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 ELECTIVE DISCIPLINE "OBSTETRICS AND GYNECOLOGY IN THE PRACTICE OF A FAMILY DOCTOR"

Level of higher education: second (master's)

Field of knowledge: 22 "Healthcare"

Specialty: 222 "Medicine"

Specialization: "Obstetrics and Gynecology"

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PRACTICAL CLASS №1

Topic: "Pathology of the mammary glands"

Objective: To acquaint students with the development of scientific views on the problems of breast pathology. To study the algorithm of clinical examination of the mammary glands. To be able to draw up an algorithm for examining women in the practice of a family doctor, depending on the woman's age, complaints and anamnesis. Master practical skills of breast palpation. To be able to interpret the results of palpation, ultrasound and X-ray examination of the mammary glands and plan treatment measures for further treatment.

Basic concepts: types of clinical examination of the mammary glands, breast palpation techniques, ultrasound, mammography. Changes in the mammary gland during pregnancy and lactation. Benign and malignant tumours of the mammary glands. Indications for breast ultrasound and mammography. BI-RADS classification.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

Requirments for the theoretical readlines of students to perform practical classes.

Knowledge requirements:

- Communication skills and skills of clinical examination of patients.
- Ability to determine the list of necessary clinical, laboratory and instrumental tests and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease
- Perform medical procedures
- Ability to keep medical records

List of didactic units:

- Types of clinical examination of the mammary glands
- Breast palpation algorithm
- Self-examination of the mammary glands
- Benign and malignant breast tumors.
- Ultrasound examination of the mammary glands.
- X-ray examination of the mammary glands.

Typical situational tasks

1. A 65-year-old woman is examined for rapidly progressive erythema, swelling, lumps and warmth in the left breast. The patient denies fever, chills, or nausea. The patient has a history of well-controlled hypertension, type 2 diabetes mellitus and hypothyroidism for which she is taking amlodipine, insulin and levothyroxine. The patient undergoes age-appropriate cancer screening under the supervision of her primary care physician. On physical examination, the left breast is larger than the right. The skin over it is thickened, and the left breast looks swollen. There is no palpable lump or regional lymphadenopathy. The patient has no family history of breast cancer. What is the best next step in the management of this patient?

Answer. Bilateral mammography. This patient is suspicious for breast cancer, which is a cause for concern. The best next step is to perform a bilateral mammogram followed by an ultrasound. If the radiological findings are consistent with breast cancer, the next step is to consult a surgeon.
Differential diagnosis is made with bacterial mastitis, which usually affects breastfeeding women. It can also develop in patients after nipple piercing. Patients usually have a fever and the skin over the breast becomes thin, swollen and erythematous**.**

2. On the 5th day after delivery, a woman in labour complained of pain, tension in the left breast, and an increase in body temperature to 39^0 C. Physical examination: body temperature 38.6^0 C, pulse 94 beats/min. The skin and visible mucous membranes are clean, pale pink in colour. Vesicular breathing is heard over the lungs, no wheezing. Heart activity is rhythmic, loud tones. The abdomen is soft, painless to palpation. The left breast in the upper outer quadrant is painful, and a breast tissue lump is detected there. Vaginal examination: no pathology was found.
Question.
1. Diagnosis.
2. State the possible causes of the pathology identified in the problem.
3. Indicate the classification of postpartum breast diseases

Answer:
1. Acute infiltrative mastitis.
2. Infectious agent: staphylococcus, Escherichia coli, streptococcus and their combinations. Routes of infection: canalicular (through the ducts) during nipple trauma, haematogenous, and rarely lymphogenous.
3. Classification: specific or non-specific according to the etiological factor. According to the stages of development of acute mastitis: serous, infiltrative and abscessing (abscess formation)

3. A 42-year-old woman complains of pain in the upper outer quadrants of both breasts for 2 years. The pain occurs several days before the next menstrual period.
Question.
1. Preliminary diagnosis?
2. Draw up an examination plan.

Answer.
1. Benign breast dysplasia (BDD)
2. Physical examination, breast ultrasound, mammography

KROK tests (2021, 2020)
1. On the 10th day of the postpartum period, a woman in labour complains of pain in the mammary glands. Body temperature - 38*, 2oC*, Ps - 96/min. There is significant and uniform swelling in the mammary glands, pain during palpation. When pressed, droplets of milk are released from the nipples. What is the tactic for this patient?

A. **Empty the breast by pumping or using a breast pump**

B. Temporary restriction of fluid intake
C. Cessation of lactation
D. Prescribe antibiotic therapy and diuretic therapy
E. Compression on the mammary glands

2.A 22-year-old woman in labour on the 12th day after normal delivery notes an increase in body temperature to 390C for 3 days, pain in the right breast. The right breast is enlarged, hot, tense, hyperaemic, painful. Palpation reveals a dense infiltrate of 8×8 cm, in the centre of which there is a fluctuation. What is the most likely diagnosis?
A. Postpartum period, day 12, right-sided phlegmonous mastitis
B. Postpartum period, day 12, right-sided infiltrative purulent mastitis
C. Postpartum period, day 12, right-sided serous mastitis
D. Postpartum period, day 12, right-sided lactostasis
E. Postpartum period, day 12, right-sided gangrenous mastitis

3. The classification of the VLLT offers options:
A. with a predominance of glandular component
B. with a predominance of fibrous component
C. with a predominance of cystic component
D. mixed form
E. with a predominance of fat component

2. Questions of theoretical issues.
Question:
1. Clinical anatomy of the breast.
2. Changes in the mammary gland during pregnancy and lactation.
3. Methods of examination and diagnosis of breast tumors.
4. Classification of benign breast tumors.
5. Classification of breast cancer.
6. Modern management of women with breast pathology.

3. Formation of professional skills and practical abilities.
3.1 The content of the assignments (tasks, clinical situations, etc.).
An interactive task:
The students are divided into 3 subgroups of 4-5 people each. We work in antenatal clinics (family doctor's outpatient clinic) with gynaecological patients and give them tasks:
Subgroup I - to master the patient's complaints, medical history, gynaecological and obstetric history to make a preliminary diagnosis.
Subgroup II - to develop a management plan for a gynaecological patient.
Subgroup III - evaluates the correctness of the answers of subgroups I and II and makes its own corrections.

Atypical situational tasks and tests

Task 1.

On the 10th day after childbirth, a woman complained of severe weakness, malaise, chills, fever up to 39^0 C during the day, pain in the left breast. Objectively: body temperature 38.3^0 C, pulse 98 beats/min, chills. The skin and visible mucous membranes are clean, pale pink in colour. Vesicular breathing over the lungs, no wheezing. Heart activity is rhythmic, loud tones. The abdomen is soft, painless to palpation. The left breast is enlarged in size, tense, hyperemic in the upper lateral quadrant, tissue infiltration without clear boundaries is determined there. Vaginal examination: the cervix is formed, the uterine body is dense, painless on palpation, the size of the uterus corresponds to the postpartum period, the uterine appendages are not palpable, their area is painless. The vaginal vaults are free. Discharge from the genital tract is succulent, odourless.

Objectives.

1. Diagnosis.
2. What is the classification of this pathology?
3. Indicate the ways of spreading the infection in this pathology.
4. State the laboratory criteria for this pathology.
5. What is the tactic of patient management?

Task 2.

On the 5th day postpartum, the woman complained of pain, tension in the left breast, and an increase in body temperature to 39^0 C. Objectively: body temperature 38.6^0 C, pulse 94 beats/min. The skin and visible mucous membranes are clean, pale pink in colour. Vesicular breathing is heard over the lungs, no wheezing. Heart activity is rhythmic, loud tones. The abdomen is soft, painless to palpation. The left breast in the upper outer quadrant is painful to palpate, and a breast tissue lump is detected there. Vaginal examination: the cervix is formed, the uterine body is dense, painless on palpation, the size of the uterus corresponds to the postpartum period, the uterine appendages are not palpable, their area is painless. The vaginal vaults are free. Discharge from the genital tract is bloody, moderate, odourless.

Objectives.

1. Diagnosis.
2. Indicate the classification of postpartum breast diseases.
3. State the possible causes of the pathology identified in the problem.
4. Specify the laboratory criteria for the pathology defined in the problem.
5. What is the tactic of patient management?

3.2 Recommendations (instructions) for the implementations of tasks.

Introduction

Breast diseases are one of the first reasons for seeking medical care among women. General practitioners - family doctors and district therapists - play a key role in organising early (timely) detection of breast and breast cancer (during preventive examinations), facilitating the implementation of specialist recommendations during anti-cancer treatment, and providing appropriate palliative care.

Prevention of breast tumours is divided into primary and secondary prevention.

Primary prevention is the prevention of tobacco smoking, excessive alcohol consumption, overweight, physical inactivity, stressful situations, and excessive sun exposure.

Secondary prevention consists of early detection of benign dyshormonal breast diseases and timely correction of hormonal disorders that are a prerequisite for the development of tumours. The frequency and methods of breast examinations are determined by the woman's age.

Breast cancer ranks first in terms of morbidity and mortality among all cancers. It is the most common non-skin cancer and the second most deadly cancer in women. Theoretically, diagnosing tumours at an early stage should reduce mortality; however, it is very important to take into account the time factor. The challenge is determining who should be screened. There may be slow-growing tumours that do not become clinically apparent during the patient's lifetime. Therefore, risk stratification, age at screening initiation and age at screening cessation are crucial for appropriate breast cancer screening. Recently, instead of focusing on tumour size and spread to determine therapy, the focus has been on identifying biological characteristics that can help in prognosis and treatment planning. Primary healthcare providers perform the initial diagnosis of breast pathological processes.

The main tasks of a general practitioner/family doctor:

1. Maintain a register of women receiving care from a general practitioner/family doctor.
2. Filling in the "Anamnestic questionnaire" by all women receiving care from a family doctor to identify "familial" breast cancer.
3. Explaining to the female population the feasibility of participating in breast cancer screening and involving as many women aged 50 - 69 years, without 22 complaints about health problems and without genetic risk of breast cancer in mammography as possible. Age is the most important risk factor for most women.
4. Providing information to all women on the method of self-examination of the menstrual cycles, which is carried out monthly starting from the age of 20 (on days 7-14 of the cycle).
5. A clinical examination of the mammary glands is carried out once a year by a general practitioner/family doctor.
6. Arrange for a general practitioner/family doctor to refer a woman for mammography to a regional diagnostic centre or dispensary. The local protocol of medical care should specify the institution where a woman is referred for mammography.
7. The family doctor shall enter data into the register of women's population on the mammography screening. Healthcare facilities providing secondary and tertiary care The main task of oncologists and radiologists is to ensure that high-quality mammography is performed and a written report is provided to all women who have applied for a mammography screening programme.
8. Mammography: - women under 35 should not be prescribed mammography unless there are convincing reasons for this (use ultrasound examination); - if there

is a family history of breast cancer, mammography is recommended once every 1-2 years (regular breast examination by yourself and in a doctor's office), starting from the age of 35; - in the age range of 35-40 years, all women undergo a primary mammography once to determine the structure of breast tissue;

9. at the age of 40-49 years, it is suggested to undergo mammography depending on the indications (clinical examinations and self-examinations of the Ministry of Health);
10. at the age of 50 - 69 years, mammography is performed once every 2 years, taking into account the results of previous examinations, self-examinations and clinical examinations of the Ministry of Health.
11. Regularly provide information to the family doctor on the lists of women who have undergone mammography screening.

Screening of breast pathology

Type of examination	**Age (years) of the survey**	**Frequency**
Self-examination of the Ministry of Health	>20	Monthly
Clinical examination of the MH by a general practitioner	All age groups	Annually
Mammography	> 40	Annually

The screening methods are as follows:

- Breast palpation can be performed during clinical breast examination and breast self-examination.
- Breast imaging techniques such as mammography, ultrasound, magnetic resonance imaging (MRI) and digital breast tomosynthesis (DBT)

Many large randomised trials have concluded that routine screening mammography should be offered to women aged 50 to 69 years, rather than to women aged 40 to 49 years or to women over 70 years. The discovery of genetic mutations, increased risk of breast cancer and the development of breast cancer risk prediction models have stimulated a thorough effort to develop screening methods for risk stratification. For high-risk women, ultrasound and magnetic resonance imaging (MRI) of the breast are being studied as screening methods in addition to mammography. The discussion will include risk stratification and treatment options for women with a genetic predisposition to breast cancer. The follow-up of women with a personal history of breast cancer will be discussed separately.

Anatomy and physiology of the breast

The mature adult breast consists of skin, subcutaneous tissue, epithelial and stromal components. The epithelial component consists of branched ducts that connect the structural and functional units of the breast, known as lobules, to the nipple. The stromal component makes up the majority of the breast volume in non-lactating women and is composed of fibrous and adipose tissue. The breast tissue extends vertically from the 2nd and 6th ribs and horizontally from the edge of the sternum to

the mid-axillary line. Part of the breast tissue protrudes into the armpit and is known as Spence's axillary tail. The skin of the breast is thin and contains sebaceous glands, exocrine sweat glands and hair follicles. The nipple is devoid of hair follicles and contains a large number of sensory nerve endings, as well as sebaceous and apocrine glands. The areola, ranging in size from 16 to 60 mm, is almost circular in shape and has increased pigmentation. There are elevations on the periphery of the areola, which are formed by the opening of the ducts of the Montgomery glands, which are large sebaceous glands and are known as Morgana tubercles. The Montgomery glands are the stage between the sweat glands and the mammary glands. The breasts are covered by the superficial pectoral fascia, which continues with the superficial abdominal fascia of Kamper. Below, the breast is covered by the deep pectoral fascia, which covers the pectoralis major muscle and the anterior dentate muscle. The two fascial layers covering the breast tissue are connected by fibrous bands known as Cooper's suspensory ligaments, which provide natural support for the breast. Most of the total blood supply to the breast comes from the internal mammary vessels. Sensory innervation comes mainly from the anterolateral and anteromedial branches of the thoracic intercostal nerves T3 to T5. It is also supplied by the lower fibres from the supraclavicular nerves of the cervical plexus.

