasound; - Determination of AFP in serum of pregnant: increased AFP over 95-98 percentile, the median value of 2-2.5 evidence of increased risk of neural tube defect, omphalocele, congenital nephrosis, Gastroschisis, gastrointestinal atresia value of AFP in amniotic fluid; atsetylholinesteraztraktu availability, etc .; performed to confirm the diagnosis ultrasound, amniocentesis for vyy vzhachennya ACE levels in amniotic fluid; the presence of acetylcholinesterase in amniotic fluid confirms the diagnosis of neural tube defects; reduction in AFP indicates Down syndrome. Anomalies of sex chromosomes Turner's syndrome (monosomy X or 45, X0) - barren woman of low stature with normal mental development. Klinefelter

syndrome (47, XXY) - tall infertile men with slightly reduced intelligence and hypoplasia of the testes. Syndrome fragile X chromosome - inherited mental retardation in males caused by mutations in the FMR1 gene, resulting in him is hipermetiluvannya and inactivation. Hereditary diseases Hereditary diseases - genetically caused disease inherited in an autosomal dominant or autosomal recessive and sex-linked. Cystic fibrosis - a disease inherited by autosomnoretsesyvny type, is caused by a mutation of a gene located on the long arm of chromosome 7. Diagnostics is conducting DNA analysis. Hemoglobin (anemia and thalassemia serpopodibnoklitynna) is inherited in an autosomal recessive pattern. Diagnosis is carrying out DNA analysis and biopsy of chorionic villi. Medical and genetic counseling Indications for medical genetic counseling: - the presence of congenital malformations or hereditary disease in spouses or close relatives; - Having children with birth defects or hereditary diseases; - The presence of families of mentally disabled persons; - Marriage between close relatives; - Sterility or habitual; - Amenorrhea; - Perinatal mortality; - The impact of teratogenic and mutagenic factors on parents; - Complicated pregnancy.

Methods of prenatal diagnosis

Amniocentesis - obtaining by transabdominal amniotic fluid containing fetal fibroblasts (performed at 15-17 weeks gestation).

Biopsy of chorionic villi - transabdominal (if the placenta is located on the front wall of the uterus) or Transcervical (when the placenta is on the back wall of the uterus) aspiration of chorionic villi (performed in pregnancy week 12/19).

Kordotsentez - transabdominal taking blood from the umbilical cord (performed after 20 weeks of pregnancy) for rapid analysis of karyotype in cases where ultrasound was found abnormalities of the fetus.

Fetal skin biopsy (mostly skin from the back) used to identify severe hereditary skin diseases (congenital ichthyosis, Epidermolysis bullosa, hyperkeratosis, etc.).

Laboratory methods

Cytogenetic studies - the study of fetal cells obtained by different methods. Allows you to determine abnormalities in chromosome number. DNA analysis - using fetal cell DNA for PCR (congenital toxoplasmosis, cytomegalovirus infection), hybridization reaction (cystic fibrosis, anemia serpopodibnoklitynna), genetic linkage analysis (fragile X syndrome chromosome). Biochemical analysis is used to identify mucopolysaccharidoses, congenital hypoplasia of the adrenal cortex. Determination of fetal cells in maternal blood flow - allocation nuclear red blood cells and fetal trophoblast cells with further genetic analysis. Fluorescent hybridization in situ - analysis of interphase cells for cytogenetic studies. Preimplantation genetic diagnosis - a method of embryo biopsy followed by molecular genetic analysis using PCR. Three-dimensional ultrasound - a three-dimensional reconstruction of the fetal body using specialized ultrasonic devices. Fetal MRI carried out after the detection of fetal malformations with ultrasound.

Anomalies umbilical cord anomalies of the heart are wrong vascular development (single umbilical artery, umbilical artery third, aneurysms, abnormal anastomoses, arterial units etc.), Changing the length of the cord (excessively long and short), education and real psevdovuzliv cord. In addition, possible pathological (boundary and shell) attachment cord. There are absolutely and relatively short umbilical cord. Absolutely short umbilical cord consider cord length of 40 cm. The relatively short

umbilical cord called normal length, but shortened as a result of entanglement around the fetus. Absolutely short umbilical cord can cause irregular provisions fetal slowdown promote fetal birth canal or placental abruption due to its tension. Possible break the umbilical cord with her bleeding vessels. Diagnostics short umbilical cord during pregnancy is difficult. When ultrasound can be suspected shortening the cord if it detect entanglement around the neck and torso of the fetus. Suspect quite short umbilical cord at birth can be based on characteristics such as slow movement of the head of the fetus during the eversion, changing its cardiac activity. Excessively long cord (70-80 cm or more) is a common anomaly. Among the dangerous complications for the fetus with the umbilical cord isolated long loss of loops at the time of rupture of membranes when moving the head of the fetus. The true knot of the umbilical cord is formed in the early stages of pregnancy when the fetus small size enable it to slip through the loop cord. During this delay units (during pregnancy or childbirth) can be acute fetal hypoxia, until his death. Pseudovulvar cord that limited its thickening due to varicose veins or umbilical cluster varicosities jelly, have no practical significance. Pathological cord attachment and the boundary is enveloped. In the second case, the umbilical cord is attached to the shell at some distance from the edge of the placenta. The vessels of the umbilical cord while the placenta directed by shells. Rupture of blood vessels in shell attachment cord often occurs as a result of rupture of membranes. And often there comes the sudden death of the fetus.

There placenta abnormalities increase the weight of the placenta (syphilis, immunological conflict, etc.) And violation of its shape, resulting from degenerative changes in the endometrium. Most noted placenta with additional slices (placenta succenturiata), located at some distance from the edge of the placenta and connected with her vessels. Additional particles can stay in the womb, so you need to check the integrity of the litter and the lack of a cliff vessels. Identify and placenta of the two particles (placenta bipartita), viconchastu (placenta fenestrata) - placenta with areas of dramatic thinning, hulled (placenta membranacea) - extensive, but very thin. Other forms of violations of the placenta is referred bobopodibnu, horseshoe, poyasopodibnu (placenta zonaria) placenta.

Oligohydramnios and polyhydramnios

Oligohydramnios (oligohydramnion) - a condition where the amount of amniotic fluid is less than 0.5 liters. It is caused by a decrease in the secretory function of amniotic epithelial renal agenesis fetal polycystic kidneys or delayed fetal development. Oligohydramnios affect the course of pregnancy and childbirth, often watching miscarriage, painful sensation during fetal movements, prolonged labor, slow opening of the cervix, sometimes - normally attached premature detachment of the placenta. In addition, it affects the fetus, fetal movements are limited, delayed its development, sometimes watching curvature of the spine, fusion between fetal skin and amnion (symonartovi threads synechia, mooring), which causes involuntary limb amputation or distortion. There oligohydramnios due to damage membranes (traumatic, secondary) - amniotic hidroreyu.

Polyhydramnios (polihydramnion) - excessive accumulation of amniotic fluid - more than 1.5 liters. Etiology: by the mother infection (viral) disease, diabetes; from the placenta and amnion: excessive production or slow absorption of amniotic fluid amniotic epithelium horionanhioma, arteriovenous fistula; of the fetus, multiple

pregnancy (during transfusion syndrome fetofetalnoyi monohorialnomu type placentation), idiomatic polyhydramnios, strahovodu atresia, traheostravohidna fistula, duodenal atresia, neuromuscular pathology (swallowing difficulties), anencephaly. Acute polyhydramnios develops very quickly, chronic - slow. The clinical picture. A significant increase in the size of the uterus (abdominal perimeter over 120 cm), shortness of breath due to the high standing of the diaphragm; malposition; premature birth. Complications of childbirth: the weakness of labor activity due to hyperextension of the uterus; poured premature amniotic fluid, which may be accompanied by deposition of small parts of the fetus, premature detachment of the placenta; PLAYBACK hypotonic bleeding and early postpartum period. Treatment. Amniocentesis is the removal of excessive amounts of amniotic fluid; normalization of plasma glucose pregnant; laser coagulation of placental anastomoses (at fetofetalniy transfusion); the use of antibiotic therapy, unfortunately, ineffective. The main thing - is prevention of complications, timely amniotomy slow the emission of amniotic fluid; strengthening labor, if it is weak; prevention hypotonic bleeding. It is often accompanied by polyhydramnios fetal anomalies (anencephaly, wolf mouth, ectopic bladder, etc.), so you need to carefully examine Polyhydramnios fruit for the defects and the need for timely abortion.

3.3. Requirements for the results of work.

1. Define the concept of "anomalies ovum."
2. Methods of diagnosis of abnormalities in the fertilized egg.
3. Define the term "polyhydramnios" and "oligohydramnios".
4. What is the frequency polyhydramnios?
5. What is the clinical diagnosis and polyhydramnios and oligohydramnios?
6. Prenatal care and delivery at Polyhydramnios.
7. What factors cause the formation of a primary placental dysfunction?
8. What factors cause the formation of secondary placental dysfunction?
9. What are the clinical manifestations of placental dysfunction?
10. What are the diagnostic methods used to identify placental dysfunction?
11. What tactics of pregnancy and childbirth in placental dysfunction?
12. What factors cause the SORP?
13. What are the diagnostic methods used to identify the SORP?
14. What tactics of pregnancy and childbirth in SORP?
15. What are the clinical manifestations of hemolytic disease of newborns?
15. What are the clinical manifestations of hemorrhagic disease of the newborn?
16. What are the clinical manifestations of neonatal sepsis?
17. What methods of neonatal resuscitation are used?

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. On receiving antenatal appealed pershovahitna 30 years. The gestational age according to the latest monthly 20 weeks. From history revealed that she suffered from high fever SARS in early pregnancy and took treatment (antibiotics, antipyretic drugs). When screening ultrasound diagnosed with microcephaly. Identify tactics.

+ A. Abortion.

B. follow-up, ultrasound control after 1 month.

C. Hold amniocentesis.

- D. It is necessary to do a biopsy of the placenta.
- E. Run kordotsentez.

2. Pershorodillya 20 years ba-hatovoddyam is in labor with hours. Maternity active activities. One fruit, in the main presentation. The heartbeat of the fetus does not suffer. Roz-kryttya cervix 4 cm. The bag of water out intense contractions. Determine the tactics of delivery:

- A. prostahlan-dynamy induce labor.
- V. expectant management.
- C. Caesarean section.
- B. The dream vacation.
- + E. Amniotomy.

3. Normally the number of amniotic waters at full-term pregnancy:

- A + 600-1500 ml.
- B. 500-600 ml.
- C. 1600-2000 ml.
- D. 2000-2300 ml.
- E. 2000-2500 ml.

4. Number of amniotic waters at Polyhydramnios:

- A. 600-1500 ml.
- B. 500-600 ml.
- + C. More than 1500 ml.
- D. More than 2,000 ml.
- E. More than 2500 ml.

5. Possible cause polyhydramnios:

- A. Chronic infection
- B. Diabetes
- C. Rhesus conflict
- D. fetal malformations
- + E. all mentioned.

6. The main complaint of pregnant women with acute polyhydramnios:

- A. Loss of appetite.
- B. Dyspnea.
- C. ailments.
- D. The feeling of heaviness and pain in the abdomen and lower back.
- + E. all mentioned.

7. The main diagnostic criteria for Polyhydramnios:

- A. Pale skin, increased venous drawing on his stomach.
- B. bypass the stomach and the height of standing uterus more pregnancy.
- C. uterus spherical shape.
- D. unstable fetal position, fetal parts palpable with difficulty or not defined.
- + E. all mentioned.

PRACTICAL LESSON № 37.

Surgical intervention in obstetrical practice. Postpartum septic diseases.

LEARNING OBJECTIVE is to gain basic knowledge about physiological changes in postpartum period, physiology of lactation and breastfeeding, primary care of newborn in order to make recommendations for management of puerperium and neonatal period and advice woman on discharge.

BASIC CONCEPTS:

- duration and main events of postpartum period,
- involution of uterus and other pelvic structures, general physiological changes in female body in puerperium,
- physiology of lactation, composition of colostrum and milk,
- ten steps for successful breastfeeding,
- the main principles of management of normal puerperium,
- checkup and advise on discharge,
- postpartum contraception,
- apgar rating and immediate care of newborn,
- principles of prevention of purulent – septic complications in obstetric hospital,
- risk factors for developing septic – infectious complications in the mother and newborn,
- classification of postparton complications,
- a modern look at the development of systemic inflammatory response syndrome,
- the volume of conservative treatment and surgery in case of postparton infectious complications in relation to various clinical forms,
- indications and principles of intensive care.

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,
- providing of positive motivation.

One of the important causes of lethality in obstetrics and gynecology is common forms of postpartum infection. Timely diagnosis and scientifically sound treatment belongs to the most important problems of obstetrics and gynecology. About 80% of the lethal consequences of common forms of postpartum infection in obstetric and gynecological hospitals are caused by late diagnosis, late surgery, incomplete surgical care and intensive care.

This topic requires thorough study both to prevent complications of pregnancy, childbirth and postpartum stage, and for therapeutic measures.

CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

2.1. Requirements for the theoretical readiness of students to perform practical classes.

Knowledge requirements:

- Communication and clinical examination skills.

- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- Pelvis from anatomical and obstetric points of view.
- The dimensions of the fetal head and body.
- Signs of fetal maturity.