The mammary gland is a specific organ designed to feed the baby. From the moment the embryo attaches to the uterine wall and as the pregnancy progresses, important events take place in the breast, both for the mother and the baby. One of the manifestations of early toxicosis - swelling and pain in the breasts - is a typical sign of a successful conception. From the 4th week of pregnancy, the process of forming future milk-forming lobules begins in the structure of the glandular tissue. The first changes in the mammary glands during pregnancy are minimal, but along with the growth and development of the fetus, the breasts are gradually prepared for the upcoming delivery.

Changes in the mammary glands during pregnancy

The structural unit of the mammary gland is the alveolus (a small sac lined with milk-producing cells). A lobule is formed from several dozen alveoli. Numerous ducts from the structural units merge in the nipple area. All major events unfold in the 2-3 trimester. There are the following changes in the mammary glands during pregnancy:

- Growth of milk-forming cells;
- Thickening of the cell layer inside the alveolar sacs;
- Increase in lobule size with functional restructuring of the alveoli;
- Expansion of the milk ducts for future milk transport; -

Improvement of blood flow in all vessels - from capillaries to large arterial trunks;

- Stimulation of smooth muscle fibre growth, which is necessary for the movement of milk towards the nipple;
- The appearance of a vascular network on the skin due to the venous network;
- Pigmentation of the nipple circle.

Mammogenesis is the proliferation of glandular structures programmed by nature, which provides a 2-fold increase in breast size (from the initial 150-250 to 400-500

grams). Changes in the mammary glands during pregnancy are controlled by specific female hormones produced by the pituitary gland, ovaries and placenta. In fact, milk production is a complex biochemical factory created in the body of a pregnant woman. The main stages of female breast milk secretion are:

- Formation and accumulation inside the alveoli of a milk droplet rich in proteins and fats;
- Excretion of small doses of secretion from each lobule into the common ducts;
- Transport of milk towards the nipple due to contraction of muscle fibres;

Lactation process: At the end of the 3rd trimester, colostrum begins to be released from the nipples (in first-time mothers, most often only before childbirth, in repeated births - much earlier). This viscous and thick secretion contains little liquid, but a lot of nutrients. For a newborn baby, colostrum is an ideal food in the first days of life. From 3-4 days after delivery, liquid milk is formed in the breast, which is the best food option for the child for at least the next six months.
The undoubted advantages of breastfeeding include:

- meeting all the nutritional needs of the baby;
- optimal absorption of nutrients;
- formation of immunity in the child;
- adaptation of the newborn to the environment;
- psycho-emotional contact with the mother; -
- reducing the risk of breast cancer;
- optimal reduction in the size of the uterus due to the physiological contraction of muscle tissue;
- prevention of unwanted conception;
- restoration of body weight of a postpartum woman;
- cost-effectiveness (no need to spend money on formula).

Nature has provided for everything. Lactation is the ideal feeding option in the first year of a baby's life.

Ending breastfeeding

There are no restrictions - a woman can breastfeed until the baby refuses. If nothing extraordinary happens in the woman's body, the mammary gland will produce food for the baby. Factors that inhibit lactation include:

1. Immaturity of the body and unreadiness for motherhood (rare young mothers breastfeed well);
2. Any stressful situation;
3. Pain syndrome;
4. Exacerbation of chronic diseases;
5. Malnutrition with a lack of fluid intake;
6. Incomplete emptying of milk lobules with the formation of lactostasis.

After breastfeeding is completed, the mammary glands will undergo reverse processes - the size and number of lobules will decrease, and blood flow will decrease.

Benign breast dysplasia (BBD): signs and treatment

Synonyms: Mastopathy (fibrocystic disease), fibrocystic disease MH, cystic fibroadenomatosis, mesoplasia, dyshormonal hyperplasia, sclerosing adenomatosis, Veljaminov's disease (thyrotoxic mastopathy), Mintz's disease (bleeding breast)

Benign breast dysplasia (mastopathy) is the name for benign changes in the mammary glands. This fibrocystic breast lesion can be diagnosed in women of all ages. Mastopathy includes such concepts as fibrosis, glandular enlargement, epithelial proliferation, cysts and dilatation of the excretory ducts.

Fibrocystic mastopathy: classification

There are main types of mastopathy:

- Nodular form. It exists in the form of a fibroadenoma, cyst, vascular tumour or fatty necrosis.

- Diffuse form. It is less common than the nodular form, but it is dominated by various components: cysts, fibrosis, or a combination of these two types.

Etiology of the disease

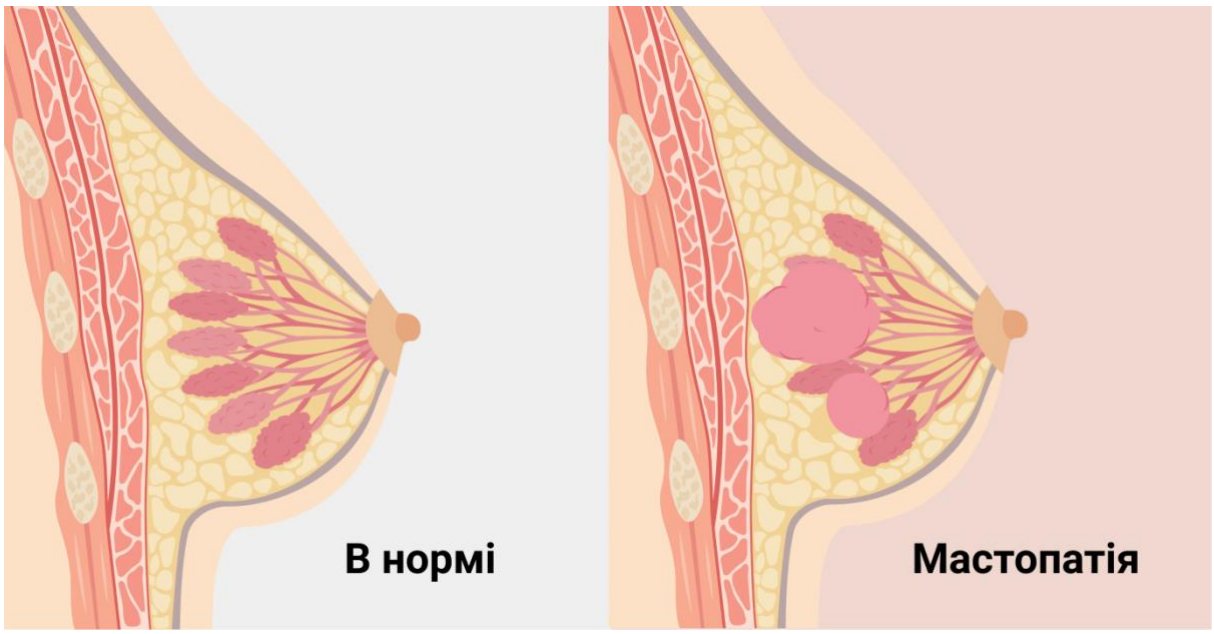
The causes of mastopathy often lie in the area of hereditary predisposition.

The main causes of mastopathy include:

- early menopause;
- menstrual irregularities;
- prolonged absence of childbirth;
- multiple abortions;
- Irregular sex life (or lack thereof);
- endocrine disorders (hypo- and hyperthyroidism, hypothalamic and pituitary dysfunction, adrenal glands, liver, pancreas).

Pathogenesis

Breasts consist of two main elements - glands lined with epithelium and the stroma, which is formed of connective tissue, surrounding them. The structures that make up the breast are under hormonal and nervous control. Therefore, it is the influence of hormones that is considered the main cause of mastopathy. Estrogen and progesterone deficiency leads to stimulation of the development of the skeleton - connective tissue. Due to its excessive growth, the development of epithelial tissue elements - glands - occurs. With proper hormonal regulation, the prognosis for the patient is positive.



1- Normal 2- Mastopathy

Clinical manifestations of mastopathy
The key symptoms of mastopathy include the appearance of numerous hard lumps that can be felt with your fingers. They can vary in size, grow and shrink during the menstrual cycle.
The symptoms of mastopathy also include breast pain (or sensitivity) with swelling. It feels like the breasts have become heavy. Breast pain caused by mastopathy usually increases before menstruation and goes away with the onset of menstruation, although in some cases it can occur regardless of the phase of the cycle. Sometimes there may even be nipple discharge. Symptoms of mastopathy usually subside with the onset of menopause.
Diagnosis of mastopathy
Any changes in the breast should be examined by a specialist. The diagnosis of mastopathy begins with an examination of a woman by a gynaecologist or family therapist. The doctor should obtain information from the patient about the existence of risk factors for mastopathy (hereditary factor, prolonged exposure to estrogen) and ask her to describe the existing symptoms.
Then a physical examination is carried out.
In addition, laboratory diagnostics are carried out:

- Ultrasound of the mammary glands;
- hormonal tests;
- mammography to assess the extent of breast lesions.

In some cases, a fine-needle aspiration biopsy of the breast with cytological examination may also be required.
In rare cases, a patient with mastopathy is referred for MRI.
Treatment of mastopathy

At the preliminary stage, it is necessary to find out which doctor treats mastopathy. A family doctor refers a woman with suspected mastopathy to a mammologist for examination. The goal of mastopathy treatment is to restore hormonal levels and alleviate the symptoms of the disease. For this purpose, hormonal treatment is used. In addition, a consultation with an endocrinologist will be required.
Treatment of mastopathy includes an appointment:

- non-steroidal anti-inflammatory drugs (NSAIDs), painkillers;
- oral contraception - in some cases, its use can reduce discomfort (by adjusting the balance of sex hormones);
- androgenic drugs - used in case of very high severity of symptoms (such drugs are derivatives of the male sex hormone testosterone, it blocks the secretion of female sex hormones in the ovaries, reducing the level of estrogen and progesterone).

Patients who do not have hormonal disorders and severe symptoms do not need to take medications to treat mastopathy.

Control of the cure

After treatment and the introduction of the principles of proper nutrition, benign changes disappear, but may return over time. Patients after surgery remain in the group with an increased risk of recurrence. Therefore, an examination by a mammologist and laboratory diagnostics should be carried out at least once a year.

Prevention of mastopathy

Prevention of fibrocystic mastopathy includes mandatory examinations, which reduce the risk of "missing" life-threatening breast diseases.
It is recommended for prevention:

- conducting an independent breast examination on a monthly basis;
- visit a doctor for a breast examination once a year;
- periodically undergo mammography - every 2 years for women aged 45-50 years and annually for women over 50 years;
- Increase the frequency of breast examinations, and perform mammography after the age of 40 for women at increased risk of mastopathy.
- In younger women, mammography is performed only in case of suspicious changes in the mammary glands

Breast cancer (breast cancer): signs and treatment
A clinical breast examination, in addition to palpation, includes a thorough medical history taking into account risk factors for breast cancer (BC).
Risk factors for breast cancer (B):

- age over 35 (B);

- family history: in the presence of cancer in relatives (B);

- age of menarche up to 12 years (C);

- first birth after 30 years (C);

- menopause after the age of 55 (C);

- atypia in the results of previous biopsy materials (B);

- Alcohol abuse (drinking more than 100 ml of spirits or 200 ml of wine per day)(B);
- Use of exogenous hormones: for continuous use of OCS or HRT for more than 10 years (C).

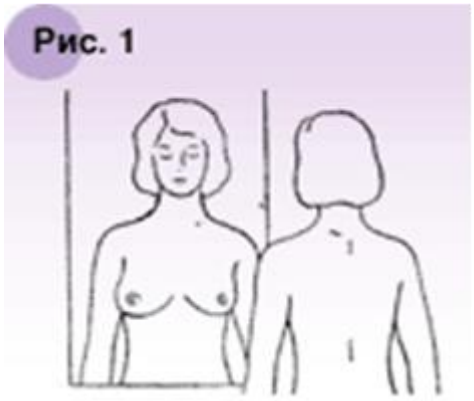
Algorithm of breast examination

Examination and palpation:

Stage 1:

The patient stands with her arms loosely lowered. Examine each breast carefully. Check for changes in size, shape, contours of the breast (one breast may be slightly larger, this is normal). Pay attention to the symmetry of both glands, whether the glands are located at the same level, whether they move evenly when lifting and putting your hands behind your head, bending over, turning to the right and left. Is there any fixation or displacement of one of the glands to the side?

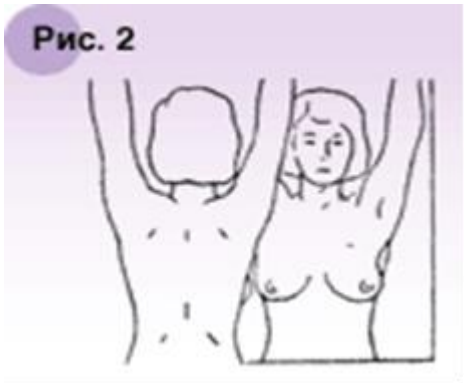
A woman should do the same self-analysis every month, looking in the mirror (Fig. 1).