2.2. Questions (test tasks, tasks, clinical situations) to test basic knowledge on the topic of the class.

Questions:

- to take a medical history (general and specific) and record information in a standardized proforma,
- to perform general examination, assess the health status of the puerpera,
- to assess uterine involution, character of lochia, lab tests,
- to counsel the women about physiological changes in postpartum period,
- to assess complaints of puerpera, explain the origins of minor ailments in postpartum period, give advice how to reduce the problem,
- to develop a plan of management of normal postpartum period,
- to understand the common disorders of the puerperium and how to manage them
- to be able to recognize and manage common postpartum psychiatric disorders,
- to counsel woman about physiology of lactation, benefits of breastfeeding,
- to check up woman on discharge, give judicious advice regarding diet, drugs and hygiene,
- to provide counseling about postpartum contraception,
- to rate a newborn according Apgar scale, to perform immediate care of newborn
- evaluate clinical signs of postpartum infection.
- interpret the results of laboratory tests.
- draw up a plan for comprehensive treatment and change it due to inadequacy, or vice versa, with signs of improvement of the condition.
- evaluate the indications for surgery.
- write prescriptions for the treatment of the patient.

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. The posterior rectus fascia (sheath) ends at the
 - (A) insertion of the rectus muscles
 - (B) insertion of the anterior rectus sheath
 - (C) arcuate line (semicircular line, linea semicircularis, line of Douglas)
 - (D) area approximately 3-4 cm below the umbilicus

(E) area approximately 2-3 cm above the pubic symphysis

2. Sacrospinous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

3. Sacrotuberous ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

4. Ilioinguinal ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

5. Arcuate ligament

- (A) a thick band of fibers filling the angle created by the pubic rami
- (B) passes from the anterior superior iliac spine to the pubic tubercle
- (C) triangular and extends from the lateral border of the sacrum to the ischial spine
- (D) attaches to the crest of the ilium and the posterior iliac spines superiorly with an inferior attachment to the ischial tuberosity
- (E) passes over the anterior surface of the sacrum

6. Formed by the superior and inferior pubic rami and covered by a central membrane through which a nerve, artery, and vein pass

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

7. The internal pudendal vessels and pudendal nerve exit the pelvis but then reenter through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen

- (D) sacrospinous ligament
- (E) sacral foramina

8. Divides and demarcates the greater and lesser sciatic foramen

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

9. The piriformis muscle, gluteal vessels, and posterior femoral cutaneous nerves pass through this structure

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

10. Four anterior and four posterior openings through which pass small nerves

- (A) obturator foramen
- (B) greater sciatic foramen
- (C) lesser sciatic foramen
- (D) sacrospinous ligament
- (E) sacral foramina

11. Which of the following statements is FALSE?

- (A) The ischium has a body and two rami
- (B) The internal surface of the body of the ischium provides attachments for the levator ani muscle and coccygeus muscle
- (C) The superior ramus is located cephalad to the inferior ramus in the standing position
- (D) The superior ramus forms the dorsolateral portion of the obturator canal
- (E) The ischial tuberosity is the lowest portion of the pelvis in the erect or sitting posture and bears the weight of the human frame in the sitting position

12. Regarding the pubis, which of the following statements is FALSE?

- (A) The pubis has a body and two rami
- (B) The superior edge of the body of the pubis, lateral to the midline, has a raised area called the anterior iliac crest a common landmark
- (C) The inferior ramus is the attachment of the adductor magnus and brevis, and obturator internus muscles
- (D) The inferior rami form the lower portion of the pubic arch
- (E) Inferiorly, the pubic bone is the attachment for the urogenital diaphragm

13. The sacrum

- (A) is formed from 11 or 12 small fused vertebrae
- (B) has an uppermost anterior portion called the obstetrical conjugate
- (C) in women has a concave pelvic surface

- (D) is separated from the vertebrae that make up the coccyx by the sacrococcygeal joint
(E) most often is the limiting factor in determining the size of the pelvic outlet

14. Which of the following is a muscle of the external genitalia?

- (A) the gluteus
- (B) the sartorius
- (C) the superficial transverse perineal
- (D) the deep transverse perineal
- (E) the levator ani

15. The term pudenda includes the

- (A) mons pubis
- (B) vulva
- (C) labia
- (D) external genitalia
- (E) all the above

16. The term perineum describes

- (A) the entire area between the thighs from the symphysis to the coccyx, bounded inferiorly by the skin and superiorly by the levator muscles of the pelvic diaphragm
- (B) the anus and perianal area
- (C) the superficial skin layer of the vulva
- (D) the tendon joining the muscles deep to the external genitalia
- (E) bulbocavernosus, ischiocavernosus, and transverse perineal muscles as a complex

17. The clitoris

- (A) consists of a single crurum, a short body, and the glans clitoris, with overlying skin called the prepuce
- (B) is attached to the pubic bone by a suspensory ligament
- (C) contains within the shaft the corpora cavernosa, a collection of dense connective tissue that serves as support for the anterior-inferior portion of the vagina
- (D) is supplied very sparsely with nerves originating primarily from the terminal branch of the ilioinguinal nerve in most women
- (E) plays a secondary role in erotic stimulation in most women when compared to the role of the vagina

18. Which of the following statements regarding the muscles of the external genitalia is TRUE?

- (A) The bulbocavernosus muscle surrounds the distal vagina and vestibule on each side as a single continuous strip of muscle, much like other sphincters
- (B) The ischiocavernosus muscle takes origin from the ischial tuberosity and inferior ischial ramus and inserts upon the inferior pubic ramus on each side of the pelvis
- (C) The superficial transverse perineal muscle arises from the ischial tuberosity and inferior ischial ramus and inserts between the posterior vagina and anterior rectum
- (D) The perineal body serves as a central connection for all the superficial muscles of the external genitalia except the transverse perineal muscle which inserts directly on the external anal sphincter

(E) The muscles of the external genitalia are usually spared at the time of episiotomy when the levator ani muscle is routinely divided

19. Which of the following statements about the vagina is FALSE?

- (A) The vagina is a 7-10 cm canal connecting the internal and external genitalia from the vestibule to the uterine cervix
- (B) It is a hollow, distensible, fibromuscular tube with the apex (vault) having an H-shaped lumen and the external opening being flattened in the dorsal-ventral dimension
- (C) The body of the vaginal tube is flattened in its normal resting state
- (D) The mid-portion of the vaginal axis is nearly perpendicular to the lower sacrum in the adult human female in a standing position
- (E) The posterior fornix (back wall of the vagina) is approximately 2 cm longer than the front wall and is directly connected to the peritoneal pouch (posterior cul de sac, retrouterine space, or pouch of Douglas) directly behind the uterus

20. When the infantile uterus is examined, one finds that

- (A) the cervix is larger than the corpus (body of the uterus)
- (B) the position is always anteflexed
- (C) the cervix is the same size as the corpus
- (D) the body is larger than the cervix
- (E) it is as large as the adult organ in the immediate newborn period

21. The portio vaginalis of the cervix is that part which

- (A) extends cephalad from the vagina
- (B) protrudes into the vagina
- (C) forms an internal isthmus
- (D) is normally covered with endocervical epithelium
- (E) all the above

22. Which of the following statements regarding the uterus is FALSE?

- (A) The uterus has a body (corpus), composed mainly of smooth muscle, and a cervix, composed mainly of connective and elastic tissues, that are joined by a transitional portion (isthmus)
- (B) It is an estrogen-dependent organ measuring about 7.5 cm long by 5 cm in width, and 4 cm anterior to posterior diameter in an adult female
- (C) After puberty the uterus weighs about 50 grams in the nullipara and 70 grams in the multipara
- (D) It lies between the bladder anteriorly and the pouch of Douglas in front of the rectum posteriorly, with the cervical portion extending into the abdomen and into the vagina
- (E) The opening at the distal tip of the cervix is called the internal os

23. The uterus and adnexa are normally mobile structures, but they do have some relatively fixed anatomic characteristics. Which, if any, of the following statements about their relationship and/or positions is FALSE?

- (A) Anteflexion means that the uterus is bent forward on itself
- (B) The ovaries can be normally found caudad to the cervix

- (C) The round ligaments are normally attached to the uterus anterior to the insertion of the fallopian tubes
- (D) Adnexa refers to the tube, ovary, and their connecting structures
- (E) All statements are true

24. Regarding the anatomy of the fallopian tube, which of the following statements is FALSE?

- (A) Fallopian tubes are a conduit from the peritoneal to the uterine cavity
- (B) Each fallopian tube traverses the superior portion of the broad ligament attached by a mesentery (mesosalpinx)
- (C) The fallopian tube has four distinct areas in its 8-12 cm length: the portion that runs through the uterine wall (interstitial or cornual portion), the part immediately adjacent to the uterus (isthmic portion), the mid-portion of the tube (ampulla), and the distal portion containing the finger-like fimbria that expels the ovum (infundibular portion) to begin its passage toward the ovary
- (D) The longest of the fimbriae (fimbria ovarica) is attached to the ovary
- (E) Each tube is covered by peritoneum and consists of three layers: serosa, muscularis, and a nonciliated mucosa

25. Which of the following statements about the ovary is FALSE?

- (A) The ovaries normally change in size through-out a woman's lifetime
- (B) The ovary is supported in its normal anatomic position by the infundibulopelvic ligament and the ovarian ligament
- (C) The ovary produces both hormones and germ cells
- (D) The ovary lies in the ovarian fossa of the true pelvis, overlying the iliac vessels
- (E) The ovary produces the estrogens and androgens that regulate sexual desire in the human female

II. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, reception department of the maternity hospital, labor & delivery ward, neonatal department with pregnant and newborns.

Tasks:

- Subgroup I – play situational tasks as patients
- Subgroup II - play situational tasks as doctors
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Tests:

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A woman consulted a doctor on the 14th day after labour about sudden pain, hyperemia and induration of the left mammary gland, body temperature rise up to 39°C, headache, indisposition. Objectively: fissure of nipple, enlargement of the left mammary gland, pain on palpation. What pathology would you think about in this case?

- A. Lactational mastitis
- B. Lacteal cyst with suppuration
- C. Fibrous adenoma of the left mammary gland
- D. Breast cancer
- E. Phlegmon of mammary gland

2. On the tenth day after discharge from the maternity house a 2-year-old patient consulted a doctor about body temperature rise up to 39°C, pain in the right breast. Objectively: the mammary gland is enlarged, there is a hyperemized area in the upper external quadrant, in the same place there is an ill-defined induration, lactostasis, fluctuation is absent. Lymph nodes of the right axillary region are enlarged and painful. What is the most likely diagnosis?

- A. Lactational mastitis
- B. Abscess
- C. Erysipelas
- D. Dermatitis
- E. Tumour

3. Examination of placenta revealed a defect. An obstetrician performed manual investigation of uterine cavity, uterine massage. Prophylaxis of endometritis in the postpartum period should involve following actions:

- A. Antibacterial therapy
- B. Instrumental revision of uterine cavity
- C. Haemostatic therapy
- D. Contracting agents
- E. Intrauterine instillation of dioxine

4. On the 10th day postpartum a puerperant woman complains of pain and heaviness in the left mammary gland. Body temperature is 38, 8°C, Ps- 94 bpm. The left mammary gland is edematic, the supero-external quadrant of skin is hyperemic. Fluctuation symptom is absent. The nipples discharge drops of milk when pressed. What is a doctor's further tactics?

- A. Antibiotic therapy, immobilization and expression of breast milk
- B. Compress to both mammary glands
- C. Inhibition of lactation
- D. Physiotherapy
- E. Opening of the abscess and drainage of the mammary gland

5. A parturient woman is 27 year old, it was her second labour, delivery was at full-term, normal course. On the 3rd day of postpartum period body temperature is 36, 8°C, heart rate - 72/min, BP - 120/80 mm Hg. Mammary glands are moderately swollen, nipples are clean. Abdomen is soft and painless. Fundus of uterus is 3 fingers below the umbilicus. Lochia are bloody, moderate. What is the most probable diagnosis?

- A. Physiological course of postpartum period
- B. Subinvolution of uterus
- C. Postpartum metroendometritis
- D. Remnants of placental tissue after labour

E. Lactostasis

6. Examination of placenta revealed a defect. An obstetrician performed manual investigation

of uterine cavity, uterine massage. Prophylaxis of endometritis in the postpartum period should involve the following actions:

- A. Antibacterial therapy
- B. Instrumental revision of uterine cavity
- C. Haemostatic therapy
- D. Contracting agents
- E. Intrauterine instillation of dioxine

7. A woman addressed a gynecologist on the 20th day of puerperal period with complaints of pain in the left mammary gland, purulent discharge from the nipple. Objectively: Ps- 120/min., body temperature is 39°C. The left mammary gland is painful, larger than the right one, the skin there is hyperemic; in the upper quadrant there is an infiltrate 10x15 cm in size with soft center. Blood test: ESR- 50 mm/hour, leukocytes - $15,0 \cdot 10^9/l$. What would be the treatment tactics?

- A. Transfer to a surgical department for surgical treatment
- B. Refer to a gynecology department
- C. Refer to a postnatal department
- D. Refer to a surgeon for conservative treatment
- E. Lance the mammary gland abscess in a maternity department

8. A maternity patient breastfeeding for 1,5 weeks has attended a doctor. She considers the onset of her disease to be when proportional breast engorgement occurred. Mammary glands are painful. Body temperature is 36,6°C. Expression of breastmilk is hindered. The most likely diagnosis is:

- A. Lactostasis
- B. Infiltrative mastitis
- C. Suppurative mastitis
- D. Chronic cystic mastitis
- E. Gangrenous mastitis

9. On the 9th day after childbirth the obstetric patient developed high fever up to 38°C. She complains of pain in the right mammary gland. The examination revealed the following: a sharply painful infiltrate can be palpated in the right mammary gland, the skin over the infiltrate is red, subareolar area and nipple are swollen and painful. What is your diagnosis?