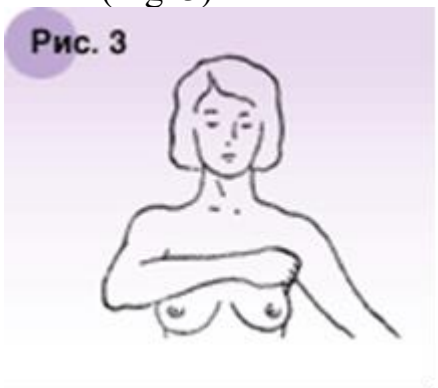
Stage 2:

The patient raises her hands up - and

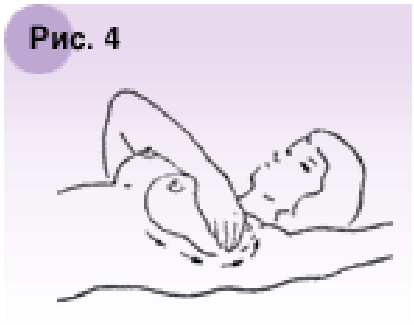
once again examine the mammary glands in turn, paying attention to their displacement up, to the sides or down; change in shape with the formation of enlargement, retraction, retraction of the skin or nipple; appearance of drops of fluid from the nipple during these movements (Fig. 2)



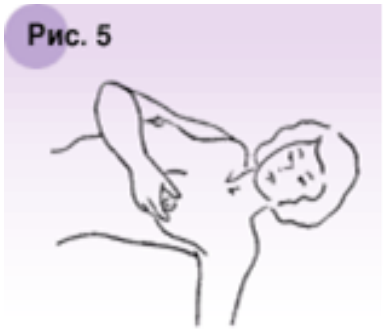
Stage 3:
In the "standing" position, the so-called superficial palpation is performed when the fingertips do not penetrate the thickness of the gland, which makes it possible to detect small formations located directly under the skin. Then, deep palpation is performed when the fingertips consistently reach the ribs. Palpation should be performed from the clavicle to the lower edge of the ribs and from the sternum to the axillary line, including the axillary area, where enlarged lymph nodes can be found (Fig. 3)



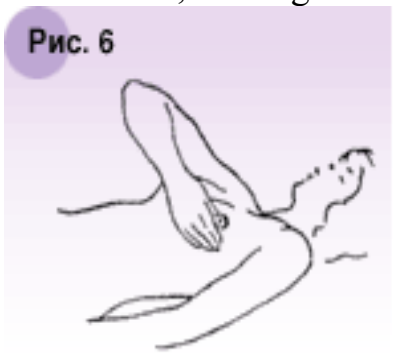
Stage 4:
Perform "circular" palpation of the mammary glands in a standing position. It is recommended to start palpation from the outer upper quadrant, then in a circular clockwise motion.
Stage 5:
Feel the breasts in the supine position.
This is the most important part of the examination, as it is the only way to properly examine all the tissues. At the same time, pay attention to which breasts can be felt under your fingers.
Palpation is performed lying down on a relatively hard, flat surface; you can place a roller or a hard pillow under the gland under examination, stretch your arm along the body or put it behind your head.



There are two methods of palpation:
1. The square method, when the entire surface of the anterior chest wall from the clavicle to the rib margin and the breast is divided into small squares. The examination is carried out sequentially in each square from top to bottom, like a ladder.



2. Spiral method, when the breast is examined in a spiral in the form of concentric circles, starting from the armpit to the nipple. The fingertips make circular movements, moving in the direction of the nipple (Fig. 6).



Feel the inguinal lymph nodes.

Step 6: Inspect the nipple
When examining the nipples, it is necessary to determine whether there are changes in their shape and colour, whether they are retracted. Check for wetness, sores or cracks. It is necessary to feel the nipple and the inframammary area. This area is quite sensitive in women and in some women is accompanied by erotic or unpleasant sensations. Finally, you need to gently take the nipple with yourthumb

and forefinger and press on it, noting the nature of the discharge from it or its

absence.
Teach a woman how to conduct a monthly breast self-examination:
Out of 10 detected changes in the breast, 9 are detected by women themselves, because no one knows the condition of their mammary glands better than they do. Most of the changes detected in the breast are benign.
It is better to perform the examination on the same day as the menstrual cycle, as changes in the size and structure of the mammary glands occur during the month.
The best time is a week after the onset of menstruation, when the mammary gland is in a relaxed state, and at the onset of menopause - on the same day of each calendar month.
The principle of cancer prevention is crucial in ***clinical*** breast ***examination***.
The clinical signs of malignancy are as follows:
- a tumour that is detected by palpation;
- retraction of the nipple or nipple skin;
- asymmetry of the nipple;
- erosion of the nipple;
- pain in the joints;
- axillary lymphadenopathy;
- swelling of the upper limb;
- swelling of the skin of the MZ - "lemon peel";
- pain in the axillary region.

If pathology is detected during the screening, further examination of the breast is carried out using the ***"triple test***", which includes

- clinical examination of the mammary glands;

- bilateral mammography;
- in the presence of voluminous lesions - fine needle aspiration biopsy under ultrasound control with subsequent cytology (manipulation is performed by a trained ultrasound doctor). The results of fine needle aspiration biopsy are interpreted by a pathologist.

Instrumental methods of examination.
Bilateral *mammography* is the "Gold Standard" of breast examination due to: radioresistance of detailed visualisation of the breast and mature breast tissue, low radiation dose of modern devices, high diagnostic efficiency of asymptomatic malignant tumours: 85-90% (B).It is the best population-based method for screening. It can demonstrate microcalcifications less than 100 micrometres in size,

making it capable of detecting lesions before they become palpable. Mammography can be performed in two forms: screening and diagnostic. Patients who have a family or personal history of breast cancer require additional screening with a diagnostic/screening mammogram. The informative and diagnostic value of mammography is determined by mammographic density.

Mammographic density is the degree of radiological density of breast tissue. ***High*** mammographic density is noted with a predominance of fibrous tissue. ***Low*** - in case of fatty involution of the breast.

Intermediate - with varying degrees of visualisation of ductal structures. Assessment of mammographic density in the interpretation of mammograms is performed by a radiologist in accordance with the following classification.

Classification of mammographic density of the breast (Wolfe J.N., 1987; Byrne C., Schairer C., 1995), according to which four types of mammograms are defined:

N1 - the parenchyma is represented entirely or almost entirely by adipose tissue, there may be single fibrous connective tissue strands.

P1 - ductal structures are visualized, which occupy no more than 25% of the breast volume.

P2 - ductal structures occupy more than 25% of the breast volume.

DY - extremely dense (opaque) parenchyma ("dysplasia"), which usually indicates connective tissue hyperplasia.

Establishing mammographic density is important for diagnostic and prognostic purposes: the risk of developing breast cancer in women with increased mammographic density is 3 times higher than in women with normal mammographic density (B).

Exogenous estrogens and gestagens increase the density of breast tissue on a mammogram (A), which reduces the diagnostic capabilities of mammography in detecting early breast cancer. This calls for a more careful approach to the evaluation of mammograms when examining patients taking hormonal drugs.

Indications for mammography:

In 2015, the American Cancer Society (ACS) recommended

- Women at average risk should have regular screening mammography starting at age 45 (strong recommendation).
- Women aged 45 to 54 years should be screened annually, and women 55 years and older can be screened every two years or annually.
- Routine screening strategies are not recommended for women aged 40 to 49 years or women over 70 years. However, in conjunction with mammography, breast MRI has been studied as an important screening method for high-risk women and women with dense breasts. It is recommended to continue screening mammography for women who have a life expectancy of up to ten years and are in good overall health.

Contraindications to mammography.

Certain precautions should be taken when screening for breast cancer, taking into account a woman's age. New guidelines from the American College of Physicians

warn that starting at age 40, women at average risk without symptoms should discuss the benefits, personal preferences and potential harms of breast cancer screening with their doctor before reaching age 50.
Clinical breast screening is not recommended regardless of age for women at average risk. Screening for women aged 75 years and older or with a life expectancy of 10 years or less should be discontinued.

Diagnostic criteria

Calculation of BI-RADS scores:
0-Additional information is required. Another mammogram may be required.
1 - no abnormalities. Continue with the routine screening.
2 - Benign breast diseases such as cysts. Continue regular screening.
3 - Something is found that is probably not cancer. A repeat mammogram within the next six months.
4 - suspected cancer. A biopsy may be required.
5 - High probability of cancer. A biopsy is required.

Digital mammography is best used to diagnose breast cancer in dense breasts. Tomosynthesis or 3D mammography can also be used, which improves the ability to detect the smallest cancers and reduces the likelihood of false positives.
The cost of magnetic resonance imaging (MRI) is higher than the cost of mammography worldwide

Thermography is a method based on the fact that the temperature of the breast skin over breast cancer is elevated.

Ultrasound diagnostics is typically used to learn more about a positive clinical examination or screening mammography result on the diagnostic front. It has limited use as a screening method due to various factors, including the inability to detect microcalcifications and low specificity. In women younger than 35 years of age, in order to reduce radiation exposure to the body of a woman in case of palpable detection of a mass in the breast, it is advisable to use breast ultrasound instead of mammography for diagnosis.

Indications for ultrasonography:

- Breast screening in young women (under 40);
- monitoring the condition of the mammary glands in women taking hormonal drugs (gestagens, COCs, HRT);
- interpretation of mammographic data to determine the structure of volumetric formations;
- Dynamic observation of the size of bulky neoplasms in young women;
- control examination after puncture biopsy and breast surgery.

The examination can be performed at any stage of the menstrual cycle. However, it should be borne in mind that *ultrasound is not sufficient to visualise early preclinical forms of breast cancer, small in size.*

Screening MRI is considered to be less specific but more sensitive than mammography for detecting invasive cancer in high-risk women.

Annual mammography and MRI, and sometimes every 6 months, are necessary for women with *BRCA* gene mutations, a family history of breast cancer and previous radiotherapy to the chest.
Screening methods, such as mammography, are most effective when targeted screening strategies are used that take into account age and other criteria such as hormonal exposure, family history and risk factors such as radiation, obesity and genetics.
Improving the performance of the medical team

3.3. Control materials for the final stage of the lesson: tasks, assigments, tests, ets.

Tests

1. A 35-year-old patient complains of pain and swelling in the right breast. She has been suffering from infertility for 15 years. The right breast is enlarged in size, its skin is pasty, hyperemic, a dough-like infiltrate without clear contours is palpated, and the symptom of "lemon peel" is observed. Make a diagnosis:
A. Breast cancer
B. Mastitis
C. Nodular mastopathy
D. Breast abscess
E. Fibroadenoma of the breast

2. A 52-year-old patient has been experiencing right breast enlargement for 2 years. Over the past 3 months, redness of the skin of this breast has appeared. In the right axillary region, a lymph node of tight-elastic consistency up to 1.5 cm in size is palpated. The right breast is enlarged in size, its skin is hyperaemic, lemon peel symptom, nipple is retracted. Which disease is most likely in this case?
A. Breast cancer
B. Mastitis
C. Fibroadenoma of the breast
D. Axillary lymphadenitis
E. Mastopathy

3. A 34-year-old woman with previously normal menstrual function has developed irregular cycles, and according to functional diagnostic tests, anovulatory cycles. The mammary glands are palpably painful, milk is discharged (galactorrhoea). What examination is indicated for the patient in the first place?
A. Determination of gonadotropin levels
B. Ultrasound examination of the pelvic organs
C. Determination of prolactin levels
D. Progesterone test
E. CT scan of the brain

4. A 54-year-old woman visited her family doctor for a routine examination. Height - 164 cm, weight - 84 kg. Blood pressure - 130/80 mm Hg. 5 years of menopause.

The patient's mother died of breast cancer, her younger sister suffers from mastopathy. During the examination, no lumps were found in the mammary glands, pelvic organs were within the age-related norm. Cervical cytology is unremarkable. What should I recommend to the woman?

A. Come for the next medical examination in 2 years
B. Perform regular breast self-examination
C. Come for a check-up every 3 months
D. Undergo MRI of the mammary glands
E. Have a mammogram once a year

Situational tasks

Task 1.

Patient M., (29 years old) consulted a doctor with complaints of pain and a feeling of lumping in the mammary glands, which increased 10 days before the expected menstruation.

Objective examination: the general condition of the patient is satisfactory. The skin and visible mucous membranes are pink. The mammary glands are of the same size. There is a slight increase in the mammary glands and tenderness on palpation. Pulse - 74 beats/min, rhythmic, blood pressure - 110/65 mm Hg. The abdomen is not distended, participates in the act of breathing; during superficial and deep palpation - soft and painless throughout. Symptoms of peritoneal irritation are negative.

Gynaecological examination: the external genitalia are properly developed. Examination in mirrors: vagina of a woman who has not given birth. The cervix is conical, the epithelium is intact. The uterine body in the anteflexio position is not enlarged, dense, mobile, painless to palpation. The uterine appendages on both sides are not enlarged, painless.

Ultrasonography of the mammary glands: increase in the volume of the connective tissue component.

Question:

1. Preliminary diagnosis.
2. Diagnosis.
3. Differential diagnosis.
4. Classification of dyshormonal breast diseases.
5. Treatment tactics.

Answer:

1. Diffuse mastopathy.
2. Diagnosis:

- A general blood and urine test,
- Biochemical blood tests, blood glucose content.
- Testing of blood hormones (FSH, LH, TSH, T3, T4, prolactin, estradiol, progesterone).
- Bacterioscopic examination of discharge and cytomorphological examination of the cervix.
- Clinical examination of the mammary glands.
- Ultrasound examination of the pelvic organs (ultrasound).

- Special examination methods: ultrasound examination of the mammary glands (up to 40 years), mammography, pneumocystography (in the presence of large cystic formations), dukography with the use of water-soluble contrast
puncture biopsy, CT, MRI.
- Examination by specialised specialists according to indications (mammologist, gastroenterologist, endocrinologist).
3. Mastodynia, premenstrual syndrome, hyperprolactinemia.
4. Classification of dyshormonal breast diseases.
A. Diffuse:
- fibro-cystic form;
- adenoid form;
- fibrous form;
- epitheliosis.
B. Localised:
- nodal form;
- solitary cyst;
- intraductal papilloma;
- fibroadenoma.
5. Treatment tactics.
In the diffuse form of mastopathy, preference is given to conservative methods aimed at treating endocrine gland dysfunctions related to the pathogenesis of the disease; and diseases of the female genital organs. In cases of significant pain in the premenstrual period, a course of retromammary blockades or electrophoresis with a solution of novocaine or trimecaine, and acupuncture can be used.

Task 2.
Patient R., 32 years old, consulted a doctor with complaints of discharge from the breast nipples when pressed for the last two months and complaints of irregular menstrual cycle.
Anamnesis data: Sexual activity since the age of 19. Two pregnancies (the first ended in a medical abortion). The second pregnancy ended with a caesarean section. She breastfed her child for 6 months.
Objective examination: the patient's general condition is satisfactory. The skin is pink. Examination of the mammary glands: they are of the same size. Soft, painless during palpation. When pressing on the nipple area, a milky fluid is released. Pulse 70 bpm, blood pressure - 115/75 mmHg. The abdomen is soft and painless on palpation throughout.
Gynaecological examination: the external genitalia are properly developed. Examination in mirrors: vagina of a woman who has given birth. The cervix is cylindrical, the epithelium is intact. The uterine body in the anteflexio position is not enlarged, dense, mobile, painless to palpation. The uterine appendages on both sides are not enlarged, painless.
Question:
1. Preliminary diagnosis.

2. Diagnosis.
3. Etiological factors in the development of this pathology.
4. 4. Treatment tactics.
5. Differential diagnosis.

Answer:

1.Galactorrhoea. Hyperprolactinaemia?
2.Diagnostics:
- A general blood and urine test,
- Biochemical blood tests, blood glucose content.
- Testing of blood hormones (FSH, LH, TSH, T3, T4, prolactin, estradiol, progesterone).
- Bacterioscopic examination of discharge and cytomorphological examination of the cervix.
- Clinical examination of the mammary glands.
- Ultrasound examination of the pelvic organs (ultrasound).
- Special examination methods: ultrasound examination of the mammary glands (up to 40 years), mammography, puncture biopsy, CT, MRI.
- Examination by specialised specialists according to indications (mammologist, gastroenterologist, endocrinologist).
3. Etiological factors of galactorrhoea development:
- Impaired function of the hypothalamus and pituitary gland.
- Certain medicines (antihypertensives and antiemetics, antidepressants, tranquillisers), including hormonal contraceptives.
- Diseases of the thyroid gland
- Diseases of the adrenal glands
- Mastitis (especially its severe forms)
- Ovarian diseases, PCOS.
- Stressful situations.

4. Drug therapy is aimed at restoring the functions of the reproductive system, stabilising prolactin levels and normalising the menstrual cycle. Surgical *treatment is* appropriate when there is an urgent need for immediate removal of a progressive pituitary tumour. Currently, the following drugs are used to treat hyperprolactinemia: parlodel (bromocriptine), cabergoline (alactin), dopamine agonists**,** which are used to treat galactorrhoea syndrome of non-tumoural genesis and in prolactin-secreting pituitary adenomas. If galactorrhoea is accompanied by primary hypothyroidism, thyroid hormone preparations are prescribed.
5. Differential diagnosis
-Pituitary adenoma;
- physiological hyperprolactinemia;
- PCOS;
- primary hypothyroidism.

Task 3 .

Patient M., 24 years old, consulted a gynaecologist 6 months after childbirth with complaints of lumps in the right breast, unpleasant sensations before menstruation. The woman does not breastfeed and has a history of fibrocystic mastopathy.
Examination of the mammary glands: palpation in the lower outer quadrant of the right breast revealed a mobile mass filled with fluid up to 3 cm, with clear contours, peripheral lymph nodes were not changed. Ultrasound examination of the mammary glands: an increase in the volume of the connective tissue component is determined, in the lower outer quadrant of the right breast a volumetric mass of reduced echogenicity, 31×29 mm in size.

Question:

1. Preliminary diagnosis?
2. Make a plan for the patient's examination.
3. Differential diagnosis.
4. Pathogenesis of fibrocystic mastopathy.
5. Methods of prevention of dyshormonal diseases of the mammary glands.

Answer:

1.Cyst of the right breast. Fibrocystic mastopathy.
2.Diagnostics:
- A general blood and urine test,
- Biochemical blood tests, blood glucose content.
- Testing of blood hormones (FSH, LH, TSH, T3, T4, prolactin, estradiol, progesterone).
- Bacterioscopic examination of discharge and cytomorphological examination of the cervix.
- Clinical examination of the mammary glands.
- Ultrasound examination of the pelvic organs (ultrasound).
- Special examination methods: ultrasound examination of the mammary glands (up to 40 years), mammography, puncture biopsy, CT, MRI.
- Examination by specialised specialists according to indications (mammologist, gastroenterologist, endocrinologist).
3.Differential diagnosis:
- Fibroadenomas,
- Fibrous mastopathy,
- Mastalgia.
4.The pathogenesis of mastopathy is mainly determined by the persistent action of prolactin, disturbance of the ratio of estrogen and progesterone, and increased levels of follicle-stimulating hormone and estrogen. Disruption of neurohumoral regulation in the mammary gland creates conditions for proliferation or promotes stromal overgrowth, resulting in impaired drainage of the glandular duct system.
5.Methods of prevention:
- Pregnancies in the reproductive age that resulted in childbirth.
- Full breastfeeding.
- Use of contraception.
- Timely diagnosis and treatment of concomitant diseases of the female genital organs.

- Treatment of extragenital diseases.
- Quitting bad habits.

PRACTICAL CLASS №2
Topic: "Oncoprophylaxis of gynecological diseases"

Purpose: To teach how to conduct a screening examination of women who turn to a specialist for the purpose of early diagnosis of diseases of the female reproductive system. Assess the patient's condition , draw up an examination plan using modern diagnostic methods, analyze laboratory and instrumental examination data for benign and precancerous diseases of the female reproductive system and determine a preliminary diagnosis; determine management tactics (principles of primary prevention, monitoring, and surgical interventions and conservative treatment, as well as rehabilitation measures) in the treatment of precancerous and malignant diseases of the female reproductive system;

Basic concepts: Active identification and treatment of patients not only with early stages of malignant tumors, but also with pre-cancerous and benign tumors has an important contribution to solving the problem of prevention of the spread of malignant tumors of the genital organs.

Precancerous diseases of external genital organs. Precancerous diseases of the cervix: classification. Hyperplastic processes of the endometrium: etiology, pathogenesis, classification, modern diagnostic methods, management tactics and principles of treatment. Prevention of precancerous diseases of the female genital organs.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

Requirments for the theoretical readlines of students to perform practical classes.

Knowledge requirements:

- communication and clinical patient examination skills;
- the ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to determine the necessary mode of work and rest in the treatment and prevention of diseases;
- the ability to determine the nature of nutrition in the treatment and prevention of diseases;
- the ability to determine the principles and nature of treatment and prevention of diseases;
- the ability to diagnose emergency conditions;
- the ability to determine tactics and provide emergency medical assistance;
- the ability to perform medical manipulations.

List of didactic units:

- Counseling on precancerous diseases of the cervix, external genital organs, and counseling of patients with AMC of various ages .
- For a general overview . Examination methods using gynecological examination: in mirrors, bimanual examination, rectovaginal examination . Assessment of the patient's condition.
- A necessary examination, which is carried out in a planned manner before making a decision on the use of an additional method of examination and treatment

Typical situational tasks:

1.A 32-year-old patient complains of pulling pain in the lower abdomen, smearing brown discharge before menstruation and abundant discharge during the cycle. During bimanual examination, the uterus is slightly enlarged, more in the isthmus region, painful during excursion, round shape. Appendages on both sides without features. Preliminary diagnosis - internal endometriosis. During ultrasound, there is an echo-positive structure 1.5x1.0 in the cavity. The most informative for diagnosis and treatment tactics in this case.

D-z Endometrial polyp. AMK

Examination algorithm: Hysteroscopy, polypectomy. According to the results of the histological examination, treatment measures are prescribed.

2.A 45-year-old patient complains of watery vaginal discharge and contact bleeding. The last oncological examination was 5 years ago, erosion of the cervix was detected, and treatment with fat tampons was carried out. In the mirrors: the cervix is hypertrophied, growths are noted on both lips of the cervix, which bleed when touched. Vaginal: the body of the uterus is slightly enlarged, mobile, painless, appendages are not defined. Vaults of the vagina, parameters - free. Which of the methods is the most valuable for confirming the diagnosis?

D-z: Cervical cancer? Colposcopy with targeted biopsy. Smear for cytomorphological examination.

Depending on the results of the histological examination, the decision on the extent of surgical intervention is made.

3.A 48-year-old patient came to the gynecological department with complaints of bleeding from the genital tract. From the anamnesis: menstruation since the age of 14, established immediately (4-5 days after 28 days), moderate, painless. For the last 2 years, the intervals between periods have been 2-3 months. 15 days ago, after a 2-month absence of menstruation, uterine bleeding began, which continues to this day.

Upon admission: skin and visible mucus pale, pulse 76 beats. in min., blood pressure - 110/80 mm Hg. st., hemoglobin - 100g/l.

The abdomen is soft, painless on palpation. No pathology was detected from the internal genital organs.

Make a diagnosis.
What should be the doctor's tactics?
Answer: AMK. A hysteroscopy or medical and diagnostic curettage of the uterine mucosa should be performed followed by a histological examination of the endometrium.

Typical test tasks:
1.A 24-year-old patient turned to a gynecologist with complaints about the appearance of growths in the area of the genitals. After examining the patient, the doctor found on the labia majora and minora papilla-like growths, reminiscent of cauliflower, of a soft consistency, painless, non-erosive. The patient was referred to a dermatologist for consultation. What is the most likely diagnosis?
A. Acuminate condylomas
B. Wide condylomas
C. Vegetative pemphigus
D. Granulomatous candidiasis
E. Papillomatosis

2.After 10 years of menopause, a 58-year-old patient started profuse uterine bleeding. In the course of bimanual examination and examination with the help of mirrors, apart from abundant bloody discharge, no other pathology was detected. What disease can be assumed?
A. Cancer of the uterine body
B. Schroeder's hemorrhagic metropathy
C. Incomplete abortion
D. Myoma of the uterus
E. Violation of the menstrual cycle of a climacteric nature

3. In a 36-year-old patient, a neck deformity was detected during a preventive examination in mirrors
uterus with old postpartum tears. During colposcopic examination on the back lip revealed fields of dysplasia. What should be done to clarify the diagnosis?
A. Biopsy of the cervix
B. Diagnostic scraping
C. Cystoscopy, irigoscopy
D. Bacteriological examination of secretions
E. Ultrasound of the pelvic organs

4. A 54-year-old woman came to the gynecologist with complaints of vaginal bleeding for 1
month The last menstruation was 5 years ago. No pathology was found during the gynecological examination.
Your actions:
A. Fractional diagnostic scraping of the walls of the uterine cavity
B. Colposcopy

C. Ultrasound
D. Take a swab for cytological examination
E. Prescribe symptomatic therapy

Correct answers: 1 - A; 2 – E; 3 – A ; 4 – A;

2. Questions of theoretical issues.
Question:

- Classification of precancerous diseases of the cervix.
- Prevention of precancerous diseases of the female genital organs
- Etiopathogenetic factors causing the development of cervical pathology. Papillomavirus infection.
- Precancerous diseases of the cervix: etiology, clinic, diagnosis, treatment
- Methods of diagnosis of precancerous diseases of the cervix.
- Treatment tactics for precancerous diseases of the cervix, indications for radical treatment methods.
- . Vaccination against HPV infection
- The concept of "hyperplastic processes of the endometrium" as a factor in the development of AMC in different age periods.
- WHO histological classification of hyperplastic endometrial processes.
- Additional methods of diagnosis of endometrial hyperplastic processes

3. Formation of professional skills and practical abilities.
3.1 The content of the assignments (tasks, clinical situations, etc.).
An interactive task:
Divide the students into 3 subgroups. We work in women's consultation offices with pregnant patients at different stages of pregnancy, we give tasks:
Tasks for subgroups
And a subgroup. Collect the patient 's obstetric and gynecological and somatic anamnesis , determine the list of necessary clinical, laboratory and instrumental studies, establish a preliminary and clinical diagnosis of the disease
II subgroup. Draw up a treatment plan for the woman and determine management tactics.
III subgroup. Evaluate the correctness of the answers of subgroups I and II, if necessary, introduce corrections.

Unusual situational tasks:
1.A 35-year-old patient applied to a gynecological hospital with complaints of periodic pains in the lower abdomen, which increase during menstruation, are dark brown smearing discharge from the genital tract. During bimanual examination: the body of the uterus is several enlarged, appendages are not identified, during examination of the cervix in mirrors, they are found blue "eyes".
1) What is the most likely diagnosis?

External endometriosis of the cervix
2) Examination algorithm: smear for cytomorphology, colposcopy is common. Cervical biopsy is targeted.
Treatment tactics depending on the results of histological examination.
If endometriosis is confirmed, excisional therapy should be carried out (excision of the area with endometriosis foci).