- A. Abscess of the right mammary gland
- B. Mastopathy
- C. Cancer of the right mammary gland
- D. Serous mastitis
- E. Fibrous cystic degeneration of the right mammary gland

10. A woman complains of temperature increase up to 39°C, sharp pains in her lower abdomen, and sanguinopurulent discharge from her genital tracts. From her case history it is known that 6 days ago she underwent illegal abortion. Objectively her blood pressure is 100/60 mm Hg, pulse is 110/min. Abdominal rigidity, rebound tenderness (Bloomberg's sign), and painful palpation of the lower abdomen are observed. On bimanual examination the uterus is enlarged up to 7 weeks of pregnancy, painful, and soft; posterior vaginal fornix overhangs. Make the diagnosis:

- A. Pelviperitonitis
- B. Endometritis
- C. Acute adnexitis
- D. Pyosalpinx
- E. Metroendometritis

11. A postparturient woman, who has been breastfeeding for 3 weeks, made an appointment with the doctor. For the last 6 days she has been feeling unwell, complains of body temperature of 38-39°C, general weakness; within the last 2 days she developed pain and redness in the area of her right mammary gland. Examination revealed her mammary gland to be significantly enlarged and deformed; breast tissue fluctuations and lymphadenitis are observed. What type of mastitis is the most likely?

- A. Phlegmonous mastitis
- B. Serous mastitis
- C. Infiltrative mastitis
- D. Lactostasis
- E. Mammary edema

12. A 22-year-old postparturient woman on the 12th day after the normal childbirth informs of elevated body temperature up to 39°C for the last 3 days and pain in her right mammary gland. The right mammary gland is enlarged, hot to touch, tense, hyperemic, and painful. Palpation reveals there a dense infiltration 8x8 cm with a fluctuation in its center. What is the most likely diagnosis?

- A. Postpartum period, day 12. Right-sided lactostasis
- B. Postpartum period, day 12. Right-sided infiltrativ-purulent mastitis
- C. Postpartum period, day 12. Right-sided gangrenous mastitis
- D. Postpartum period, day 12. Right-sided phlegmonous mastitis
- E. Postpartum period, day 12. Right-sided serous mastitis

13. On the day 4 after the cesarean section a woman developed fever with body temperature up to 39°C and abdominal pain. Pulse - 104/min. She vomited twice. The patient is sluggish, her tongue is dry and has gray coating. The abdomen is distended. Signs of peritoneal irritation are positive in

all segments. Peristalsis cannot be auscultated. No passage of gas occurs. Uterine fundus is located at the level of the navel. The uterus is painful on palpation. The discharge is moderate and contains blood and pus. What is the most likely diagnosis?

- A. Diffuse peritonitis
- B. Pelvic peritonitis

- C. Metroendometritis
- D. Progressive thrombophlebitis
- E. Parametritis

14. Multipara, 32 y.o., is in the I stage of labor for 5 hours. Light amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. At internal obstetric examination head of the fetus is pressed to inlet to the small pelvis, fetal bubble is absent. Disclosure of uterine cervix is 2 cm. Choose the optimum labor management?

- A. Medicinal dream
- B. Labor inducing
- C. Cesarean section
- D. Treatment of uterine inertia
- E. Obstetric forceps

15. Woman-in-labor 25 y.o., is in I stage of labor during 14 hours with normal patrimonial activity. Sizes of the pelvis 26-28-30-18 cm. Palpitation of the fetus is dull, rhythmical, 85 b/min. Prospective mass of the fetus 3200.0±200 gr. Internal obstetric examination: disclosure of uterine os is complete, head of the fetus is in pelvic cavity. What is the tactics of labor management?

- A. Applying of output obstetric forceps
- B. Applying of cavity obstetric forceps
- C. Conservative labor
- D. Cesarean section
- E. Fetus destroying operation

3.2. Educational materials, recommendations (instructions) for performing tasks

Operative delivery

An operative delivery is performed if a spontaneous birth is judged to pose a greater risk to mother or child than an assisted one. Operations are divided into abdominal methods (caesarean section) and vaginal assisted deliveries (forceps delivery and vacuum extraction).

Preparations for operative delivery

- Discuss operative delivery with the woman and her partner (if time is short, at least outline what will happen)
- Follow the woman's wishes—no operative delivery can proceed without her consent even if the doctors think that the baby will die if it is not done
- Get written consent for elective procedures
- A paediatrician should attend any delivery where problems are anticipated; local guidelines should be drawn up and followed for all operative deliveries

Indications for caesarean section

- Cephalopelvic disproportion—When it is obvious either antenatally or in the early stages of labour that the fetus, presenting by the head, is not going to pass through the pelvis
- Relative cephalopelvic disproportion—The fetus descends initially during labour but is then arrested, possibly due to a malposition such as occipito-posterior

- Placenta praevia—Particularly if it is overlapping the internal os
- Fetal distress—In the first stage of labour
- Prolapsed cord
- To avoid fetal hypoxia—When there is poor perfusion of the placental bed (for example, pre-eclampsia)
- Malpositions—For example, brow
- Malpresentations—For example, transverse lie, breech
- Bad obstetric history
- Maternal request – only in some countries

Caesarean section

Use

The frequency of this operation in Britain has increased from about 5% in 1930 to about 16% now. In a survey of 327 obstetricians by Savage et al in Great Britain in the early 1990s, the main reason reported for this rise (cited by 48% of respondents) was litigation (defensive medicine).

In the United States, where the rate for caesarean sections is even higher, close scrutiny by peers and consumer groups has been associated with a reduction; the same may happen in Britain. Even in Britain, the rates vary widely between units.

Indications

The only absolute indications for caesarean section are cephalopelvic disproportion and major degrees of placenta praevia. The rest demand a judgment by the obstetrician that the risk of vaginal delivery exceeds the risk of the operation or that the mother's perception is that it does.

Caesarean sections are often carried out for debatable indications—for example, breech presentation after 34 weeks. The safety of vaginal birth in these situations often depends on the skill of the birth attendants. Recent evidence shows that perinatal mortality is increased at night and at weekends, when senior staff are less readily available, and is even higher in August and in February, when new resident staff arrive (Maternity Statistics, 1997). With shorter training hours and less exposure to difficult vaginal deliveries, deskilling of obstetricians has occurred, so that an elective caesarean section during office hours may well be seen to be safer than a difficult vaginal birth performed out of hours by a junior doctor.

The use of repeat caesarean section depends on the indication for the first caesarean section. If the indication was recurrent—such as a small pelvis—this demands a repeat caesarean section. If however, the indication was not necessarily recurrent—such as fetal distress—vaginal delivery can be tried. In Britain about two thirds of women who have had a caesarean section try a vaginal delivery in their next pregnancy, and in about two thirds of these a vaginal delivery is successful.

Procedure

How to perform a caesarean section is best learned in the operating theatre with a mentor. It must be learned through practice, with skilled teachers assisting. What follows here is a brief account of the operation—to show what happens, not how to do it. The usual approach is through a transverse lower abdominal incision (Pfannenstiel's incision). Having opened the abdomen carefully, the obstetrician exposes the lower segment of the uterus. The visceral peritoneum is incised and the bladder pushed down, having previously been drained with an indwelling catheter. The uterus is opened

slowly with a transverse incision, and when the bulge of membranes appears, this is pricked and the amniotic sac is opened fully with a finger from each side.

The baby is delivered; if presentation is by the head, sometimes a pair of short obstetric forceps is helpful. With a breech presentation, the legs are brought down and a modified breech extraction is performed. If the lie is transverse, the obstetrician aims to bring down the legs to move the baby into a breech position. Care has to be taken not to bring down an arm.

Syntometrine is given, and the placenta is delivered by controlled cord traction. Manual removal increases the blood loss and should be performed only if the placenta is adherent. The uterus is closed in layers, as is the abdominal wall.

A vertical uterine incision used to be used but is now done only in exceptional circumstances: if the lower segment is unapproachable because of fibroids; if there is a transverse fetal lie with the back inferior; or if the lower segment is not formed (for example, before 28 weeks' gestation). Such an incision means that future births will probably be by caesarean as rupture of the vertical scar in the next labour is many times more common than rupture of a transverse scar, and a rupture in the upper segment bleeds much more than one in the lower segment.

Complications of caesarean section

Haemorrhage

- Worst from the angles of the uterine incision or with placenta previa

Infection

- Prophylactic antibiotics usually given for caesarean sections, particularly if done after the membranes have ruptured

Thrombosis

- Eight times the risk than after vaginal deliveries
- Commonly occurs in the leg or pelvic veins
- Risk that the thrombus may embolise to a pulmonary vessel
- Prophylactic anticoagulation is given, particularly for those at highest risk (age over 35, anaemia, history of thrombosis, obese)

Ileus

- Mild ileus may last for a day after operation
- Treat conservatively with intravenous fluids and no oral fluids until the mother has passed flatus

Most caesarean sections are now performed under a regional block—spinal (fastest and densest block) or an epidural (allows postoperative top ups for continuing pain relief). General anaesthesia is best avoided as the incidence of complications postoperatively is substantially higher (aspiration of stomach contents, chest infections, and thrombosis). The main indications for general anaesthesia are maternal anxiety, an operation that is likely to be complicated, or, in an emergency, when there is insufficient time to establish an epidural or spinal block.

Complications

Currently, most women receive antibiotic prophylaxis as many studies have shown this to be cost effective, and subcutaneous heparin is increasingly given to prevent venous thrombosis and embolism. The latter is mandatory if there are additional risk factors, such as pre-eclampsia, prolonged inactivity, or obesity.

Postoperative care

The woman usually rises from her bed in the first 24 hours to exercise her legs and to go to the lavatory. The wound is commonly closed with clips or subcuticular prolene; the former can be removed on the fourth day, and this is now the peak time for discharge from hospital. Pain, lack of sleep, and difficulty with establishing breast feeding must all be watched for and dealt with appropriately. A discussion on the next day with the parents explaining why the caesarean was necessary is useful as many women have poor recollection of emergency events. Women should be assessed for any resulting psychological morbidity and appropriate help offered.

Forceps

A pair of curved blades can secure a purchase on the rounded head and so apply traction to alter the speed of progress. Usually this is to hasten delivery, but occasionally it is to slow it down, as when delivering the after-coming head in a breech delivery.

Forceps deliveries are performed in 5-10% of deliveries depending on the indication, the availability of trained obstetricians, and the population served. In Britain, use of vacuum extraction is now greater than use of forceps because of reduced maternal trauma; both forms of vaginal delivery, however, are giving way to caesarean section.

Indications for using obstetric forceps

- Fetal distress in second stage of labour
- Maternal distress in second stage of labour
- Lack of advance in second stage of labour
- Prophylactic shortening of second stage—for example, in heart disease
- Control of after-coming head in a breech delivery

Indications

All indications are relative and depend on the facilities for diagnosis and the attitudes of the professional staff.

Types of instruments

There are two types of forceps—those with a pelvic curve, and those without. Kielland's forceps are for rotation and extraction; Simpson's forceps are for midcavity assisted delivery without the need for rotation when the maximum diameter of the fetal head is about 5-8 cm above the vulva. Short forceps (Wrigley's) are for low extraction when the maximum diameter is about 2.5 cm above the vulva. These were designed for use by general practitioner obstetricians, with the safety feature that they could not reach high into the pelvis.

Procedure

How to use forceps is again best learned by watching and doing the procedure under skilled tutelage. The woman should receive an explanation of what will happen.

Criteria to be fulfilled before forceps delivery

- Cervix must be fully dilated—attempts to apply forceps blades with an undilated cervix will lead to much trauma and bleeding without successful delivery
- Bladder must be empty—if necessary emptied with a catheter. This prevents trauma and subsequent lack of bladder sensation
- Membranes should be ruptured
- No obvious bar exists to delivery, such as disproportion
- Episiotomy should usually be performed to allow space for the posterior pull

- Analgesia—some form should be used: lignocaine pudendal block with infiltration to the vulva is sometimes enough for a mid-cavity forceps; more anaesthesia (epidural or spinal) is usually needed for rotation forceps

The bladder is catheterised, and regional anaesthesia is given. Each blade is slipped beside the fetal head, the vagina being guarded by the operator's hand. When correctly sited, the handles should lock, and gentle traction in the correct line of pull will help delivery. An episiotomy is usually required to achieve a line of pull sufficiently posterior. Once the head is crowned, the blades can be removed and the rest of the baby delivered normally.

Complications

A perineal tear may extend from the episiotomy, leading to:

- Damage to the vagina or rectum;
- Bleeding;
- Reflex retention of urine.

Fetal scalp haematoma may occur. If the blades are applied improperly, intracranial haemorrhage can follow. Temporary facial palsy may be due to pressure on the facial nerve in front of the fetal ear where the nerve is unprotected. Permanent facial palsy is rare and probably due to a developmental abnormality.

Vacuum extractor

Vacuum extraction is fast becoming the method of choice for vaginal assisted delivery. A negative pressure raises an overhang of soft tissues in the rim of the metal cap, so that the pull is on the overhang of the fetal scalp at this edge. Silastic caps give more surface area applied to the scalp.

Vacuum extraction is widely used in Europe, increasingly in Britain, and least in the United States. Depending on the skills of the obstetrician, about 5% of deliveries can be assisted by a vacuum extractor.

Indications

The vacuum extractor can be used in the first stage of labour before dilatation of the cervix, although this is now rarely done and is potentially dangerous for less experienced staff. Vacuum extractors have a safety factor—they will come off if too much traction is applied, so they are not useful with even mild disproportion. They require less maternal analgesia and cause less maternal trauma than forceps, but the incidence of scalp trauma in the baby is increased; they should not be used before 34 weeks' gestational age because of the softer fetal head.

Indications for use of vacuum extractor (ventouse)

First stage of labour (rarely)

- Fetal distress after cervix is 8 cm dilated in a multiparous woman
- Lack of advance after 8 cm dilation in a multiparous woman

Second stage of labour (commonly)

- Lack of advance—often with occipito-posterior or occipito-transverse position
- After an epidural has relaxed the pelvic floor
- If the mother is tired
- If the head of a second twin is high

Types of instruments

The conventional vacuum extractor has a metal cap of 60 mm, 50 mm, or 40 mm diameter. The negative pressure is usually applied by a foot controlled vacuum pump. There are also Silastic caps, which cause fewer abrasions but exert less traction. They

have irregularities of their inner surface for a better grip of the scalp, which is particularly useful for helping rotation through the birth canal.

Procedure

Vacuum extraction is best learned by watching and helping a more senior operator. In essence, the largest cap possible should be used. It should lie flat against the fetal head. The pressure is reduced so that it is below 0.8 kg/cm² atmospheric pressure. A check should be made that no part of the vaginal wall (or, if not fully dilated, the cervix) has been sucked in. The cap is held on to the head with the left hand as traction is applied with the right hand. The correct line of pull is very important to prevent the cap coming off and the head not flexing correctly. An early episiotomy is often required to allow the pull to be sufficiently posterior.

Complications

Damage can occur to the cervix if not fully dilated and to the vaginal wall. Such damage can be prevented by checking that no redundant wall is sucked into the cap while the negative pressure is being raised. Haematoma of the baby's scalp sometimes occurs but usually disappears in a week; scalp abrasions may also occur but usually heal readily.

Genital tract trauma

The perineal skin does not stretch as well as the vagina, probably owing to the increased fibrous content of the skin compared with vaginal epithelium. Perineal tears are classically divided into three grades according to severity.

Staging of degrees of perineal tear in order of severity

- Stage 1: Skin of fourchette or vagina only
- Stage 2: Skin and superficial perineal muscles
- Stage 3: Anal muscles and sphincter involved*

*In the United States, stage 3 is confined to tears to the anal margin, and involvement of the sphincter and rectal mucosa becomes stage 4

Indications for episiotomy

- To speed the later part of the second stage of labour in the presence of fetal distress
- To open up posterior areas to allow the correct line of traction at forceps or vacuum extraction
- To overcome a perineum that is rigid and delaying the last part of delivery
- If there is likely to be a major perineal tear, an episiotomy may prevent it and may be easier to repair

If the perineum seems to be splitting, an episiotomy is often performed to limit the damage. Episiotomies are not done routinely now but for specific indications; in Britain the rate varies from 15% to 40% of women, depending on the hospital.

An episiotomy should always be done under anaesthesia (at least 1% lignocaine infiltration). In Britain an episiotomy is usually mediolateral so that if the incision extends, it does not run into the anus. Episiotomies are usually repaired by trained midwives, preferably the one who performed the episiotomy.

Occasionally the episiotomy will extend at its upper end in the vaginal tissues into one of the fornices. This must be checked for carefully when repairing. It is important for haemostasis to put in at least one stitch above the highest point of the cut or tear to occlude vessels coming in from above.

Operative deliveries are performed by trained obstetricians, but the events leading up to and following such deliveries are in the care of many other health workers, all of whom should be knowledgeable about the subject

Post-natal infection directly related to pregnancy and families, developing a period of 2-3 days, after delivery to the end of 6 th week and due to infection (mostly bacterial).

Some concepts and terms of postnatal infection

Nosocomial infection (hospital) - any clinically expressed infectious disease that emerged in the patient during his stay in obstetrical hospital or within 7 days after discharge from it as well as medical personnel, which occur as a result of his work in the obstetrical hospital.

Most bacterial nosocomial infections occur within 48 hours after admission (birth). However, every case of infection should be assessed individually depending on the incubation period of these nosologic forms of infection.

Infection is not considered internally hospital if:

- presence of infection in patients in the incubation period for admission to hospital;
- extension of infection or complications that occurred in patients at the time of hospitalization.

Infection is internally hospital if:

- acquiring it in hospital;
- intranatal infection.

Profiles of antibiotic-resistance determinants of a combination of each selected strain of microorganism. Antibiotic resistance profiles characterize the biologic features of the microbial ecosystem that has formed in the hospital. Permanent tracking the emergence and circulation in a separate hospital strains conditionally pathogenic microorganisms (UPM) with the same antibiotic resistance profiles is essential for detecting hospital strains of UPM and studying the epidemiology of hospital infections.

Hospital with multiple strains of bacteria resistant to at least five antibiotics:

- for staphylococcal strains - to metitsilinu (oxacillin) and / or vancomycin;
- for strains enterokokiv - to vancomycin;
- for enterobacteria - to gentamicin and / or cephalosporin antibiotics III-IV generations;
- nefermentuyuchyh for bacteria - to cephalosporin antibiotics III-IV generations.

Classification

In the CIS countries for many years used classification S.V.Sazonova-AV Bartels, under which various forms of post-natal infections are considered as separate stages of the dynamic of infectious (septic) process, and are divided into limited and extensive. This classification does not correspond to modern understanding of the pathogenesis of sepsis. Significantly changed the interpretation of the term "fever" in connection with the introduction of a new concept - "systemic inflammatory response syndrome."

Modern classification of postpartum purulent-inflammatory diseases suggests their distribution to the limited and conditional Generalized forms. To include limited conditional postnatal wounds fester, endometritis, mastitis. Generalized form presented peritonitis, sepsis, septic shock. The presence of systemic inflammatory response in childbirth with relatively limited form of the disease requires intensive monitoring and treatment as in sepsis (sepsis classification see below).

Natal infection most likely occurs when body temperature increase of more than 38.0p through the uterus and painful 48-72 hours after birth. In the first 24 hours after birth is often observed in normal fever. Approximately 80% of women with fever during the first 24 hours after birth through natural family ways no signs of infection.

In the international classification of disease X view (ICD-10, 1995) also distinguish the following natal infectious diseases section of postpartum sepsis:

085 Postpartum sepsis

Postpartum (a)

- Endometrium;
- Fever;
- Peritonitis;
- Septicemia.

086.0 Infection of obstetric surgical wound

Injected (s)

- Wound after cesarean section delivery
- Crotch seam

086.1 Other infection of genital tract after childbirth

cervicitis after birth

vaginitis

087.0 superficial thrombophlebitis in the postpartum period

087.1. Deep phlebothrombosis in the postpartum period

Deep vein thrombosis in the postpartum period

Pelvic thrombophlebitis in the postpartum period.

Etiology

Leading cause of obstetric complications are septic association gram and gram-negative anaerobic and aerobic microbes, while the predominant opportunistic flora. In the last decade as a role of these associations are playing infection, sexually transmitted diseases, a new generation: chlamydia, mycoplasma, viruses, etc..

Condition normal microflora of female sex organs play an important role in the development of pyo-septic diseases. Found high correlation between bacterial vaginosis (vaginal bacteria overgrowth) in pregnant women and infection of amniotic fluid, pregnancy complications (horionamnionytom, preterm labor, premature rupture of membranes, postpartum endometritis, fetal inflammatory complications).

Despite the large variety of pathogens in most cases, postpartum infection revealed the following:

- Gram-positive bacteria (25%). Staphylococcus aureus - 35%, Enterococcus spp. - 20%, Coagulase-negative staphylococcus - 15%, Streptococcus pneumonie -10%, and other Gram-positive - 20%.
- Gram-negative bacteria (25%). Escherichia coli -25%, Klebsiella / Citrobacter - 20%, Pseudomonas aeruginosa - 15%, Enterobacter spp. - 10%, Proteus spp. - 5%, and others - 25%.
- fungi of the genus Candida - 3%
- anaerobic flora - with special research methods 20%
- unidentified flora - in 25% cases.

Pathogenesis

Inflammation - a normal response of the organism to infection and may be defined as a localized protective respond to tissue damage, the main problem is the destruction of

microorganisms and pathogen-damaged tissues. But in some cases the organism responsible for infection over the massive inflammatory reaction.

Systemic inflammatory response - a systemic inflammatory response activation secondary to functional failure mechanisms limiting the spread of microorganisms, products of their life from the local area damage.

Currently, proposed to use such terms as "systemic inflammatory response syndrome" (SIRS - SIRS), and treat it as a universal immune system response to the impact of strong stimuli, including infection. When infection such stimuli are toxins (exo-and endotoxins) and enzymes (hialuronidaza, fibrinolysin, collagenolytic, proteinaza) produced by pathogenic microorganisms. One of the most powerful factors starting a cascade of reactions SIRS lipopolysaccharide (LPS) membrane of Gram-negative bacteria.

The basis of SIRS is the formation of excessively large number of biologically active substances - cytokines (IL1 interleukin and IL 6, tumor necrosis factor $TNF\alpha$, leukotrienes, γ -interferon, endothelin, platelet-activating factor, nitric oxide, kinins, histamine, thromboxane A₂, etc.). that have pathogenic effects on endothelium (disrupts coagulation, microcirculation), increase vascular permeability, leading to tissue ischemia.

Outlines three stages of SIRS (Bone RS, in 1996):

1-stage - local cytokines production - in response to inflammatory mediators influence infection a protective role, and destroy the microbes involved in the process of healing wounds.

2-nd stage - a small number of cytokines release in systemic circulation - is controlled by the pro-and antiinflammatory mediator systems, antibodies to create conditions for destruction of microorganisms, wound healing and maintain homeostasis.

Third stage - a generalized inflammatory response - the cascade of inflammatory mediators in blood increased as much as possible, the destructive elements of their starting to dominate, leading to endothelial dysfunction with all the consequences.

Generalized inflammatory reaction (systemic inflammatory response syndrome) is likely to manifest infection is defined as sepsis. Classification of sepsis in the relevant section.

Risk Factors

Possible sources of postnatal infection (risk factors) that may exist before pregnancy detected:

- 1) upper respiratory tract infection - particularly if the use of general anesthesia;
- 2) epidural infection environments;
- 3) thrombophlebitis: lower extremities, pelvis, for vein catheterization;
- 4) urinary infection (asymptomatic bacteriuria, cystitis, pyelonephritis);
- 5) bacterial endocarditis;
- 6) appendicitis and other surgical infections.

By enabling factors of postpartum infectious complications include:

1. Cesarean section. The presence of suture material and the presence of ischemic necrosis of infected tissue, along with cuts on the uterus provide ideal conditions for septic complications.
2. Prolonged labor and premature rupture of amniotic membranes, leading to chorionamnionitis.

3. Traumatization of vaginal tissues during labor: the imposition of pliers, cut the crotch, repeated investigations vagina during childbirth, vnutrishnomatkovy manipulation (manual removal of placenta, manual examination of uterus cavity, internal rotation of fetal internal monitoring of the fetal uterus and cuts, etc.).

4. Reproductive tract infections.

5. Low social level, combined with poor nutrition and poor hygiene.

The causes generalized infection may include:

- incorrect surgical volume and inadequate surgery;
- wrong choice of volume and components antibacterial, detoxification and symptomatic therapy;
- reduced or altered immunoreactivity of macroorganism;
- presence of severe concomitant diseases;
- presence of antibiotic-resistant strains of bacteria;
- lack of any treatment.

The clinic, diagnosis and treatment of relatively limited postpartum infections

Natal infection - primarily wound. In most cases the primary center is localized in the uterus, where the playground area of placental separation after the placenta is a large wound surface. Possible infection breaks perineum, vagina, cervix. After caesarian section infection may develop in operating the anterior abdominal wall wound. Toxins and enzymes produced by microorganisms that cause wound infection, can enter the vascular bed at any location of primary fire.

Thus, any conditionally limited, localized protective response natal infection may cause the development of sepsis.

The common clinical signs of inflammatory reaction to:

- local inflammatory reaction: headache, flushing, swelling, local rise in temperature, dysfunction of the affected organ;
- total body response: hyperthermia, fever. Intoxication symptoms (malaise, tachycardia, lower blood pressure (BP), tachypnea) showed SIRS development.

When the diagnosis data included:

- clinical: a review of the damaged surface, evaluation of clinical signs, complaints, anamnesis,
- laboratory: total blood (leukohrama), total urine analysis, bacteriological study fluid, immunogram;
- tool: ultrasound (U.S.).

Ambulatory diagnosis and treatment of infected wounds post-natal

Clinical signs of infection in wounds that are healing by first intention:

a) complaints

- of intense, often pulsating pain in the wound area;
- to increase body temperature - subfebrile or 38-39.0°C.

b) the changes:

- hyperemia around the wound without positive dynamics;
- the emergence of tissue edema, which gradually increases;
- palpation determined by infiltration of tissue, often increases the possible occurrence of deeply located infiltrates (nekrotizuyuchyy fasyt that can spread to your buttocks, abdomen anterior abdominal wall - often fatal complication);
- serous fluid quickly turns into pus.

Clinical signs of infection in wounds are healing secondary tension:

- progressive edema and infiltration of the tissues around the wound;
- painful emergence of dense infiltrates without clear contours;
- Signs and limfanhoyitu lymphadenitis;
- wound surface covered with solid fibropurulent bloom;
- slow or halt epithelial;
- granulation becomes pale or cyanotic, their bleeding decreases dramatically;
- increasing the number of fluid, it depends on the nature of the pathogen:
 staphylococcus causes the appearance of thick yellowish pus, and some strains cause the development of putrid infection with the formation of local foci of tissue necrosis and pus muddily gray with a sharp odor;
 for streptococcus characterized by the appearance of liquid manure yellow-green ichor;
 enterokokova infection and cause the emergence of dung brown color with a characteristic smell;
 synehninya bacillus (Pseudomonas aeruginosa) leads to the emergence of green manure with a specific smell.