Non-typical test tasks:
1.A 48-year-old patient complains of contact bleeding. When examined in the mirrors, it was found hypertrophy of the cervix. The latter has the form; of cauliflower; easily injured, dense. At bimanual examination: the vault is shortened, the body of the uterus is immobile. Which is the most favorable diagnosis?
A. Cervical cancer
B. Uterine fibromyoma
C. Endometriosis
D. Cervical pregnancy
E. Papillomatosis of the cervix

2. A 54-year-old woman complained of bleeding from the genital tract after 2 years of amenorrhea.
During the ultrasound and bimanual examination, no genital pathology was detected.
What are the doctor's tactics?
A. Fractional scraping of the cervix and uterine cavity
B. Hemostatic drugs
C. Reducing drugs
D. Estrogenic hemostasis
E. Hysterectomy

3. A 62-year-old patient came to the women's consultation with complaints about the presence of watery secretions, sometimes with impurities of blood from the vagina. Menopause 7 years. Periodically, the patient appears insignificant pain in the lower abdomen, swelling of the intestine. The uterus is enlarged up to 10 during vaginal examination weeks of pregnancy, limited mobility, sensitive. Add-ons are not defined. What research should be done carry out to clarify the diagnosis?
A. Separate diagnostic scraping of the cervical canal and uterine cavity
B. Ultrasound
C. Contrast radiography
D. Cytological examination of smears
E. Puncture of the posterior vault

Correct answers: 1 - D , 2 - A, 3 - A, 4 - A,

3.2 Recommendations (instructions) for the implementations of tasks.

Precancerous diseases Precancerous diseases of the cervix	Dysplasia of the cervical epithelium - focal or single or multiple pathological processes in which hyperplasia, proliferation, violation of differentiation, maturation and rejection of epithelial cells that do not go beyond the basement membrane are noted.
Ectopia of the cervix	displacement of the cylindrical epithelium on the displacement of the cylindrical epithelium on the vaginal portion of the cervix.
Polyp of the cervical canal	this is a focal proliferation of the connective tissue of the endocervix, covered with a cylindrical epithelium and protruding into the lumen of the cervical canal or beyond it and are connective tissue growths covered with epithelium. Cervical papilloma is a form of lesion of the cervix covered with epithelium.
Cervical papilloma	the form of the lesion of the cervix and is characterized by focal growths of the stroma and multilayered epithelium with keratinization. In their
	viral infections and chlamydia play a certain role in its occurrence
Candyloma of the cervix	abnormal growths of multi-layered flat epithelium according to the type of acanthosis (immersion of keratinized epithelial islands in the underlying tissue between the connective tissue papillae) with elongated papillae.
Erosive ectropion	inversion of the mucous membrane of the cervix, characterized by the presence of pseudoerosion and cicatricial deformation of the cervix
Dysplasia of the epithelium of the cervix (cervical intraepithelial neoplasia, CIN, cervical intraepithelial neoplasia, CIN	characterized by pronounced proliferation of atypical epithelium of the cervix with a violation of its stratification without involvement of the stroma and surface epithelium in the process, a pathological process of keratinization of the surface layers of a multilayered fold

Leukoplakia	The basis of the development of leukoplakia are histological changes: hyperkeratosis, parakeratosis, acanthosis. who the epithelium of the cervix
Endometrial hyperplasia	non-physiological proliferation of the endometrium, which is accompanied by a structural rearrangement of its iron and, to a lesser extent, stromal components
Atypical hyperplasia of the endometrium	signs of cytological atypia: it has signs of cellular and nuclear polymorphism along with disorganization of the epithelium of the endometrial glands. A benign neoplasm that rises above the surface of the endometrium to form a nodular form consisting of endometrial glands and stroma.

There is an effective prevention of RSHM timely detection and treatment of background and precancerous diseases, in particular dysplasia (cervical intraepithelial neoplasia (CIN) or squamous intraepithelial lesion of the cervix. For the last 10 years, the number of cervical dysplasias in young women under the age of 30 has increased, the number of patients with initial forms of cervical cancer at the age of 33-43 has increased , mortality from cervical cancer has increased in the age range of 25-49 years.

The human papilloma virus (HPV) is a risk factor for the development of cervical cancer.

The most carcinogenic strains are HPV types 16 and 18, which cause 7 3.5 % of cases of RSHM. Persisting in cells for years epithelium of the cervix, HPV leads to mutations, development dysplasia and malignancy.

Diseases of the cervix are classified into background, precancerous conditions (dysplasia), preinvasive and invasive cervical cancer.

Risk factors for the development of cervical dysplasia :

- Early onset of sexual life (14-17 years), when the epithelium of the cervix is immature and easily exposed to oncogenic influences.
- Frequent change of sexual partners.
- Sexually transmitted diseases. Bacterial infections (conditionally pathogenic and pathogenic microflora). Viral infections (HPV, HSV) c associations with CMV, chlamydia as a factor in STDs (papillomavirus, trichomoniasis, chlamydia, ureaplasmosis, gonorrhea, etc.).
- Smoking.
- Traumatic damage to the cervix (after childbirth, abortions, surgical interventions on the cervix).
- Genetic factor
- Hormonal disorders

Comprehensive examination of patients with pathology of the cervix

Diagnostic methods	
Basic examination methods	**Additional examination methods (if indicated)**
Collection of anamnestic data	Bacterioscopic and bacteriological
Examination of the cervix mirrors	Virological
Cytological research	Hormonal
Colposcopy	Colpocytological
Bimanual vaginal examination	Sonography of the pelvic organs
Morphological study targeted biopsy material	

Examination of the cervix with abnormal cellular morphology of the Papanicolaou smear includes the following methods:

- simple and extended colposcopy;
- biopsy of the cervix;
- scraping of the mucous membrane of the cervical canal (endocervical curettage);
- targeted and cone-shaped biopsy of the cervix

A simple colposcopy is an examination of the cervix after removal of its surface without the use of medication.

Extended colposcopy is performed after applying 3% acetic acid solution or 2% Lugol's solution to the pelvic part of the cervix. After treatment with 3% solution of acetic acid, the unchanged epithelium changes to a pale color, when applying 2% Lugol's solution (Schiller's test), the surface of the vaginal part of the cervix is uniformly colored in a dark brown color

Targeted biopsy : Material is collected under the control of colposcopy

Ovarian tumors take the second place among neoplasms of female genital organs - 8-11% Benign - 85%, of which cysts - 35% Ovarian cancer takes the 3rd place among gynecological tumors pOvarian tumors take the second place

Among neoplasms of the female genital organs – 8-11% . Benign - 85%, of which cysts - 35%. Ovarian cancer ranks 3rd among gynecological tumors after cancer of the body and cervix, and 7th in the structure of the overall

oncological incidence after cancer of the body and cervix, and 7th in the structure of the overall oncological incidence.

Complaints (discomfort, pain in the lower abdomen and lower back, menstrual disorders and reproductive functions, etc.) History of illness and life (transferred children's infections, frequent tonsillitis, chronic tonsillitis, menstrual, generative, sexual functions, heredity, etc.) General physical examination.

Gynecological recto-vaginal examination, by which it is established presence and localization of the pathological process, shape, size of the uterus and appendages, their consistency, mobility, tenderness during palpation, anatomical topographic relationships of pelvic organs, etc

imaging methods transabdominal ultrasound, transvaginal ultrasound, pelvic organs, CT, MRI, pelvic organs.

The use of tumor markers for the diagnosis of tumor processes of the pelvic organs.

Oncomarker SA125 . Increased in more than 80% of all patients

from RY. Increase in benign gynecological diseases, endometriosis,

malignant tumors of other localization, healthy women of reproductive age.

Tumor marker NO4 Secretory protein 4 of the epididymis, acidic glycoprotein

Belongs to the family of proteinase inhibitors and is expressed in normal epithelium nreproductive organs, upper respiratory tract and pancreas.

Increased production was detected at RY and endometrium, rarely - in the widespread form lung adenocarcinoma.

Tumor marker NO4 With benign gynecological diseases, endometriosis increase level is not observed

3.3.Requirements for work results:

- To draw up a plan for the necessary clinical, laboratory and instrumental studies in precancerous diseases of the female genital organs
- To evaluate the results of clinical laboratory and instrumental research in precancerous diseases of the female genital organs ;
- Establish a preliminary and clinical diagnosis of the disease;
- Prescribe treatment for precancerous diseases of the female genital organs

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

Unusual situational tasks:

Patient 2. A 34-year-old patient turned to the doctor with complaints of heavy vaginal discharge. The last menstruation was a week ago. Sex life since 24 years. Contact bleeding. In the mirrors: on the front lip of the cervix, there is a 1 cm ulcer, a biopsy was taken. Microscopically detected squamous cell carcinoma.

Determine the patient management tactics.

Task:

girl turned to the doctor with complaints of heavy vaginal discharge. Sexual life since 22 years. There were no pregnancies. Does not use contraception, has one sexual partner. The last menstruation was a week ago.
When examined in mirrors: on the front lip of the cervix is a 1 cm area , a biopsy was taken and a diagnosis of grade 1 uterine dysplasia was established.
Determine the patient management tactics. It is necessary to carry out common diagnostics. With the determination of the factor in the development of dysplasia: PCR testing for the presence of VPH type 16-18, HSV type II, culture tank.
After receiving the results of the study, conduct a course of anti-inflammatory and antibacterial therapy.
At the stage of treatment, carry out vaccination with an antiviral vaccine: Cervarix (4-valent) or Gardaxil (4- or 9-valent)

A 59-year-old patient turned to a women's consultation with complaints of bloody discharge from the genital tract. Postmenopause 12 years. During vaginal examination: external genitalia with signs of age-related involution, cervix not eroded, slight bleeding from the cervical canal. The uterus is of normal size, the appendages are not palpable.
The arches are deep, not painful. What additional research methods should be conducted to clarify the diagnosis?
To clarify the diagnosis, it is necessary to perform an ultrasound of the small and large organs, to perform a study of the state of the endometrium through the use of: Peipel biopsy or Hysteroscopy with targeted biopsy of the endometrium. . or Separate diagnostic scraping of the mucous cavity of the uterus. According to the results of the histological examination, the volume of surgical intervention in patients will be established.

Test tasks STEP-2:
1. Endometrial polyposis occurs more often:
a) In menopause
b) After childbirth
c) In the climacteric period
d) During progesterone treatment
e) After stopping oral contraceptives

2. An 18-year-old patient turned to a gynecologist with complaints about the appearance of warty growths in parts of the genitals. During the examination of the external genitalia on the large and small genitals on the lips papilla-like growths, soft consistency, painless. At gynecological examination revealed no pathology of the internal genital organs. Which preliminary diagnosis?
a) Acuminate condylomas
b) Papillomatosis
c) Syphilitic condylomas
d) Vegetative pemphigus

e) Cancer of the vulva

3. A 53-year-old patient complains of aching pain in the lower abdomen, its significant increase over the last 5 months, weight loss, weakness. During the gynecological examination, it was found: the cervix is clean, the uterus is not enlarged, non-painful, immobile. On both sides, tumors measuring 10x13 cm, with an uneven surface, of a dense consistency, are fixed. Fluctuation is observed when percussing the abdomen. What will be the preliminary diagnosis?

a) Ovarian cancer
b) Uterine fibromyoma
c) Tuboovarian tumor
d) Wandering kidney
e) Endometriosis

4. A 22-year-old girl came to the doctor for a routine examination. She smokes 1 pack of cigarettes day for 5 years. Has one permanent sexual partner, uses condoms My paternal grandfather died of a heart attack at the age of 60. When physical examination pulse - 78/min., respiratory rate - 14/min., blood pressure - 110/70 mm Hg. At during auscultation of the heart, a systolic murmur is heard in the II intercostal space to the left of the sternum. Which one would the doctor's recommendation be most appropriate for this patient?

a) Colposcopy with biopsy
b) Pass a Pap test
c) Screening for hyperlipidemia
d) Pass a Pap test and take an HPV test
e) Learn to self-examine the mammary glands

PRACTICAL CLASS №3
Topic: "Gynaecological endocrinology"

Goal: To learn to identify the etiological and pathogenetic factors of the main diseases of the reproductive system, which lead to a violation of its function. Learn how to assess the patient's condition and medical criteria in making a diagnosis. Learn the examination plan of a patient with a violation of the neuroendocrine regulation of the genitals. Master counseling on issues of neuroendocrine regulation of genital function. To learn how to apply modern examination methods for making a diagnosis of this category of patients of various ages.

Basic concepts: Physiological and pathological states of the reproductive system in different age periods. Violation of menstrual function. AMK. Osteoporosis. Densinometry. Standard examination of women.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

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

Knowledge requirements:

- communication and clinical patient examination skills;
- the ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to determine the necessary mode of work and rest in the treatment and prevention of diseases;
- the ability to determine the nature of nutrition in the treatment and prevention of diseases;
- the ability to determine the principles and nature of treatment and prevention of diseases;
- the ability to diagnose emergency conditions;
- the ability to determine tactics and provide emergency medical assistance;
- the ability to perform medical manipulations.

List of didactic units:

- Physiological and pathological states of the reproductive system in different age periods.
- Violation of menstrual function.
- Abnormal uterine bleeding.
- Standard examination of women.
- Osteoporosis.
- Densitometry.

Typical situational tasks:

1.A 20-year-old woman has had no menstruation for 11 months. Menstruation began at the age of 16, for 1-2 days, in small quantities, very painful, and irregular. During a gynecological examination: the cervix is long, the vagina is narrow, the uterus is very small, the appendages are not palpable.

1. Establish a preliminary diagnosis.

2. Develop and prescribe an examination and treatment plan.

Answer: Secondary amenorrhea Genitalinfantilism.

Algodysmenorrhea. Algorithm examination Gynecological review. Dab on flora and cytomorphology. Clinical and laboratory examination methods: OAC, OAM, blood biochemistry. Hormonal examination (FSH, LH, PRL, Estradiol). ultrasound examination of the pelvic organs

2.A 26-year-old patient complains of heavy discharge during menstruation for 8-12 days. During a gynecological examination: the uterus is spherical, sensitive, and less mobile. The appendages are not palpable. Diagnosis? Examination algorithm. Answer:Abnormal uterine bleeding. Adenomyosis. To clarify the diagnosis, carry

out: Gynecological examination. Clinical and laboratory examnation methods: OAC, OAM, blood biochemistry. Hormonal monitoring. Smear on flora cytomorphology. ultrasound examination of the pelvic organs.

Typical test tasks:

1. A 24-year-old woman with a regular menstrual cycle previously turned to a doctor with complaints about an irregular menstrual cycle. The level of prolactin in the blood was elevated. The most informative research method?

A. Determination of the level of gonadotropins.
B. Determination of the level of prolactin in the blood.
C. Test with progesterone.
D Determination of the level of thyroid-stimulating hormone.
E. Determination of the level of testosterone in the blood.

2. A 38-year-old patient turned to a women's consultation with complaints about moderate bleeding from the genital tract, which appeared after the next menstruation was delayed for 1.5 months. During a gynecological examination: the cervix is epithelialized, the "pupil" symptom (++), the uterus was not enlarged, dense, mobile, painless, the appendages on both sides were not enlarged, painless, the contractions were deep.

The most likely diagnosis?

A. Abnormal uterine bleeding.
B. Internal endometriosis.
C. Ectopic pregnancy.
D Submucous myoma of the uterus.
E. Cancer of the uterine body.

3. A 12-year-old girl came to the gynecological department with complaints of bleeding from the genital tract for 2 weeks, after delay of menstruation for 3 months, weakness, headache, dizziness. Menstruation since 10 years. At the age of 10, she was ill with scarlet fever. Objectively: pale skin, tachycardia, blood pressure - 100/60. In the blood test, Hb=100 g/l, the number of platelets is 200,000. Gynecological examination: virgo. During rectal examination: body of the uterus and appendages without pathology. Previous diagnosis?