View agent also determines the clinical course of wound infection:

- for an infection of staphylococcus fulminant local development process with stronger of purulent resorbive fever;
- streptococcal infection tends to spread as diffuse phlegmon, with weakly pronounced local features;
- sticks to synehniynoyi typical indolent, protracted course of the local process, after the sharp early, with pronounced manifestation of intoxication.

Fluid bacteriological research conducted to determine the pathogen and its sensitivity to antibiotics. Induction material should be performed before antibiotic therapy. Material for research may be fluid, tissue slices, washed with wounds. Material collected sterile instruments and placed in sterile test tubes or bottles with standard medium. Planting material should be made within 2 hours after the collection. Along with taking material for bacteriological study must make at least two smears stained by Gram, to approximate rapid diagnosis.

They can be used accelerated identification of the causative agent of wound infection by multimikrotestiv systems, methods of playing 4-6 hours.

In the absence of microbial growth in clinical material to exclude the following reasons:

- Availability of material sent in high concentrations of local or systemic antibacterial agents;
- violations of the storage and transport of samples;
- methodological errors in baklaboratoriyi;
- effective control of wound infection process of antibacterial drugs;
- presence of anaerobic infection.

Treatment

In most cases, a local treatment is sufficient. Treatment includes surgery, physiotherapy and pharmacological methods.

Debridement of wound

Primary treatment of wounds performed on the original indications. Repeated primary debridement performed if the first surgery on those or other reasons was not a radical

and necessitated reintervention before the development of infectious complications in the wound.

Debridement consists of:

- Removal of wound vitality of tissues that are substrate for primary necrosis;
- Removal of hematoma (especially deep-seated);
- stop the bleeding;
- restoration of damaged tissues.

Secondary processing is performed by secondary wound indications, usually in connection with purulent-inflammatory complications of wounds. Repeated secondary treatment of severe wounds in wound infection can be performed repeatedly. In most cases, secondary debridement includes:

Removing fire • inflammatory infectious alterations;

- broad disclosure pocket, Bay;
- the provision of a full drainage outflow of fluid;
- use of local antiseptics;

Pharmacological methods is antibacterial therapy .

Antibiotic prophylaxis is a systemic administration of antibacterial drugs prior to microbial contamination of wounds or postoperative wound infection, and signs in the presence of contamination, provided that the initial surgical treatment. Appointed by the antibiotic at risk of exposure of massive wounds perineum, vagina and laparotomy wounds during cesarean section.

Principles of antibiotic prophylaxis:

- by cesarean section without complications after the department conducted a child by a single intravenous dose of antibiotic in average on the basis of the identified hospital strains and their antibiotic resistance;
- in case of complications during surgery or signs of the inflammatory process the same drug can be used for antibiotics;
- continued introduction of antibiotics after 24 hours from the end of the operation does not lead to more effective prevention of wound infections;
- prophylactic antibiotics early appointment for surgery is pointless, because it leads to violations biocenosis gastrointestinal colonization and its upper parts.

Antibiotic therapy - the use of antibiotics for prolonged treatment in case of inflammatory process.

Antibiotics can be:

- Empirical - founded on the use of broad-spectrum drugs, active relation to potential pathogens;
- focused - used drugs according to the results of microbiological diagnosis.

It is important to use local antiseptics. To clean the wound can use 10% solution of sodium chloride, 3% hydrogen peroxide, 0.02% solution chlorheksidine others. For more rapid healing can be used on pads levomikolevoyu or levosynovoyu or syntomitsynovoyu or solkoserylovoyu ointments, etc..

By physiotherapeutic procedures during period of recovering owned UHF-induktoterapiya, ultraviolet irradiation, electrophoresis with medicinal drugs.

Prevention of wound infection is a rational conduct of childbirth and postnatal period, subject to asepsis and antisepsis.

Ambulatory Diagnosis and treatment of puerperal endometritis

Postpartum endometritis (endometritis) - an inflammation of the superficial layer of the endometrium. Endomyometritis (endometriometritis or metroendometritis) - is spreading inflammation of the basal layer of endometrium to the myometrium. Panmetrit (panmetritis) - is spreading inflammation of the endometrium and myometrium to uterine serous layers.

Clinic

The initial stage of puerperal endometritis may be different expressiveness and have polymorphic picture. Should distinguish between classical, erased and abortive forms of endometritis and endometritis after cesarean section. Classical form of endometritis usually develops 3-5 days after birth. For this specific form of fever, intoxication, mental change, expressed leukocytosis with left shift count, abnormal discharge from the uterus. When endometritis erased form of the disease usually develops in 8-9 days after birth, the temperature subfebrile, local manifestations have expressed. Abortive form of endometritis and runs as a classic, but a high level of immunological defense quickly stops. Endomyometritis after cesarean section may complicate pelvioperitonitis, peritonitis, which develops develop 1-2 days after surgery.

Diagnosis based on:

- Clinical data: complaints, anamnesis, clinical examination. When vaginal study is moderately sensitive, subinvolution of uterus, purulent selection;
- laboratory data: total blood (leukocytosis), total urine analysis, bacteriological and bacterioscopic study of cervical secretions and / or uterus (blood and urine if necessary), immunogram, coagulogram, blood biochemistry;
- instrumental data: ultrasound (U.S.).

Treatment

In most cases, pharmacological treatment, but also possibly surgery.

Combined treatment of postpartum endometritis includes not only systemic antibacterial, infusion, therapy detoxification, but topical treatment. Empirical antibiotic therapy and can be focused (see above). Preference is given to a focused antibiotic therapy, possibly using the accelerated identification of the causative agent using the system multimikrotestiv. If the fever lasts for 48-72 hours after treatment, it is suspected pathogen resistance to antibiotics used. Intravenous antibiotic treatment should last for 48 hours after the disappearance of hyperthermia and other symptoms. Tablets should prescribe antibiotics even for the next 5 days.

Necessary to consider that antibiotics pass in milk. Immature enzyme systems of babies can not handle the full withdrawal of antibiotics, which can lead to a cumulative effect. The degree of diffusion of antibiotics to breast milk depends on the nature of antibiotic. In a limited number transferred to breast milk penicillins, cephalosporins, a large number - aminoglycosides, Tetracycline, macrolides. Therefore at their destination stop breast-feeding a baby.

Local therapy in endometrial wash-flow is drainage of uterine cavity, using double-lumen catheter through which make the uterine wall irrigation solutions antiseptics, antibiotics. Use chilled 4 °C chlorhexidine 0.02% solution, 0.9% isotonic sodium chloride solution speeds 10ml/hv. Contraindications to aspiration-drainage of uterine flushing are: failure of seams in the uterus after caesarian section, infection has spread beyond the uterus, and the first days (up to 3-4 days) postnatal period. When pathological inclusion (rolls of blood remnants of membranes) of uterine cavity by flushing the drainage can not wash, they must remove the vacuum aspiration, or careful

curettage of the background of antibacterial therapy and normal body temperature. In the absence of these conditions curettage is performed only for the life conditions (bleeding in the presence of remnants of the placenta).

Resort to surgical treatment of the case ineffectiveness of conservative therapy and the presence negative dynamics in the first 24-48 hours of treatment of systemic inflammatory response syndrome (SIRS). Surgical treatment is laparotomy with hysterectomy and uterine tubes.

Correct treatment of postpartum endomyometritis based prevention common form of infection in mothers.

Lactational mastitis

Lactational mastitis - an inflammation of the breast (mostly unilateral) during lactation in the postpartum period. Often developing 2-3 weeks after birth.

Etiology and pathogenesis

Most aetiology is cracked nipples, penetration intramammary pathogen infection through breast milk ducts during lactation or milk stasis, rarely parasite spreads from endogenous foci.

Risk factors:

- cracked nipples;
- lactostasis.

Cracks can be at nipples malformation soothe, when the child later application to the chest, poor feeding technique rough stasis milk of individual epithelial cover soothe, violating sanitary-epidemiological norms postpartum period.

When lactostasis may increase body temperature up to 24 hours if more than 24 hours - then this state should be viewed as mastitis.

Classification

I. The nature of the flow of breast inflammatory process can be:

- serous;
- infiltrative;
- purulent;
- infiltrative-purulent, diffusion, nodular;
- abscess (abscessed),: furunculosis areola, areola abscess, abscess in
- thicker gland abscess behind the gland;
- abscess, purulent necrotic;
- gangrenous.

II. For localization of foci mastitis can be:

- subcutaneous, subareolar, intramammary, retromammary and total.

The clinical picture

The clinical picture is characterized by mastitis: acute beginning, pronounced intoxication (malaise, headache), fever up to 38-39°C, drozhzhyu, pain in the breast that increase with feeding or stasis. Mammary gland increases in volume, characterized by hyperemia and infiltration of tissues without clear boundaries. This picture is typical of serous mastitis. While inefficient treatment within 1-3 days serous mastitis goes into infiltrative. When palpation determined dense, sharply painful infiltration, glandular. Duration of this phase of 5-8 days. If infiltration does not resolve on the background of the treatment is its maturation - breast abscess (abscessed). Despite the strengthening of local symptoms of inflammation, a significant increase in breast cancer and deformity if infiltrate is shallow, then faster determined fluctuation.

Maturation infiltration occurs within 48-72 hours. In cases where in the breast nahnoyuyetsya few infiltrates, called breast abscess. Body temperature during this 39-40°C, dryness expressed weakness, intoxication. Mammary gland increased sharply, painful, pastozna well expressed by superficial venous network infiltrate occupies almost the entire gland, the skin over the affected area of swollen, shiny, red with cyanotic tinge, often with limfanhitom. When gathered breast possible generalization of infection with the transition in sepsis.

Diagnostics

Diagnosis is based on the following data:

- clinical: a review of breast cancer (see text), evaluation of clinical signs, complaints, history taking;
- laboratory: total blood (leukogram), total urine analysis, bacteriological research and bacterioscopic fluid, immunogram, coagulogram and blood biochemistry;
- tool: ultrasound (ultrasonography) - is an important diagnostic mastitis.

Treatment

Treatment could be conservative and surgical.

Antibiotic therapy should start with the first signs of disease to help prevent the development of purulent inflammation. When serous mastitis on breastfeeding solved individually. Please note: Opinion childbirth, anamnesis (eg, purulent mastitis record, numerous scars of breast cancer, breast prosthesis), conducted by antibiotics, bacteriological data and research bacterioscopic fluid, the presence and expressiveness of crack nipples. Since infiltration mastitis child feeding is contraindicated because of a real threat to the child's infection and cumulative accumulation of antibiotics in the body of a child, but breastfeeding can be maintained by ztsidzhuvannya. In the absence of the effect of conservative therapy of mastitis for 2-3 days and signs of purulent mastitis shown surgical treatment. Surgical treatment is radical cuts and adequate drainage. Parallel continuing antibiotics, dezintoksykatsionu and desensitizing therapy. Timely surgical treatment can prevent progression of the process, the development of SIRS.

Prevention

Prevention of puerperal mastitis is teaching women breast-feeding policies and compliance with rules of personal hygiene. Need early detection and treatment of cracks and laktostazu nipples.

Ambulatory diagnosis and treatment of generalized infection after delivery

From the standpoint of modern ideas of sepsis - a typical pathological process that complicates the course of various diseases of infectious nature, the basic content of which is the uncontrolled release of endogenous mediators with subsequent development of generalized inflammation and organ-system injuries remote from the primary focus.

Sepsis can not be considered the result of direct action on the microorganism makroorhanizm, it is the result of significant violations in the immune system that are in its development stages of activation of redundant (phase hiperzapalennya), to a state of immunodeficiency (imunoparalicha phase). Immune system is an active member autodestruktyvnoho process. Very often this septicemia (presence of microbes in the blood) is absent.

Such concepts have defined modern terminology sepsis.

American Association of Anesthesiologists, in 1992 proposed the following classification of septic states recognized by most scientists.

Systemic inflammatory response syndrome (Systemic Inflammatory Response Syndrome - SIRS), manifested by two or more signs:

- 1) body temperature of more than 38.0°C or lower 36.0°C;
- 2) HR over 90 beats / min;
- 3) respiration rate 20 per minute or PaCO₂ below 32 mm Hg. century;
- 4) WBC count more 12x10⁹ / l or less 4x10⁹ / l immature forms more than 10%.

Sepsis - systemic response to infection reliably detected in the absence of other possible reasons for such changes characteristic of SIRS. Manifested the same clinical signs and SIRS.

Heavy sepsis - sepsis is characterized by the dysfunction of organs, hypoperfusion of tissue, arterial hypotension. Possible acidosis, oliguria, mental blankness. With the development of severe sepsis align the following features:

- thrombocytopenia less than 100 thousand / L, which can not be explained by other causes;
- raise more procalcitonin 6.0 ng / ml (A);
- positive blood won the detection of circulating bacteria (A);
- a positive test for endotoxin (LPS-test) (B).

Septic shock (SIRS - shock) is defined as severe sepsis with arterial hypotension, which develops despite adequate infusion therapy. Diagnosis is established if the above clinical and laboratory parameters align:

- arterial hypotension (systolic blood pressure less than 90 mm rt.st or decrease more than 40 mmHg from the reference level);
- violation of consciousness;
- oliguria (diuresis <30 ml / h);
- Hypoxia (PaO₂ less than 75 mm Hg when breathing the ambient air);
- SpO₂ less than 90%;
- raise more lactate 1.6 mmol / l;
- petechialna rash, skin necrosis.

Multiple organ failure syndrome - the presence of acute dysfunction of organs and systems.

Diagnostics

For the diagnosis of clinical forms of sepsis should conduct the following activities in parturients with any form of postnatal infection:

- 1) monitoring: blood pressure, heart rate, central venous pressure, blood leukocytes and formulas;
- 2) calculation of respiration rate, assessing the level of blood gases, SpO₂;
- 3) Control hourly diuresis;
- 4) measurement of rectal body temperature of at least four times a day for comparison of body temperature in aksilyarnyh areas;
- 5) crops urine, blood, secretions from the cervical canal;
- 6) determination of the acid-alkaline balance of blood and tissues of oxygen saturation;
- 7) platelet counting and determination of fibrinogen and fibrin monomers;
- 8) ECG, abdominal ultrasound and X-ray studies of the chest cavity.

Basic principles of therapeutic measures

1. Hospitalization in intensive care.

2. Correction of hemodynamic disorders through inotropnoi infusion therapy and adequate support.

Assessing arterial pressure, pulse arterial pressure, CHP, CHSS, diuresis, determine the volume of infusion therapy. Determination of CHP in the dynamics allows controlled infusion of colloid solutions and kristaloidnye with the assessment amounts imposed and the lost fluid, blood.

For derivatives used infusions hidroksietylkrohmalu (Refortan, venofundyn, volyuvon, stabizol) and crystalloid (0.9% sodium chloride solution, a solution Rynhera) in the ratio 1:2. To correct hipoproteinemiyi appoint only 20-25% of Mr. albumin. Application of 5-10% albumin in critical states increases mortality of patients (A).

In the infusion must include quick-frozen plasma 600-1000 ml, due to the presence in it of anti thrombin (B).

Inappropriate use of glucose (B), because its purpose in patients in critical states increases lactate production and CO₂ increases ischemic brain damage and other tissues. Glucose infusion is used only in cases of hypoglycemia, and hypernatremia.

Inotropna support applies if the CHP is still low. Injected dopamine in a dose of 5-10 mg / kg / min (up to 20 mg / kg / min) or Dobutamine - 5-20 mg / kg / min. With no steady increase of SC injected norepinephrine hidrotartrat 0,1-0,5 mg / kg / min, while reducing the dose of dopamine to 2-4 mg / kg / min. (A). Justified by the simultaneous appointment naloksonu to 2.0 mg, which enhances AT (A).

In case of failure of complex hemodynamic therapy using glucocorticosteroids possible (hydrocortisone - 2000 mg / day (P)) with H₂-blockers (ranitydin, famotidin) (B).

3. Maintaining adequate ventilation and gas exchange. Indications for ventilation are: PaO₂ less than 60 mmHg, PaCO₂ 50 mmHg or less than 25 mmHg, SpO₂ less than 85%, respiratory rate 40 per minute.

4. Normalization of bowel function and early enteral nutrition.

5. Timely correction of metabolic laboratory under constant control.

6. The decisive factor is the rational choice of antimicrobial drugs, particularly antibiotics. Targeted antibacterial therapy is possible only after determining pathogen and establishing its sensitivity to antibiotics that may be in the best case 48 hours earlier. Waiting identify empirical antibiotics used, taking into account the nature of primary foci of infection function of liver, kidney, immune system sick.

Existing trends in antibacterial therapy of pyo-septic infections include antibiotic use microbicides, not bacteriostatic, the use of less toxic analogs (for example, new generations aminohlykozydiv ftorhinolonamy or replacing them), replacing the combined antibiotics equally effective monoantibiotykoterapiyeyu; replacement imunopryhnychuyuchykh immunostimulatory antibiotics, use of adequate dose and mode.

Based on the need for growth inhibition of all predictable spectrum of pathogens obstetric infections (gram-negative and gram-positive aerobic and anaerobic bacteria) in the antimicrobial empirical therapy scheme used triple combination of antimicrobial therapy (eg, semi-synthetic penicillin, cephalosporin aminohlykozydy + + imidazole), double antibiotics (eg klyndamitsyn + aminohlykozydy) monoantibiotykoterapiyi (Y generation cephalosporin, karbopenemy, ureyidopenitsyliny, aminopenitsyliny, etc.).

Triple antimicrobial therapy is an active though relatively spectrum of pathogens, but the use of many drugs brings additional pressure on organs and systems, and the

increasing number of preparations that are growing antibiotic side effects. This therapy usually involves antibiotics destination group semi penitsylyniv (Ampicillin, oxacillin) and cephalosporins generations I-II (tsefazolin, tsefaleksina, cefuroxime), which are most effective against aerobic gram-positive pathogens (staphylococci), is less effective in aerobic gram-negative pathogen is operating in pseudomonad (synehninyu stick) and anaerobic bacteria. Performance of this complex enhanced by the appointment aminohlykozydiv (gentamicin, subsp, amikacine, netromitsyn) that highly effective against gram-negative and anaerobic bacteria (enterobacteria, synehninyu sticks). Performing against anaerobic bacteria, including bakteroidy possessing drugs group imidazolov (metronidazole, ornidazol, tinidazol). In connection with the above popular triple antibiotic regime with severe purulent-septic diseases can not be considered rational.

Dual antibiotic therapy often involves a group of drugs linkozamydiv (klindamitsyn) that have a wide spectrum against anaerobic bacteria and gram-positive aerobic and Gram-negative influence on the flora additionally appointed aminoglycosides. The proposed combination is also Y-generation cephalosporin with imidazole, β -lactam with aminoglycoside antibiotics.

Monoantibiotykoterapiya might be drugs, which covers the spectrum of Gram-negative and Gram-positive aerobic and anaerobes: Y generation cephalosporin, karbopinemy. In severe sepsis the most appropriate course of medication group karbopinemiv (imipinem + tsylastyn sodium, meropenem).

In view of recent achievements of science in studying the pathogenesis of sepsis and SIRS, especially should stay on the clinical significance release endotoxin (LPS), which induced antibiotics. In this regard, has important clinical significance of the extent toksynoutvorenniya induced by different antibiotics. Formation of endotoxin, induced with antibiotics is increasing in the following order: karbopenemy - smallest; aminoglycosides; ftorhinolony; cephalosporin - most.

The structure of antimicrobial therapy is mandatory inclusion antykandydoznyh drugs (nystatin, flukonazol, itraconazole, etc.).

7. Evaluation of pathophysiological and patobiohimichnyh disorders that can be allocated in the following syndromes: kidney, liver, different variations of cardiovascular and respiratory failure, ICE syndrome, disorders of microcirculation, dysfunction of gastrointestinal tract with bacterial flora translocation phenomena in lymphatic system and then and in systemic circulation with the development of multiple organ failure syndrome. Patobiohimichni disorders manifest violations of water-electrolyte, kislотно-base balance and others. Each of the syndromes demanding approach, individual application of certain methods and tools that cover all sections of intensive care.

8. Improvement of microcirculation (or use pentoxyfilline dipiridamolu) Application pentoxyfilline (trentalu) improves microcirculation and rheological properties of blood has sudynorozshyryvalnu action and improves tissue oxygen supply, which is important in preventing DIC and MOF.

9. Antymediatornaya therapy. Given the crucial role in the development of SIRS massive release of mediators of inflammation (cytokines) in the vascular bed, use antymediatornoyi therapy is rational. These methods are at the stage of clinical development, although some are recommended for clinical use: antioksydanty (vitamin E, N-atsetiltsysteyin, glutathione), corticosteroids (dexamethasone), lizofilin,

phosphodiesterase inhibitors (Amrinone, milrinone, pentoxifylline) and adenosine diphosphate (dipyridamol) adenosine and alpha-adrenoblockers.

In recent years literary sources provide information about Drotrecogin alpha (Drotrecogin alfa) - recombinant human activated protein C. This new drug only in patients with severe sepsis, multiple organ failure. Activated protein C - this endogenous protein that supports fibrinolysis, inhibits thrombosis, and also has anti-inflammatory properties. The standard treatment used in Britain since 2004 - is drotrecogin alpha 24 mg / kg body weight for 96 hours.

10. Surgical treatment of seizure foci of infection.

Indications for laparotomy and hysterectomy with uterine tubes are:

- lack of effect of intensive therapy (24 hours)
- endomyometritis that defies conservative treatment (24-48 hours);
- uterine bleeding;
- abscess formation in the field of oophorectomy;
- detection of ultrasound at the balance of the placenta.

11. Extracorporeal blood purification (detoxification) is a promising direction in the correction of homeostasis in severe cases. To this end, apply: hemodialysis, ultrafiltration hemofiltration, hemodiafiltration, plasmapheresis.

Clinical diagnosis and treatment of obstetrical peritonitis

Peritonitis in obstetrical practice develops more often after cesarean section. Depending on the way to distinguish a peritoneal infection forms. Early peritonitis occurs at 1-3 days after surgery. It is usually caused by infection during an operation conducted against the backdrop of chorioamnionitis.

Peritonitis associated with bowel paresis develops 3-5 days after surgery. It relates to breach the barrier function of intestinal obstruction due to its dynamic, with peristalsis intestinal content by liquid and gas.

Peritonitis due to wounds of inferiority often develops in the uterus for 4-9 days after surgery. This distribution of clinical forms very conditional, but significantly affects the choice of treatment tactics

Clinical signs of peritonitis include hyperthermia, bloating and bowel paresis (absence of peristalsis), accumulation of liquid contents in the stomach, breathlessness, tachycardia, vomiting, intoxication, which is growing, peritoneal irritation. Therapeutic measures give a temporary effect, 3-4 hours again increases intestinal paresis and other signs of peritonitis.

Ultrasound signs of peritonitis: bloated, filled loops of bowel contents hyperperistalsis expressed hyperperistalsis intestinal wall, the presence of free fluid in the abdominal cavity between the bowel loops in the lateral channels and space behind the uterus. About deficiency stitches in the uterus shows irregular uterine wall thickness in projection seam presence in this niche segment of "fluid" and "structures."

In the treatment of early peritonitis justified intensive conservative therapy for 8-12 pm (see treatment of sepsis). Necessary to provide drainage from the uterus, stimulating bowel function. In the absence of the effect of conservative therapy within the specified time shown laparotomy with revision of the abdominal cavity, hysterectomy with uterine tubes. Over the past fifteen years have been offered new approaches and methods of surgical treatment of abdominal sepsis, particularly purulent peritonitis. These include: a closed method (passive and active drainage, peritoneal dialysis, relaparotomy "on demand" (if shown)), Half (turning audit and

restructuring"program"in mizhoperatyvnyy readjustment period, the temporary closure of laparotomy wounds), open (laparostomiya).

Clinical diagnosis and treatment of infectious thrombotic complications

The superficial thrombophlebitis. Acute thrombophlebitis revealed pain along the affected vein. Complaints to local heat sensation, redness and tenderness along the subcutaneous veins. Leaf palpuyetsya as dense painful cord hyperemia may extend beyond the sealing veins may occur infiltration of tissues that are near, lymphadenitis. Overall condition childbirth while broken little subfebrile temperature, accelerated pulse.

Deep vein thrombophlebitis. Complaints of pain rozpyrayuchyy on the side of lesion, swelling of affected limbs and skin discoloration. Objective manifestations corresponding compensation stage: fever (often the first and only sign of venous thrombosis), no pronounced violation of venous hemodynamics. Objective signs that match the stage of decompensation: intense pain, which often changes its localization feeling heaviness and tension, captures the entire limb swelling, limfovidthoku violations, increasing regional lymph nodes, skin color varies from pale to saturated-tsiyanotychnoho, dominated by diffuse cyanosis all limbs.

Diagnosis based on clinical data, laboratory tests:

- assessment of the degree embolonebezpechnosti - definition D-level diamera in plasma (D-dimer-test);
- tromboelastohrama, coagulogram;
- determine the number of fibrin-monomer in blood serum (FM-test, monotest-FM);
- identifying and fibrin degradation products in plasma fibrinogen (FDP PLASMA)

Used instrumental methods of investigation: anhoskanuvannya duplex ultrasound with color Doppler mapping, radionuclide tracer study of fibrinogen, opaque retrograde ileokavohrafiya.

Septic pelvic vein thrombophlebitis. When endomyometritis infectious agent goes into venous circulation, affects the endothelium of vessels and promotes clot formation, usually prevailing anaerobic infection. The process involved in ovarian veins, thrombi can penetrate into the lower hollow renal vein. Complaints of abdominal pain at the bottom of irradiation in the back, groin, may be nausea, vomiting, bloating, fever. In the study of vaginal palpuyetsya thickening in a rope in the corners of the uterus. When septic thrombophlebitis may be the migration of small blood clots in the pulmonary circulation of.

Treatment

Treatment trombotycheskyh complications in postpartum period along with antibiotics and deintoxication must include:

- a) bed rest with the deployment of lower extremity on the tire Bellera until disappearance of edema or express purpose of anticoagulant therapy;
 - Local hypothermia thrombose projection along the vascular bundle;
 - elastic compression using elastic bandages;
 - correction character act defecation with laxative use (warning natuzhuvannya);
- b) medical therapy:
 - anticoagulants in the acute stage of disease. Direct anticoagulants - heparin, low molecular weight heparin - fraksyparyn, pentoksan, kleksan, frahmin and others. with the transition to indirect anticoagulants;

- indirect anticoagulants prescribed 2 days before the abolition of direct anticoagulants for up to 3-6 months;
- hemoreolohichni active means - pentoxifylline, reopoliglyukin, and then switch to antytrombotsytarnu therapy - aspirin, Plavix for up to 1 year;
- Tools that improve flebohemodynamiku - flebodiya, detraleks, eskuzan for 4-6 weeks;
- systemic enzyme - Vobenzim, flobenzym, biozyn.

c) local treatment, which is held from 1-day diseases:

- Local hypothermia;
- application of ointments on the basis of heparin - heparynova, troksovasinova, Lioton 1000, or NSAIDs - fastum-gel-gel diclofenac.