A. Juvenile uterine bleeding.
B. Disturbed pregnancy.
C. Werlhof's disease.
D. Syndrome of sclerocystic ovaries.
E. Hemorrhagic diathesis.

Correct answers: 1D, 2A, 3A

2. Discussion of theoretical issues.

Question:

1. Neurohumoral regulation of the menstrual cycle
2. Amenorrhea: forms, diagnosis, treatment
3. Reasons for the development of AMC in women of reproductive age.
4. Classification of AMC
5. Algorithm of examination of a patient with AMC
6. Abnormal uterine bleeding in the reproductive age.
7. Abnormal uterine bleeding in the climacteric age.
8. Therapeutic measures for women in menopause and postmenopause
9. Indications for surgical treatment of patients with AMC
10. Osteoporosis. Algorithm for tracking women with signs of osteoporosis.
11. Algorithm of examination of a woman in different age periods.
12. Premenstrual syndrome.
13. Climacteric syndrome.
14. Quality of life of a woman during menopause.

3. Formation of professional skills and practical abilities.

3.1 The content of the assignments (tasks, clinical situations, etc.).

An interactive task:

Students of higher education are divided into 3 subgroups. We work in the consulting room for women of different age periods, we give tasks:

Tasks for subgroups

And a subgroup. Collect the obstetric and gynecological and somatic anamnesis of a woman with a violation of the menstrual cycle (AMK during puberty), determine the list of necessary clinical, laboratory and instrumental studies, establish a preliminary and clinical diagnosis of the disease

II subgroup. Draw up a plan for examination and treatment of a woman during menopause and determine management tactics.

III subgroup. Evaluate the correctness of the answers of subgroups I and II, if necessary, introduce corrections.

Unusual situational tasks

1. A 48-year-old patient approached an obstetrician-gynecologist with complaints of bleeding from the genital tract. From the anamnesis: menstruation since the age of 14, established immediately (4-5 days after 28 days), moderate, painless. For the last 2 years, the intervals between periods have been 2-3 months. 15 days ago, after a 2-month absence of menstruation, uterine bleeding began, which continues to this day. During the examination: the skin and visible mucous membranes are pale, the pulse is 76 bpm, blood pressure - 110/80 mmHg, hemoglobin - 100g/l. The abdomen is soft, painless on palpation.

Bimanual examination of the internal genital organs revealed no pathology.

■ Make a diagnosis.

Abnormal uterine bleeding. Perimenopausal period. Secondary anemia.

■ What additional laboratory and instrumental research methods should be prescribed?

1. Ultrasound of the pelvic organs, 2. Hormonal research. 3. Biopsy of the endometrium: (Aspirate from the cavity, Fractional therapeutic and diagnostic scraping of the uterine cavity, hysteroscopy

■ What does treatment tactics depend on?

From the results of histological examination of the endometrium.

■ What should be prescribed to treat anemia?

Balanced nutrition (foods containing iron) and anti-anemic drugs.

2. In a 53-year-old woman, a histological examination of the endometrium - atypical endometrial hyperplasia - was obtained after performing FDV of the uterine cavity due to uterine bleeding.

■ What should be done with the patient in the future?

Recommend surgical treatment.

■ To what extent?

Extermination of the uterus with appendages, in case of refusal to carry out drug therapy in the amount of RHG.

■ What violation did the doctor commit when choosing the tactics of surgical treatment? Given that the patient is no longer of reproductive age, she should have been recommended radical surgical treatment, namely hysterectomy with appendages.

Diagnosis: Secondary amenorrhea

Non-typical test tasks KROK-2(:2018)

1. A 38-year-old patient turned to a women's consultation with complaints of moderate bloody discharge from the genital tract, which occurred after the next menstruation was delayed for 1.5 months. During the vaginal examination: the cervix is not eroded, the "pupil" symptom (+++); the uterus is not enlarged, dense, mobile, painless; appendages on both sides are not enlarged, painless; vaults are deep. What is the most likely diagnosis?

A. Abnormal uterine bleeding
B. Internal endometriosis of the uterine body
C. Ectopic pregnancy
D. Uterine pregnancy
E. Cancer of the uterus

2. A 54-year-old woman came to the gynecologist with complaints of vaginal bleeding for 1 month. The last menstruation was 5 years ago. No pathology was detected during the gynecological examination. What will be the doctor's actions?

A. Fractional diagnostic scraping of the walls of the uterine cavity
B. Colposcopy
C. UZD
D. Take a swab for cytological examination
E. Prescribe symptomatic therapy until additional research results are obtained

Correct answers: 1. V., 2.A.

3.2. Recommendations (instructions) for the implementations of tasks.
Classification of menstrual cycle disorders

Term	Definition
Amenorrhea	absence of menstruation for 6 months or more
Abnormal uterine bleeding	this is abundant, frequent or prolonged bleeding from the uterus (hyper-, poly-, proyomenorrhoea), not associated with organic pathology of the pelvic organs, systemic diseases or complications of pregnancy
Neuro-endocrine syndromes	these are clinical symptom complexes in which changes in the functional state of the patient's reproductive system are combined with a violation of the functional state of other body systems, which, like the reproductive system, are regulated by the hypothalamic-pituitary department of the nervous system
Hypomenstrual syndrome	weakening of menstruation, manifested in their shortening, thinning, reduction of blood loss (oligo-, hypo-, opsomenorrhoea)
Premenstrual syndrome	a symptom complex characterized by various psycho-emotional, vegetative-vascular and metabolic-endocrine disorders that manifest themselves in the luteal phase of the menstrual cycle
Climacteric syndrome	a symptom complex characterized by neuro-psychological, vascular-vegetative and metabolic-endocrine disorders arising against the background of estrogen deficiency caused by age-related changes in ovarian function
Dysmenorrhea	Dysmenorrhea is a general disorder during menstruation (pain in the lower back, lower abdomen, headache, nausea, lack of appetite,

	excitement);
Algodysmenorrhea	it is a violation of the menstrual cycle, the main clinical manifestation of which is a pain syndrome during menstruation, which occurs on the first day or a few days before it and continues throughout the menstruation and even after it

Climacteric disorders

1. group	**Vasomotor**	**Hot flashes, increased sweating, headache, hypo- or hypertension, heartbeat, tachycardia**
	Emotional and mental	**Irritability, drowsiness, weakness, depression, memory loss, decline libido, inattention.**
2 group	**Urogenital**	**Dryness of the mucous membrane of the vagina, pain with sexual intercourse, itching, urethral syndrome (frequent urination**
3 group	**Skin and its appendages**	**Dryness, brittle nails, wrinkles, dryness and hair loss.**
	Late metabolic disorders	**Osteoporosis, cardiovascular diseases**

Violation of the frequency of menstruation

1) ***frequent menstruation (proyomenorrhoea)***-the duration of the menstrual cycle is less than 21 days,

2) ***infrequent menstruation (opsomenorrhoea)***- the length of the menstrual cycle is more than 35 days,

2. Violation of the amount of menstrual blood that is lost:

1) ***scanty menstruation (hypomenorrhea)***observed in hypoplasia of the uterus and ovaries, hypofunction of the ovaries, chronic endometritis, after surgical interventions.

2) ***heavy menstruation (hypermenorrhea)***emphasized in inflammatory processes, hypoplasia of the uterus, prolonged involution of the corpus luteum, hyperestrogen

3. Violation of the duration of menstruation:

No	Parameters	Norm	AMK
1.	**Frequency**	The interval between the first day of menstruation in adjacent cycles is from 24 to≤38 days	Absence of menstruation (amenorrhea) Menstruation with an interval of ›≥38 (rare) Menstruation with intervals≤24 days (frequent)›
2.	Duration of menstruation	≤8 days	≥ 8 days
3.	Regularity	Variability of the longest and shortest cycle within ≤ 7-9 days	Variability of the longest and shortest cycle within ≤ ≥8-9 days
4.	Volume	Normal	Scarce are abundant
5.	Intermenstrual bleeding	there is no	Cyclic acyclic

Classification of causes of AMC (PALM/COEIN)

Structural	**Non-structural**
P-polyps A-Adenomyosis L-Leiomyoma M-Malignant tumors, hyperplasia	C-Coagulopathy O-violation of ovulation E-Pathology of the endometrium I-Iatrogenic N-unclassified

• **Acute AMK**- these are episodes of bleeding in non-pregnant women of reproductive age, the intensity of which requires immediate intervention to prevent further blood loss.

• **Chronic AMC**- these are bleedings with deviations from the norm in terms of duration, volume and/or frequency, which occur during most of the last 6 months.

• **Heavy menstrual bleeding (TMK)** - excessive menstrual blood loss, which negatively affects a woman's physical condition, social, emotional and/or material aspects of her life. TMK can manifest itself or in combination with other symptoms.

DIAGNOSTIC ALGORITHM examination of a patient with AMC

AMK - abnormal uterine bleeding against the background of endometrial dysfunction, in particular, insufficiency of the luteal phase of the menstrual cycle; AMKO - abnormal uterine bleeding as a result of ovulation disorders.

Differential diagnosis

When determining the diagnosis of TMK, it is necessary to exclude the presence of structural pathologies, as well as bleeding associated with pregnancy. The diagnosis and treatment of abnormal uterine bleeding of organic origin have their own specificity and are described in the relevant protocols

In adolescence, abnormal uterine bleeding is mainly caused by ovulation disorders associated with the immaturity of the hypothalamic-pituitary-ovarian regulation (AMK-O). In patients of this category, special attention should be paid to the exclusion of AMC caused by somatic pathology (coagulopathy, etc.) and bleeding due to arterio-venous malformations of the uterus.

Preparation	gle dose	ime
COOK	Monophasic (30–35 μg of ethinyl estradiol)	3 times a day for 7 days or up to 4-5 times a day for 3-5 days, then decrease every 2 days by 1 tablet, the total term of COC use is at least 20 days
Tranexamic acid	1.5 g orally or 10 mg/kg i.v	3 times a day for 5 days every 8 hours
Linestrol	5 mg orally	3 times a day for 7 days

3.3. Control materials for the final stage of the lesson: problems, tasks, tests, etc
Unusual situational tasks:

Task 1. A 20-year-old woman has had no menstruation for 11 months. Menstruation began at the age of 16, for 1-2 days, in small quantities, very painful, and irregular. During a gynecological examination: the cervix is long, the vagina is narrow, the uterus is very small, the appendages are not palpable.

1. Establish a preliminary diagnosis.
2. Develop and prescribe an examination and treatment plan.
3. With what it is necessary to carry out differential diagnosis in this pathology

Answer: Secondary amenorrhea Genital infantilism.Algodysmenorrhea.
Algorithm examination Gynecological review: General and gynecological examination, ultrasound examination of pelvic organs, computer or magnetic resonance imaging. Hormonal studies: LH, FSH, PRL, E_2, androgens - as indicated.
Dab o flora and cytomorphology.

Clinical and laboratory examination methods: OAC, OAM, blood biochemistry. Hormonal examination (FSH, LH, PRL, Estradiol). ultrasound examination of the pelvic organs.

Task 2:. A 48-year-old patient approached an obstetrician-gynecologist with complaints of bleeding from the genital tract. From the anamnesis: menstruation since the age of 14, established immediately (4-5 days after 28 days), moderate, painless. For the last 2 years, the intervals between periods have been 2-3 months. 15 days ago, after a 2-month absence of menstruation, uterine bleeding began, which continues to this day.

During the examination: the skin and visible mucous membranes are pale, the pulse is 76 bpm, blood pressure - 110/80 mmHg, hemoglobin - 100g/l. The abdomen is soft, painless on palpation.

Bimanual examination of the internal genital organs revealed no pathology.

■ Make a diagnosis.

Abnormal uterine bleeding. Secondary anemia.

■ What additional laboratory and instrumental research methods should be prescribed?

1. Ultrasound of the pelvic organs,

2. Hormonal study.

3. Endometrial biopsy: Aspirate from the cavity, Fractional therapeutic and diagnostic scraping of the uterine cavity, hysteroscopy

■ What does treatment tactics depend on?

From the results of histological examination of the endometrium.

■ What should be prescribed to treat anemia?

Balanced nutrition (foods containing iron) and anti-anemic drugs.

In a 53-year-old woman, a histological examination of the endometrium - atypical endometrial hyperplasia - was obtained after performing FDV of the uterine cavity due to uterine bleeding.

■ What should be done with the patient in the future?

Recommend surgical treatment.

■ To what extent?

Extermination of the uterus with appendages, in case of refusal to carry out drug therapy in the amount of RHG.

■ What violation did the doctor commit when choosing the tactics of surgical treatment? Given that the patient is no longer of reproductive age, radical surgical treatment should be recommended, namely hysterectomy with appendices

STEP-2 test tasks (2019-2021)

1.A 27-year-old woman complains of irregular menstruation with delays of up to 2-3 months, a significant increase in body weight, hirsutism. Married for 5 years. There were no pregnancies. During vaginal examination, the uterus is slightly smaller
per norm, dense, mobile ovaries up to 4-5 cm in size are determined on both sides. Previous diagnosis?

A. Polycystic ovary disease
B. Bilateral chronic salpingitis
C. Bilateral ovarian cysts
D. Tuberculosis of the uterine appendages
E. Hypomenstrual syndrome

2. A woman came to the family doctor with complaints of fatigue, significant
weight loss, weakness, loss of appetite. Amenorrhea 8 months. She gave birth a year ago
live full-term baby. Blood loss during childbirth is up to 2 liters. Blood was spilled and
blood substitutes What is the most likely diagnosis?

A. Stein-Leventhal syndrome
B. Sheehan's syndrome
C. Shereshevsky-Turner syndrome
D. Homologous blood syndrome
E. Vegeto-vascular dystonia

3. A 26-year-old woman complains of body swelling, swelling and pain
mammary glands, headache, tearfulness, irritability arising from 4. days before menstruation and disappear with its onset. What clinical syndrome is observed in a woman?