Prevention of postpartum infection

To prevent postpartum septic complications, the proper organization of prenatal (rehabilitation of chronic septic foci), the maternity unit of postpartum wards, strict adherence to the principles of aseptic and antiseptic during childbirth and care bears, the isolation of women with signs of septic infection.

Great importance to prevent injuries during childbirth, fighting krovovtratayu and decrease the rate of surgical interventions during childbirth. It is necessary to prevent premature amniotic fluid effusion, timely treat deviations from the physiological course of labor (weakness of delivery), a antibiotic for indications.

3.3. Requirements for the results of work.

1. What is the definition of postpartum infection?
2. What is the definition of «internally hospital (hospital) infection»?
3. What is the classification of postpartum infectious diseases?
4. What is the etiology of postpartum infectious diseases?
5. What is the pathogenesis of postpartum infectious diseases?
6. What are the risk factors of postpartum infectious diseases?
7. Which clinical features and diagnosis of postpartum infected wounds?
8. What are the treatments for postpartum infected wounds?
9. What are the clinical features and diagnosis of postpartum endometritis?
10. What are the treatments for postpartum endometritis?
11. What are the clinical features and diagnosis and treatment of milk fever?
12. What are the treatments for milk fever?
13. What is the modern classification of septic states?
14. What are the basic principles of treatment of obstetric sepsis?
15. What are the clinical features and diagnosis of obstetrical peritonitis?
16. What are the basic principles of treatment of obstetrical peritonitis?
17. What are the clinical forms of infectious thrombosis complications in obstetrics?
18. What are the basic principles of treatment of obstetric thrombosis complications?
19. What anomalies of labor activity do you know?
20. What are the clinical signs of different anomalies of labor activity?
21. What are the methods of diagnostics of different anomalies of labor activity?
22. What are the main principles of treatment of patrimonial disactivity?

3.4. Control materials for the final stage of the class: tasks, tests, etc.

Tests

1. A woman consulted a doctor on the 14th day after labour about sudden pain, hyperemia and induration of the left mammary gland, body temperature rise up to 39°C, headache, indisposition. Objectively: fissure of nipple, enlargement of the left mammary gland, pain on palpation. What pathology would you think about in this case?

- A. Lactational mastitis
- B. Lacteal cyst with suppuration
- C. Fibrous adenoma of the left mammary gland
- D. Breast cancer
- E. Phlegmon of mammary gland

2. On the tenth day after discharge from the maternity house a 2-year-old patient consulted a doctor about body temperature rise up to 39°C, pain in the right breast. Objectively: the mammary gland is enlarged, there is a hyperemized area in the upper external quadrant, in the same place there is an ill-defined induration, lactostasis, fluctuation is absent. Lymph nodes of the right axillary region are enlarged and painful. What is the most likely diagnosis?

- A. Lactational mastitis
- B. Abscess
- C. Erysipelas
- D. Dermatitis
- E. Tumour

3. Examination of placenta revealed a defect. An obstetrician performed manual investigation of uterine cavity, uterine massage. Prophylaxis of endometritis in the postpartum period should involve following actions:

- A. Antibacterial therapy
- B. Instrumental revision of uterine cavity
- C. Haemostatic therapy
- D. Contracting agents
- E. Intrauterine instillation of dioxine

4. On the 10th day postpartum a puerperant woman complains of pain and heaviness in the left mammary gland. Body temperature is 38, 8°C, Ps- 94 bpm. The left mammary gland is edematous, the supero-external quadrant of skin is hyperemic. Fluctuation symptom is absent. The nipples discharge drops of milk when pressed. What is a doctor's further tactics?

- A. Antibiotic therapy, immobilization and expression of breast milk
- B. Compress to both mammary glands
- C. Inhibition of lactation
- D. Physiotherapy
- E. Opening of the abscess and drainage of the mammary gland

5. A parturient woman is 27 year old, it was her second labour, delivery was at full-term, normal course. On the 3rd day of postpartum period body temperature is 36, 8°C, heart rate - 72/min, BP - 120/80 mm Hg. Mammary glands are moderately swollen,

- nipples are clean. Abdomen is soft and painless. Fundus of uterus is 3 fingers below the umbilicus. Lochia are bloody, moderate. What is the most probable diagnosis?
- Physiological course of postpartum period
 - Subinvolution of uterus
 - Postpartum metroendometritis
 - Remnants of placental tissue after labour
 - Lactostasis
6. Examination of placenta revealed a defect. An obstetrician performed manual investigation of uterine cavity, uterine massage. Prophylaxis of endometritis in the postpartum period should involve the following actions:
- Antibacterial therapy
 - Instrumental revision of uterine cavity
 - Haemostatic therapy
 - Contracting agents
 - Intrauterine instillation of dioxine
7. A woman addressed a gynecologist on the 20th day of puerperal period with complaints of pain in the left mammary gland, purulent discharge from the nipple. Objectively: Ps- 120/min., body temperature is 39°C. The left mammary gland is painful, larger than the right one, the skin there is hyperemic; in the upper quadrant there is an infiltrate 10x15 cm in size with soft center. Blood test: ESR- 50 mm/hour, leukocytes - $15,0 \cdot 10^9/l$. What would be the treatment tactics?
- Transfer to a surgical department for surgical treatment
 - Refer to a gynecology department
 - Refer to a postnatal department
 - Refer to a surgeon for conservative treatment
 - Lance the mammary gland abscess in a maternity department
8. A maternity patient breastfeeding for 1,5 weeks has attended a doctor. She considers the onset of her disease to be when proportional breast engorgement occurred. Mammary glands are painful. Body temperature is 36,6°C. Expression of breastmilk is hindered. The most likely diagnosis is:
- Lactostasis
 - Infiltrative mastitis
 - Suppurative mastitis
 - Chronic cystic mastitis
 - Gangrenous mastitis
9. On the 9th day after childbirth the obstetric patient developed high fever up to 38°C. She complains of pain in the right mammary gland. The examination revealed the following: a sharply painful infiltrate can be palpated in the right mammary gland, the skin over the infiltrate is red, subareolar area and nipple are swollen and painful. What is your diagnosis?
- Abscess of the right mammary gland

- B. Mastopathy
- C. Cancer of the right mammary gland
- D. Serous mastitis
- E. Fibrous cystic degeneration of the right mammary gland

10. A woman complains of temperature increase up to 39°C, sharp pains in her lower abdomen, and sanguinopurulent discharge from her genital tracts. From her case history it is known that 6 days ago she underwent illegal abortion. Objectively her blood pressure is 100/60 mm Hg, pulse is 110/min. Abdominal rigidity, rebound tenderness (Bloomberg's sign), and painful palpation of the lower abdomen are observed. On bimanual examination the uterus is enlarged up to 7 weeks of pregnancy, painful, and soft; posterior vaginal fornix overhangs. Make the diagnosis:

- A. Pelviperitonitis
- B. Endometritis
- C. Acute adnexitis
- D. Pyosalpinx
- E. Metroendometritis

11. A postparturient woman, who has been breastfeeding for 3 weeks, made an appointment with the doctor. For the last 6 days she has been feeling unwell, complains of body temperature of 38-39°C, general weakness; within the last 2 days she developed pain and redness in the area of her right mammary gland. Examination revealed her mammary gland to be significantly enlarged and deformed; breast tissue fluctuations and lymphadenitis are observed. What type of mastitis is the most likely?

- A. Phlegmonous mastitis
- B. Serous mastitis
- C. Infiltrative mastitis
- D. Lactostasis
- E. Mammary edema

12. A 22-year-old postparturient woman on the 12th day after the normal childbirth informs of elevated body temperature up to 39°C for the last 3 days and pain in her right mammary gland. The right mammary gland is enlarged, hot to touch, tense, hyperemic, and painful. Palpation reveals there a dense infiltration 8x8 cm with a fluctuation in its center. What is the most likely diagnosis?

- A. Postpartum period, day 12. Right-sided lactostasis
- B. Postpartum period, day 12. Right-sided infiltrativ-purulent mastitis
- C. Postpartum period, day 12. Right-sided gangrenous mastitis
- D. Postpartum period, day 12. Right-sided phlegmonous mastitis
- E. Postpartum period, day 12. Right-sided serous mastitis

13. On the day 4 after the cesarean section a woman developed fever with body temperature up to 39°C and abdominal pain. Pulse - 104/min. She vomited twice. The patient is sluggish, her tongue is dry and has gray coating. The abdomen is distended. Signs of peritoneal irritation are positive in

all segments. Peristalsis cannot be auscultated. No passage of gas occurs. Uterine fundus is located at the level of the navel. The uterus is painful on palpation. The discharge is moderate and contains blood and pus. What is the most likely diagnosis?

- A. Diffuse peritonitis
- B. Pelvic peritonitis
- C. Metroendometritis
- D. Progressive thrombophlebitis
- E. Parametritis

14. Multipara, 32 y.o., is in the I stage of labor for 5 hours. Light amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. At internal obstetric examination head of the fetus is pressed to inlet to the small pelvis, fetal bubble is absent. Disclosure of uterine cervix is 2 sm. Choose the optimum labor management?

- A. Medicinal dream
- B. Labor inducing
- C. Cesarean section
- D. Treatment of uterine inertia
- E. Obstetric forceps

15. Woman-in-labor 25 y.o., is in I stage of duty labor during 14 hours with normal patrimonial activity. Sizes of the pelvis 26-28-30-18 sm. Palpitation of the fetus is dull, rhythmical, 85 b/min. Prospective mass of the fetus 3200.0+200 gr. Internal obstetric examination: disclosure of uterine os is complete, head of the fetus is in pelvic cavity. What is the tactics of labor management?

- A. Applying of output obstetric forceps
- B. Applying of cavity obstetric forceps
- C. Conservative labor
- D. Cesarean section
- E. Fetus destroying operation

Summing up:

Current control: oral examination, testing, assessment of practical skills, solving situational clinical problems, assessment of activity in the classroom.

Structure of ongoing assessment in a practical lesson:

1. Assessment of the theoretical knowledge according to the topic:
 - methods: individual oral assessment, solving of situational clinical task
 - the maximum score – 5, the minimum score – 3, the unsatisfactory score – 2.
2. Assessment of practical skills and medical techniques according to the topic:
 - methods: assessment of the practical skill
 - the maximum score – 5, the minimum score – 3, the unsatisfactory score – 2.
3. Assessment of the medical care according to the topic:
 - methods: assessment of: a) communication skills of communicating with the

patient and his parents, b) the correctness of prescribing and evaluating laboratory and instrumental studies, c) compliance with the differential diagnosis algorithm, d) substantiation of the clinical diagnosis, e) drawing up a treatment plan

- the maximum score - 5, the minimum score - 3, the unsatisfactory score - 2.

Criteria for current assessment on the practical lesson:

Rating	Criteria assessment
«5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and interpretation of clinical, laboratory and instrumental studies, expresses his opinion on the topic, demonstrates clinical thinking.
«4»	The student is well versed in the material, participates in the discussion and solution of situational clinical problems, demonstrates practical skills during the examination of a patient and interpretation of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, demonstrates clinical thinking.
«3»	The student does not have enough material, uncertainly participates in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of a patient and interpretation of clinical, laboratory and instrumental studies with significant errors.
«2»	The student does not have the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental studies.

List of practical skills that a student should master while studying the discipline "Obstetrics and Gynaecology"

1. Speculum examination of the vagina and uterine cervix
2. Bacterioscopic test of the female genital tract microflora
3. Bacteriological test of the female genital tract microflora
4. Cervical screening test: Pap smear and liquid-based cytology for cervical screening
5. Bimanual pelvic examination
6. Clinical examination of the breasts
7. Pipelle endometrial sampling.
8. Pelvimetry: external variables and internal variables
9. Measurement of obstetric conjugate, Solovyov's index
10. External obstetric examination (Leopold's maneuvers)
11. Auscultation of the foetus
12. Determination of estimated date of delivery and foetal weight
13. Vaginal examination during pregnancy

Practical skills for OSCE-2 (Obstetrics and Gynaecology)

1. Speculum examination of the vagina and uterine cervix
2. Bacterioscopic test of the female genital tract microflora
3. Bacteriological test of the female genital tract microflora
4. Pap smear
5. Bimanual pelvic examination
6. Clinical examination of the breasts
7. Pelvimetry
8. External obstetric examination (Leopold's maneuvers)
9. Auscultation of the foetus

Speculum examination of the vagina and uterine cervix

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Take the speculum Cusco in the dominant hand.
4. Carefully separate the labia majora using the thumb and index finger of your non-dominant hand; insert the speculum Cusco with the blades closed into the vagina.
5. Rotate the blades of the speculum Cusco into a horizontal position, open the blades after full insertion and maneuver the speculum gently so that the cervix comes into full view.
6. Note the vaginal portion of the cervix and the vagina:
 - a. colour and condition of the vaginal mucosa,
 - b. vaginal discharge,
 - c. cervical shape,
 - d. length of the cervix in cm.,
 - e. shape of the external os,
 - f. discharge from the cervix.
7. Gently remove the speculum Cusco.
8. Remove your gloves.
9. Wash your hands.

Bacterioscopic test of the female genital tract microflora

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Take a microscope slide U / C / V.
4. Insert a cotton applicator stick (or a Volkmann's spoon) into the urethra (1.5-2 cm), remove and smear a labeled glass slide (section U).
5. Take the speculum Cusco in the dominant hand.
6. Carefully separate the labia majora using the thumb and index finger of your non-dominant hand; insert the speculum Cusco with the blades closed into the vagina.
7. Rotate the blades of the speculum Cusco into a horizontal position, open the blades after full insertion and maneuver the speculum gently so that the cervix comes into full view.

8. Note the vaginal portion of the cervix and the vagina:
 - a. colour and condition of the vaginal mucosa,
 - b. vaginal discharge,
 - c. cervical shape,
 - d. length of the cervix in cm.,
 - e. shape of the external os,
 - f. discharge from the cervix.
9. Collect a sample for bacterioscopic smear.
10. Insert the cytobrush (or the other end of a Volkmann's spoon) into the cervical canal, remove and smear a labeled glass slide (section C).
11. Use Ayre's wooden cervical spatula for obtain of specimen from the posterior vaginal's wall, remove and smear a labeled glass slide (section V).
12. Gently remove the speculum Cusco.
13. Remove your gloves.
14. Wash your hands.

Bacteriological test of the female genital tract microflora

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Take three sterile test tubes with applicators. Write the necessary data on them and mark them (urethra, cervical canal, posterior fornix).
4. Collect a sample for bacteriologic test. Insert the applicator into the urethra (1.5-2 cm), remove and place the applicator in a suitable sterile test tube.
5. Take the speculum Cusco in the dominant hand.
6. Carefully separate the labia majora using the thumb and index finger of your non-dominant hand; insert the speculum Cusco with the blades closed into the vagina.
7. Rotate the blades of the speculum Cusco into a horizontal position, open the blades after full insertion and maneuver the speculum gently so that the cervix comes into full view.
8. Note the vaginal portion of the cervix and the vagina:
 - a. colour and condition of the vaginal mucosa,
 - b. vaginal discharge,
 - c. cervical shape,
 - d. length of the cervix in cm.,
 - e. shape of the external os,
 - f. discharge from the cervix.
9. Collect a sample for bacteriologic test.
10. Insert the applicator into the cervical canal, remove and place the applicator in a suitable sterile test tube.
11. Use the applicator for obtain of specimen from the posterior fornix. Place the applicator in a suitable sterile test tube.
12. Gently remove the speculum Cusco.
13. Remove your gloves.
14. Wash your hands.

Pap smear

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Take the speculum Cusco in the dominant hand.
4. Carefully separate the labia majora using the thumb and index finger of your non-dominant hand; insert the speculum Cusco with the blades closed into the vagina.
5. Rotate the blades of the speculum Cusco into a horizontal position, open the blades after full insertion and maneuver the speculum gently so that the cervix comes into full view.
6. Note the vaginal portion of the cervix and the vagina:
 - a. colour and condition of the vaginal mucosa,
 - b. vaginal discharge,
 - c. cervical shape,
 - d. length of the cervix in cm.,
 - e. shape of the external os,
 - f. discharge from the cervix.
7. Remove superficial mucous/exudate using a cotton swab.
8. Take a microscope slide ectocervix / endocervix.
9. Collect a sample for cytologic smear.
10. Use a curved cytobrush or place the longer end of Ayre's wooden cervical spatula into the os of the cervix and press gently, rotate 360°, remove and smear a labeled glass slide (section ectocervix).
11. Introduce the cytobrush into the cervical canal, rotate 360° 2 times in clockwise direction, remove and smear a labeled glass slide (section endocervix).
12. Gently remove the speculum Cusco.
13. Remove your gloves.
14. Wash your hands.

Bimanual pelvic examination**Procedure steps:**

1. Wash your hands.
2. Put on latex gloves.
3. Carefully separate the labia majora using the thumb and index finger of your non-dominant hand.
4. Gently introduce the middle finger of your dominant hand, then the index finger into the vagina; the thumb should be abducted and the ring and little fingers flexed into the palm.
5. Note the length and width of the vagina, vaginal elasticity, tenderness, rule out during palpation neoplasms and congenital abnormalities such as a vaginal septum, a vaginal stenosis, etc.
6. Note the length of the vaginal part of the cervix (cm).
7. Note the consistency of the cervix (dense, soft), cervical dilation, gently move the cervix from side to side to check for cervical tenderness.
8. Place your other hand midway between the umbilicus and the symphysis pubis and press downward to pelvic hand.

9. Feel the uterus and note: position of the uterus (anteflexio, retroflexio), size of the uterus (normal, reduced, enlarged), consistency (tight-elastic, soft), mobility (relatively mobile, limited mobility), tenderness.
10. Gently slide the vaginal fingers into the right lateral vaginal fornix; note the size, mobility and tenderness of the right adnexa.
11. Gently slide the vaginal fingers into the left lateral vaginal fornix; note the size, mobility and tenderness of the left adnexa.
12. Note the vaginal fornices.
13. Remove your gloves.
14. Wash your hands.

Clinical examination of the breasts

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Inspect the mammary glands: contour changes, skin changes, nipple changes, areas around nipples (asymmetry, retraction, etc.).
4. Ask the patient to place her hands on the back of her head in a standing position.
5. Palpate the right and left mammary gland sequentially, using the tips of the index, middle and ring fingers of the "dominant" hand. Keep the mammary gland with the other hand. First, conduct superficial, then deep palpation of the mammary gland.
6. Follow systematically, in a circular pattern (simulate a clock) feel the entire breast, note consistency of tissue, any tenderness, presence/absence of tumours. Begin by palpating the upper-outer quadrant of the breast and continue clockwise (upper outer, upper inner, lower inner and lower outer).
7. In case of breast tumour, detect its shape, location, size, consistency, sensitivity, mobility, correlation with the breast tissue.
8. Palpate the lymph nodes: supraclavicular, subclavicular and axillary.
9. Carefully squeeze the edges of the areola between the index finger and thumb, evaluate the nipple discharge (absent, serous, with blood impurities, milky, etc.).
10. Remove your gloves.
11. Wash your hands.

Pelvimetry

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Take a pelvimeter.
4. Place the buttons of the pelvimeter on the antero-superior spines of iliac bones (normally D. spinarum equals 25-26 cm).
5. Move the buttons of the pelvimeter on the most distant locations of iliac cristae (normally D. cristarum equals 28-29 cm).
6. Place the buttons of pelvimeter on trochanteria major of femoral bones (normally D. trochanterica equals 30-31 cm).
7. Place the patient on her left side, bent her left leg in knee joint; measure the distance between the upper border of the pubic symphysis and the fossa supra-sacralis (normally C. externa equals 20-21 cm).

8. Remove your gloves and put on a new pair of latex gloves.
9. During vaginal examination measure the distance from the lower margin of the pubic symphysis to the sacral promontory (normally C. diagonalis equals 12.5-13 cm).
10. Remove your gloves.
11. Wash your hands.

External obstetric examination (Leopold's maneuvers)

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Place ribs of your both hands on the uterine fundus; note the height of the uterus and detect the part of the foetus, which locates in fundus.
4. Place palms of your both hands on the left and right side of the uterus.
5. Using palpation of the uterine lateral wall find the foetal back.
6. Note the foetal lie and foetal position.
7. Place your hand over the upper border of the pubic symphysis and palpate the presenting part of the foetus.
8. Note the foetal presentation.
9. Turn your back to the patient, place your palms on the front-side walls of the uterus.
10. Move fingers of both hands gently down the sides of the uterus toward the pubis.
11. Note the foetal engagement.
12. Give the full answer about the foetal orientation: foetal lie, presentation and foetal position.
13. Remove your gloves.
14. Wash your hands.

Auscultation of the foetus

Procedure steps:

1. Wash your hands.
2. Put on latex gloves.
3. Determine the foetal orientation (foetal lie - longitudinal, transverse, oblique; fetal presentation - cephalic, breech; foetal position - left, right, anterior, posterior) using the 2nd and the 3rd Leopold's maneuvers.
4. Take the obstetric stethoscope in the dominant hand.
5. Determine and describe the location of the point for auscultation (the best place for auscultation depends on foetal orientation; in case of cephalic presentation - below the navel, pelvic presentation - at the level or slightly above the navel, in case of right position - on the right side of the abdomen, left position - on the left side of the abdomen, in case of anterior position - closer to the linea nigra, posterior position - closer to the lateral parts of the abdomen).
6. Remove your gloves.
7. Wash your hands.

RECOMMENDED LITERATURE

Basic:

1. Obstetrics: student's book / Акушерство: підручник / Gladchuk I.Z., Ancheva I.A. Vinnytsia: Nova Knyga, 2021. –288 p.
2. Obstetrics and Gynecology: in 2 vol.:textbook. Volume 2. Gynecology / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al.; edited by V.I. Gryshchenko, M.O. Shcherbina. — 3th edition. – K.: AUS Medicine Publishing, 2022 – 352 p.
3. Obstetrics and Gynecology: in 2 vol.:textbook. Volume 1. Obstetrics / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al.; edited by V.I. Gryshchenko, M.O. Shcherbina. — 2th edition. – K.: AUS Medicine Publishing, 2018 – 392 p.
4. Oats, Jeremy Fundamentals of Obstetrics and Gynaecology [Text]: Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology / J. Oats, S. Abraham. – 10th ed. – Edinburgh [etc.]: Elsevier, 2017. – VII, 375 p.
5. Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed). Jeremy Oats, Suzanne Abraham. Elsevier. 2016. – 384 pp.
6. The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
7. Dutta, Durlav Chandra. D. C. Dutta's Textbook of Gynecology including Contraception / D.C. Dutta; ed/ Hiralal Konar. – 7th.ed. – New Delhi: Jaypee Brothers Medical Publishers, 2016. – XX, 574 p.

Additionally:

1. The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
2. Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
3. Modern technical teaching aids (see appendix to the work program of the 4th year)
4. Prevention of purulent-septic complications during laparoscopic surgeries on pelvic organs with the risk of vaginal microbiota contamination / Zaporozhan VN, Gladchuk IZ, Rozhkovska NM, Volyanska AG, Shevchenko OI //World of Medicine and Biology. - 2020- №1(71). - P.49- 53. (Web of science)
5. Normative documents of the Ministry of Health of Ukraine on obstetrics and gynecology:
 - Order No. 676 of 12/31/2004 "On approval of clinical protocols for obstetric and gynecological care"
 - Order No. 782 dated 12.29.2005 "On the approval of clinical protocols for obstetric and gynecological care"(as amended in accordance with the orders of the Ministry of Health)
 - Order No. 900 of 12/27/2006 Clinical protocol on obstetric care. "Fetal distress during pregnancy and childbirth."
 - Order No. 901 dated 27.12.2006 Clinical protocol on obstetric care. "Transferred pregnancy".
 - Order No. 906 of 12/27/2006 Clinical protocol on obstetric care. Perinatal infections.

- Order No. 540 dated 04.08.2006 On approval of the principles of breastfeeding support, criteria and procedure for evaluating a health care facility for compliance with the status "Child-friendly Hospital".
- Order No. 716 dated 14.11.2007 "On the approval of the clinical protocol for obstetric care "Prevention of transmission of HIV from mother to child".
- Order No. 502 dated August 29, 2008, "On approval of the clinical protocol for antibacterial prophylaxis in surgery, traumatology, obstetrics and gynecology"
- Order No. 624 03.11.2008 Clinical protocol for obstetric care "Normal childbirth".
- Order No. 417 dated 15.07.2011 "On the organization of ambulatory obstetric and gynecological care in Ukraine"
- Order No. 976 of 12/27/2011 Vaginal delivery after caesarean section (C-section)
- Order No. 977 of 12/27/2011 Clinical protocol for obstetric care "Caesarean section".
- Order No. 423 dated 05/24/2013 "On approval of the procedure for providing complex medical care to a pregnant woman during an unwanted pregnancy, forms of primary accounting documentation and instructions for filling them out"
- Order No. 955 dated 05.11.2013 "Procedurecarrying out emergency post-contact prevention of HIV infection among employees in the performance of professional duties".
- Order No. 59 dated 21.01.2014 On the approval and implementation of medical and technological documents on the standardization of medical care for family planning.
- Order No. 205 dated 03.24.14. Clinical protocol "Obstetric bleeding".
- Order No. 236 dated 02.04.2014 "Papproval and implementation of medical and technological documents on the standardization of medical care for dysplasia and cervical cancer".
- Order No. 319 dated 06.04.2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for genital endometriosis"
- Order No. 353 dated 04/13/2016 "On the approval and implementation of medical and technological documents on the standardization of medical care for abnormal uterine bleeding"
- Order No. 869 dated 05.05.2021 "On approval of the unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Endometrial hyperplasia"

ELECTRONIC INFORMATION RESOURCES

1. <https://www.cochrane.org/>- Cochrane / Cochrane Library
2. <https://www.acog.org/>- The American College of Obstetricians and Gynecologists
3. <https://www.uptodate.com>– UpToDate
4. <https://online.lexi.com/>- Wolters Kluwer Health
5. <https://www.ncbi.nlm.nih.gov/>- National Center for Biotechnology Information

/ National Center for Biotechnology Information

6. <https://pubmed.ncbi.nlm.nih.gov/>- International Medical Library / National Library of Medicine
7. <https://www.thelancet.com/>- The Lancet
8. <https://www.rcog.org.uk/>- Royal College of Obstetricians & Gynecologists
9. <https://www.npwh.org/>- Nurse practitioners in women's health
10. <http://moz.gov.ua>- Ministry of Health of Ukraine
11. www.ama-assn.org– American Medical Association /[American Medical Association](#)
12. www.who.int- World Health Organization
13. www.dec.gov.ua/mtd/home/- State Expert Center of the Ministry of Health of Ukraine
14. <http://bma.org.uk>– British Medical Association
15. www.gmc-uk.org- General Medical Council (GMC)
16. www.bundesaerztekammer.de– German Medical Association
17. www.euro.who.int- European Regional Office of the World Health Organization