A. Premenstrual syndrome
B. Postcastration syndrome
C. Adrenogenital syndrome
D. Climacteric syndrome
E. Stein-Leventhal syndrome

4. A woman, 49 years old, complains of a headache, hot flushes to the head,
neck, increased sweating, palpitations, increased blood pressure to
170/100 mm Hg. art., irritability, insomnia, tearfulness, memory loss,

infrequent scanty menstruation, an increase in body weight by 5 kg during the last period
half year. Your diagnosis?
A. Premenstrual syndrome
B. Climacteric syndrome
C. Vegetovascular dystonia
D. Arterial hypertension
E. Postcastration syndrome
Answer: 1-A, 2-B, 3-A, 4-B.

PRACTICAL CLASS №4

Topic: "Management of physiological pregnancy".

Goal: 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.

Basic concepts: Fertilization and development of a fertilized egg. Placenta, its structure and function. Critical periods of embryo and fetal development. Influence of harmful factors on the embryo and fetus. Physiological changes in a woman's body during pregnancy. Hygiene and nutrition of a pregnant woman. Methods of examination of pregnant women: diagnosis of early and late pregnancy. Orientation of baby in the uterus. Management of physiological pregnancy. Laboratory diagnosis of HIV infection. Counseling in the context of HIV infection. The concept of counseling and its ethical principles. Counseling skills. Determination of maternity leave date and date of birth. Assessment of fetal wellbeing. Biophysical profile of the fetus. CTG. Perinatal protection of the fetus. Ultrasound in pregnancy.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

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:

- Fertilization and development of a fertilized egg.
- Placenta, its structure and function.
- Critical periods of embryo and fetal development.
- Influence of harmful factors on the embryo and fetus.
- Physiological changes in a woman's body during pregnancy.
- Hygiene and nutrition of a pregnant woman.
- Methods of examination of pregnant women: diagnosis of early and late pregnancy. Orientation of baby in the uterus.
- Management of physiological pregnancy.
- Laboratory diagnosis of HIV infection.
- Counseling in the context of HIV infection.
- The concept of counseling and its ethical principles.
- Counseling skills.
- Determination of maternity leave date and date of birth.
- Assessment of fetal wellbeing. Biophysical profile of the fetus. CTG.
- Perinatal protection of the fetus.
- Ultrasound in 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. Worldwide, which of the following is the most common problem during pregnancy?
(A) diabetes
(B) preeclampsia
(C) heart disease
(D) urinary tract infection (UTI)
(E) iron-deficiency anemia

2. A patient presents with a positive pregnancy test, the exact date of the start of her last normal menses, and the date of her luteinizing hormone (LH) surge from a urine kit. Her expected date of delivery can most correctly be calculated by which of the following?
(A) adding 254 to the date of the start of the last menstrual period (LMP)
(B) counting 10 lunar months from the time of ovulation
(C) counting 280 from the first day of the LMP
(D) counting 40 weeks from the last day of the LMP
(E) adding 256 to the date of the elevated urinary LH when detected by home testing

3. A friend mentions to you she just had a positive pregnancy test and wonders if you can tell her when she is likely due. The LMP was June 30. Her expected date of labor is approximately which of the following?
(A) March 23
(B) April 7

(C) March 28
(D) April 23
(E) March 7

4. 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?
(A) eliciting when breast tenderness or morning sickness began
(B) assessing uterine size by physical examination
(C) counting 280 days from the first positive serum pregnancy test
(D) asking the patient when she first felt pregnant
(E) obtaining fetal biometry by ultrasound prior to 20 weeks' gestation

5. Fundal height, part of the obstetric examination, is taken from the top of the symphysis pubis to the top of the fundus. How is it measured?
(A) by calipers, approximating the week of gestation
(B) in inches, approximating the lunar month of gestation
(C) in centimeters and divided by 3.5, approximating the lunar months of gestation
(D) in centimeters, approximating the weeks of gestation beyond 22 weeks
(E) by calipers in centimeters, prognosticating the fetal weight

6. Using your knowledge of normal maternal physiology, which of the following would you employ if a patient at 38 weeks became faint while lying supine on your examination table?
(A) aromatic ammonia spirit (smelling salts)
(B) turning the patient on her side
(C) oxygen by face mask
(D) intravenous (IV) drugs to increase blood pressure
(E) IV saline solution

7. 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) 8 weeks
(B) 12 weeks
(C) 16 weeks
(D) 20 weeks
(E) 24 weeks

8. Which of the following nutrients is most likely to be deficient during pregnancy?
(A) iron

(B) vitamin D
(C) vitamin A
(D) calcium
(E) folic acid

9. The relation of the fetal parts to one another determines which of the following?
(A) presentation of the fetus
(B) lie of the fetus
(C) attitude of the fetus
(D) position of the fetus
(E) intention of the fetus

10. A healthy 30-year-old primigravida presents at 34 weeks' gestation. She reports that she has been experiencing abdominal discomfort that increases after eating, especially when in the recumbent position. A series of tests is performed. She has normal vital signs, an unremarkable examination, a fundal height of 33 cm, and a negative urinalysis. Which one of the following represents abnormal test results?
(A) alkaline phosphatase double that of the reference range
(B) hemoglobin of 90 g/L
(C) serum albumin of 35 g/L
(D) serum creatinine level of 80 mmol/L
(E) WBC count of 11, 000/mL

Answer key

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

2. Discussion of theoretical issues.
Questions:

- Fundamentals of reproduction: gametogenesis, ovulation, fertilization, implantation.
- Principal events in embryonic and fetal development.
- Development, structure and function of the placenta and fetal membranes.
- Genital tract changes during pregnancy, endocrinology of pregnancy.

- Duration of pregnancy, presumptive, probable and definitive symptoms of pregnancy, chronological appearance of specific signs and symptoms of pregnancy.
- Signs of previous child birth.
- Methods of estimation of gestational age and due date of labor.
- Methods of estimation of fetal weight.
- Obstetrics terminology: lie, presentation, position and attitude of the fetus in the uterus.
- Methods of obstetrical abdominal examination: inspection, palpation, auscultation.
- Assessment of fetal wellbeing: biophysical profile of the fetus, CTG.
- Ultrasound in pregnancy.

3. Formation of professional skills and practical abilities.
3.1 The content of the assignments (tasks, clinical situations, etc.).
An interactive task:
Students of the group are divided into 3 subgroups of 3-4 people each. They work in the classroom, women's outpatient clinic, reception department of the maternity hospital, labor & delivery ward with pregnants.
Tasks:

- Subgroup I - to assess general condition of pregnant woman, determine the duration of pregnancy, determine due date of birth and estimated fetal weight.
- Subgroup II - to determine orientation baby in the uterus performing external (Leopold's maneuvers) and internal obstetric exam, to perform auscultation of the fetus.
- Subgroup III – to develop a plan of the management of pregnancy, prescribe rational nutrition to pregnant women

In 30 minutes the groups exchange tasks with each other. Finally students assess results of their classmates.

Tests:
Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.
1. Cessation of menses is regarded as a presumptive sign of pregnancy in a menstrual-age female. In what percentage of cases does macroscopic vaginal bleeding occur during an otherwise normal pregnancy that does not abort?

(A) never
(B) approximately 1 %
(C) approximately 10%
(D) approximately 20%
(E) approximately 50%

2. Probable signs of pregnancy include

(A) detection of fetal movements by the physician
(B) enlargement of the abdomen
(C) an X-ray demonstrating the fetus
(D) lower abdominal cramping
(E) nausea in the morning

3. Absolute signs of pregnancy include
(A) enlargement of the uterus
(B) changes in the cervix
(C) positive hormonal pregnancy test
(D) ballottement of the fetus
(E) none of the above

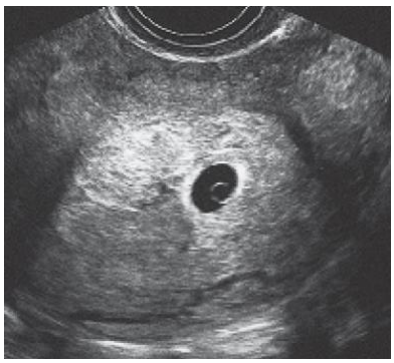
4. Changes of the vagina that occur during pregnancy include
(A) decreased vascularity
(B) decreased secretions
(C) hypertrophy of the smooth muscle
(D) vaginal cells appear similar microscopically to those, in the follicular phase of the cycle
(E) decrease in the thickness of the vaginal mucosa

5. Changes occur in the cervix during pregnancy. They include
(A) progressive hypertrophy and enlargement of the entire cervix
(B) retraction of the squamocolumnar junction into the cervical canal
(C) generalized erythema
(D) normal small amounts of bleeding
(E) shortening and thinning

1.	D
2.	B
3.	E
4.	C
5.	E

Case

A woman is referred from the general practitioner for pregnancy dating. She had a positive pregnancy test 3 days ago after she realized that she had missed a period. In the past she had had regular cycles bleeding for 5 days every 28 days. However, she had been taking the combined oral contraceptive pill (COCP) for the last 6 years and stopped only 10 weeks ago. She had a withdrawal bleed at the end of the last packet, followed by an apparently normal period 5 weeks later. She has had no other irregular bleeding or any abdominal pain. She has had regular intercourse throughout the time since she stopped her COCP and is pleased now to be pregnant. Transvaginal ultrasound findings are shown in Fig.



1. How can pregnancies be dated and what is the approximate gestational age for this pregnancy?
2. What further investigations would you like to do to confirm this?
3. Why is correct early pregnancy dating important?

Answer

1. Pregnancy dating methods

- Dating by last menstrual period: in women with certain last menstrual period dates (LMP) and a regular cycle, Naegle's rule may be applied, whereby the estimated delivery date is calculated by (LMP date – 3 months +7 days+1 year). Naegle's rule cannot be applied where the cycle is not regular or there has been a pregnancy or hormonal contraception within the last 3 months.
- Dating by bimanual examination: pregnancy dating by bimanual examination is very rarely performed as it is unnecessarily invasive and inaccurate.
- Dating by crown-rump length: from 6 weeks and 2 days an estimate of gestational age can be made by crown–rump length of the fetus according to published reference values.

Transvaginal markers in early pregnancy:

- 4–5 weeks: appearance of gestation sac (anechoic area asymmetrically located within the endometrium towards the fundus of the uterus),
- 5 weeks: appearance of yolk sac (a small round structure within the gestation sac supporting the fetus until the placenta develops, then disappears by 11 weeks),
- 6 weeks: appearance of a fetal pole with a visible fetal heart pulsation within the gestation sac, separate from the yolk sac,
- 7–8 weeks: appearance of the amniotic sac, which later fuses to the chorionic membrane to become invisible on scan by 12 weeks,
- 8 weeks: appearance of fetal limb buds and fetal movements.

The ultrasound shows an intrauterine gestation sac and a yolk sac, so in this case the pregnancy is approximately 5 weeks' gestation.

2.This should be confirmed by re-scan (after at least 2 weeks) when a fetal pole will be visible and crown–rump length can be measured.

3.The importance of accurate dating is:

- timing of Down's syndrome screening,

- accurate gestational age estimation for cases of delivery at the borderline of viability (e.g. preterm delivery at 22–24 weeks),
- timing of induction of labor for post-term pregnancy.

3.2. Recommendations (instructions) for the implementations of tasks.

CHRONOLOGICAL APPEARANCE OF SPECIFIC SYMPTOMS AND SIGNS OF PREGNANCY

AT 6–8 WEEKS: Symptoms — Amenorrhea, morning sickness, frequency of micturition, fatigue, breast discomfort. Signs: Breast enlargement, engorged veins visible under the skin; nipples and areola more pigmented. Internal examination reveals — positive Jacquemier's sign, softening of the cervix, bluish discoloration of the cervix and Osiander's sign; positive Hegar's and Palmer's sign. Uterine enlargement varies from hen's egg to medium size orange. Immunological tests will be positive. Sonographic evidence of gestational ring.

AT 16TH WEEK: Symptoms — Except amenorrhea, all the previous symptoms disappear. Signs: Breast changes — pigmentation of primary areola and prominence of Montgomery's tubercles, colostrum. Uterus midway between pubis and umbilicus, Braxton-Hicks contractions, uterine souffle, internal ballottement. Sonographic diagnosis.

AT 20TH WEEK: Symptoms — Amenorrhea, quickening (18th week). Signs: Appearance of secondary areola (20th week), linea nigra (20 weeks), uterus at the level of umbilicus at 24 weeks, Braxton-Hicks contractions, external ballottement (20th week), fetal parts (20 weeks), fetal movements (20 weeks), FHS (20 weeks), internal ballottement (16–28 weeks). Sonographic diagnosis.

SIGNS OF PREVIOUS CHILD BIRTH

The following are the features which are to be considered in arriving at a diagnosis of having a previous birth.

✓ Breasts become flabbier; nipples are prominent whoever breast-fed their infant; primary areolar pigmentation still remains and so also the white striae.

✓ Abdominal wall is laxer and looser. There may be presence of silvery white striae and linea alba.

✓ Uterine wall is less rigid and the contour of the uterus is broad and round, rather than ovoid.

✓ Perineum is lax and evidence of old scarring from previous perineal laceration or episiotomy may be found.

✓ Introitus is gaping and there is presence of carunculae myrtiformes.

✓ Vagina is roomier.

✓ Cervix: Nulliparous cervix is conical with a round external os. In parous women, it becomes cylindrical and the external os is a transverse patulous slit and may admit the tip of the finger. However, as a result of operative manipulation even a nulliparous cervix may be torn and resembles a multiparous cervix.

ESTIMATION OF GESTATIONAL AGE AND PREDICTION OF EXPECTED DATE OF DELIVERY

Gestational age is about 280 days calculated from the first day of the last normal menstrual period (LMP). Accurate LMP is the most reliable parameter for estimation of gestational age. But in significant number of cases (20–30%), the patients either fail to remember the LMP or report inaccurately. The matter becomes complicated when the conception occurs during lactation amenorrhea or soon following withdrawal of contraceptive pills (ovulation may be delayed for 4–6 weeks) or in cases with bleeding in early part of pregnancy. The following parameters either singly or in combination are useful in predicting the gestational age with fair degree of accuracy.

PATIENT'S STATEMENT

— Date of fruitful coitus: If the patient can remember the date of the single fruitful coitus with certainty, it is quite reliable to predict the expected date of delivery with accuracy of 50% within 7 days on either side. 266 days are to be added to the date of the single fruitful coitus to calculate the expected date.

— Naegele's formula: Provided the periods are regular, it is very useful and commonly practiced means to calculate the expected date. Its prediction range is about 50% with 7 days on either side of EDD. If the interval of cycles is longer, the extra days are to be added and if the interval is shorter, the lesser days are to be subtracted to get the EDD.

❖ Practical skill

Calculation of the expected date of delivery (EDD)

This is done according to Naegele's formula (1812) by adding 9 calendar months and 7 days to the first day of the last normal (28 day cycle) period. Alternatively, one can count back 3 calendar months from the first day of the last period and then add 7 days to get the expected date of delivery; the former method is commonly employed.

Example: The patient had her first day of last menstrual period on 1st January. By adding 9 calendar months it comes to 1st October and then add 7 days, i.e. 8th October, which becomes the expected date of delivery. For IVF pregnancy date of LMP is 14 days prior to date of embryo transfers (266 days).

Date of quickening: A rough idea about the probable date of delivery can be deduced by adding 20 weeks in primigravidae and 22 weeks in multiparae to the date of quickening.

PREVIOUS RECORDS: The required weeks are to be added to make it 40 weeks.

Size of the uterus prior to 12 weeks more precisely corresponds with the period of amenorrhea.

Height of the uterus above the symphysis pubis in relation to the landmarks on the abdominal wall.

Auscultation of FHR at the earliest by 18–20 weeks using ordinary stethoscope and that using Doppler principle at 10th week. Palpation of fetal parts at the earliest by 20th week.

Recording of positive pregnancy test using immunological principle at first missed period by earliest.

Ultrasonographic findings at the earliest are: (a) Gestation sac — at 5 weeks. (b) Measurement of crown rump length (CRL) detected at 7 weeks, approximates 10 mm; at 10 weeks – 34 mm (CRL in cm + 6.5 = weeks of pregnancy). Crown — Rump Length (CRL) is most accurate. (Variation ± 5 days). Second trimester by BPD, HC, AC and FL measurement. Most accurate when done between 12 and 20 weeks (variation ± 8 days). Third trimester — Less reliable, variation ± 16 days.
Lightening: Following the appearance of the features suggestive of lightening, the labor is likely to commence within 3 weeks.

ESTIMATION OF FETAL WEIGHT

- Height of the uterus above the symphysis pubis in centimeters multiplied by abdomen circumference measured on the level of umbilicus in either case gives the weight of the fetus in grams. Example — Height of the uterus above the symphysis pubis = 34 cm and the abdomen circumference = 95 cm. The weight of the fetus will be 34 × 95 = 3230 g. However, the approximate size of the fetus is modified by the amount of liquor amnii and thickness of the abdominal wall.
- Sonography: Fetal weight has been estimated by combining a number of biometric data, e.g. BPD, HC, AC and FL. Tables (Hadlock, Shepard) are currently in use (computer software). Estimated fetal weight likely to be within 10 percent of actual weight.

METHODS OF OBSTETRICAL EXAMINATION

ABDOMINAL EXAMINATION: A thorough and systemic abdominal examination beyond 28 weeks of pregnancy can reasonably diagnose the lie, presentation, position and the attitude of the fetus. It is not unlikely that the lie and presentation of the fetus might change, specially in association with excess liquor amnii and hence periodic checkup is essential.

- Practical skill

Abdominal examination

Preliminaries: Verbal consent for examination is taken. The patient is asked to evacuate the bladder. She is then made to lie in dorsal position with the thighs slightly flexed. Abdomen is fully exposed. The examiner stands on the right side of the patient.

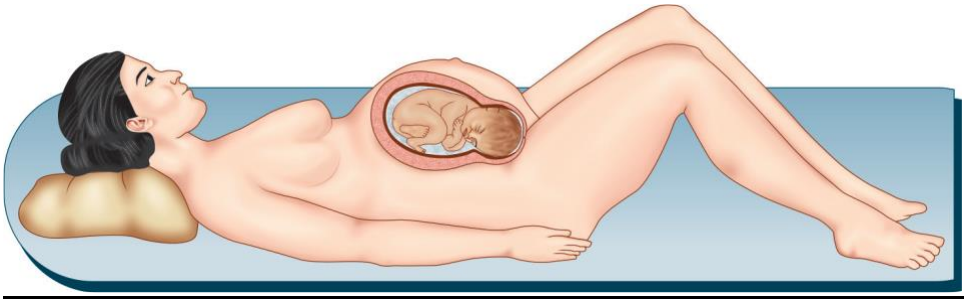


Fig.1: Position of the woman during obstetric examination

Inspection: To note (1) whether the uterine ovoid is longitudinal or transverse or oblique (2) contour of the uterus—fundal notching, convex or flattened anterior wall, cylindrical or spherical shape (3) undue enlargement of the uterus (4) skin condition of abdomen for evidence of ringworm or scabies and (5) any incisional scar mark on the abdomen.

Palpation: *Symphysis fundal height (SFH)*: The uterus is to be centralized if it is deviated. The upper border of the fundus is located by the ulnar border of the left hand and this point is marked. The distance between the upper border of the symphysis pubis upto the marked point is measured by a tape in centimeter. After 24 weeks, the SFH measured in cm corresponds to the number of weeks up to 36 weeks. A variation of ± 2 cm is accepted as normal.

Fig. 2: Symphysis fundal height (SFH)

There are conditions where the height of the uterus may not correspond with the period of amenorrhea. The conditions where the height of the uterus is more than the period of amenorrhea are: (1) mistaken date of the last menstrual period (2) twins (3) polyhydramnios (4) big baby (5) pelvic tumors— ovarian or fibroid (6) hydatidiform mole and (7) concealed accidental hemorrhage. The condition where the height of the uterus is less than the period of amenorrhea are: (1) mistaken date of the last menstrual period (2) scanty liquor amnii (3) fetal growth retardation and (4) intrauterine fetal death.

❖ Practical skill

Obstetric grips (Leopold maneuvers)

Palpation should be conducted with utmost gentleness. Clumsy and purposeless palpation is not only uninformative but may cause undue uterine irritability. During Braxton-Hicks contraction or uterine contraction in labor, palpation should be suspended.

Fundal grip (First Leopold): The palpation is done facing the patient's face. The whole of the fundal area is palpated using both hands laid flat on it to find out which pole of the fetus is lying in the fundus: (a) broad, soft and irregular mass suggestive of breech, or (b) smooth, hard and globular mass suggestive of head. In transverse lie, neither of the fetal poles are palpated in the fundal area.

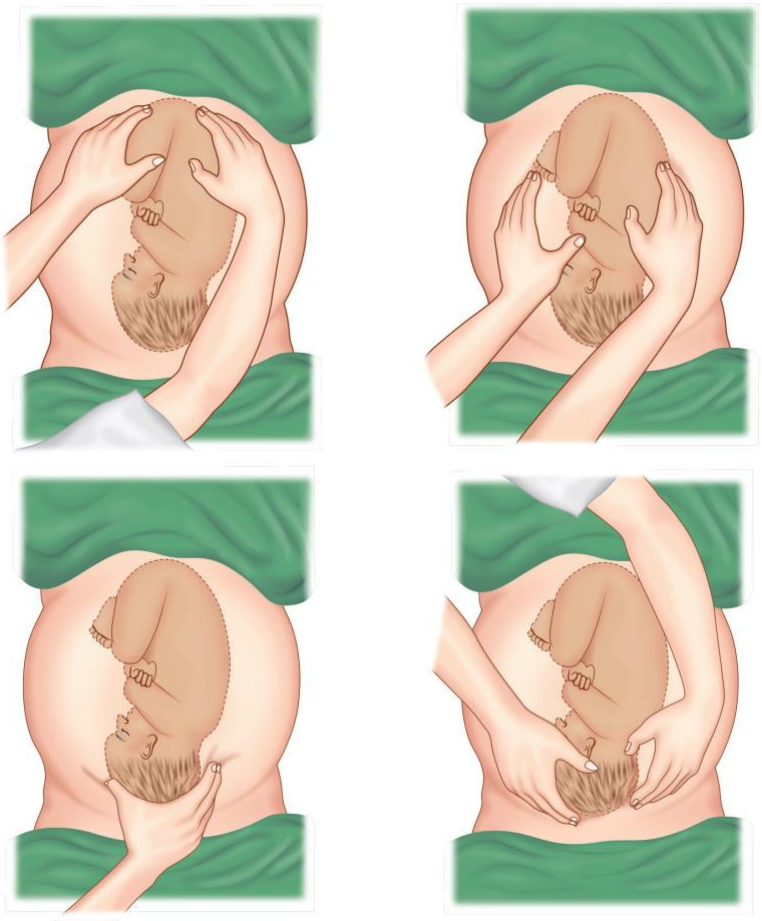
Lateral or umbilical grip (Second Leopold): The palpation is done facing the patient's face. The hands are to be placed flat on either side of the umbilicus to palpate one after the other, the sides and front of the uterus to find out the position of the back, limbs and the anterior shoulder. The back is suggested by smooth curved and resistant feel. The 'limb side' is comparatively empty and there are small knob like irregular parts. After the identification of the back, it is essential to note its position whether placed anteriorly or towards the flank or placed transversely. Similarly, the disposition of the small parts, whether placed to one side or placed anteriorly occupying both the sides, is to be noted. The position of the anterior shoulder is to be sought for. It forms a well marked prominence in the lower part of the uterus above the head. It may be placed near the midline or well away from the midline.

Pawlik's grip (Third Leopold): The examination is done facing towards the patient's face. The overstretched thumb and four fingers of the right hand are placed over the lower pole of the uterus keeping the ulnar border of the palm on the upper border of the symphysis pubis. When the fingers and the thumb are approximated, the presenting part is grasped distinctly (if not engaged) and also the mobility from side to side is tested. In transverse lie, Pawlik's grip is empty.

Pelvic grip (Fourth Leopold): The examination is done facing the patient's feet. Four fingers of both the hands are placed on either side of the midline in the lower pole of the uterus and parallel to the inguinal ligament. The fingers are pressed downwards and backwards in a manner of approximation of finger tips to palpate the part occupying the lower pole of the uterus (presentation). If it is head, the characteristics to note are: (1) precise presenting area (2) attitude and (3) engagement.

To ascertain the presenting part, the greater mass of the head (cephalic prominence) is carefully palpated and its relation to the limbs and back is noted. The attitude of the head is inferred by noting the relative position of the sincipital and occipital poles. The engagement is ascertained noting the presence or absence of the sincipital and occipital poles or whether there is convergence or divergence of the finger tips during palpation. This pelvic grip using both the hands is favored as it is most comfortable for the woman and gives most information.

A B



C D

Fig.3: Obstetric grips (Leopold maneuvers): (A) Fundal grip (first Leopold); (B) Lateral grip (second Leopold); (C) Pawlik's grip (third Leopold); (D) Pelvic grip (fourth Leopold)

❖ Practical skill
Auscultation Auscultation of distinct fetal heart sounds (FHS) not only helps in the diagnosis of a live baby but its location of maximum intensity can resolve doubt about the presentation of the fetus. The fetal heart sounds are best audible through the back (left scapular region) in vertex and breech presentation where the convex portion of the back is in contact with the uterine wall. However, in face presentation, the heart sounds are heard through the fetal chest. As a rule, the maximum intensity of the FHS is below the umbilicus in cephalic presentation and around the umbilicus in breech. In different positions of the vertex, the location of the FHS depends on the position of the back and the degree of descent of the head. In occipitoanterior position, the FHS is located in the middle of the spinoumbilical line of the same side. In occipitolateral position, it is heard more laterally and in occipitoposterior position, well back towards the mother's flank on the same side.

INTERNAL EXAMINATION: The diagnosis of the presentation and position of the fetus may not be accurate by internal examination during pregnancy when the cervix remains closed. However, during labor, accurate information may be obtained by palpation of the sagittal suture and fontanelles through the open cervix. Stress for strict aseptic precautions during vaginal examination needs no emphasis.
ULTRASONOGRAPHY: The diagnosis of the lie, presentation and position may be difficult in the presence of marked obesity, irritable uterus, excessive liquor amnii and deeply engaged head, especially in primigravidae. Ultrasonography can locate the head and the body.

❖ Practical skill

Vaginal examination

Time: Vaginal examination is done in the antenatal clinic when the patient attends the clinic for the first time before 12 weeks. It is done (1) to diagnose the pregnancy (2) to corroborate the size of the uterus with the period of amenorrhea and (3) to exclude any pelvic pathology. Internal examination is, however, omitted in cases with previous history of abortion, occasional vaginal bleeding in present pregnancy. Ultrasound examination has replaced routine internal examination. It is more informative and without any known adverse effect.

Procedures: Vaginal examination is done in the antenatal clinic. The patient must empty her bladder
prior to examination and is placed in the dorsal position with the thighs flexed along with the buttocks placed on the footend of the table. Hands are washed with soap and a sterile glove is put on the examining hand (usually right).

Steps:

Inspection: By separating the labia—using the left two fingers (thumb and index), the character of the vaginal discharge, if any, is noted. Presence of cystocele or uterine prolapse or rectocele is to be elicited.

Speculum examination: This should be done prior to bimanual examination especially when the smear for exfoliative cytology or vaginal swab is to be taken. A bivalve speculum is used. The cervix and the vault of the vagina are inspected with the help of good light source placed behind. Cervical smear for exfoliative cytology or a vaginal swab from the upper vagina, in presence of discharge, may be taken.

Bimanual: Two fingers (index and middle) of the right hand are introduced deep into the vagina while separating the labia by left hand. The left hand is now placed suprapubically. Gentle and systematic examination are to be done to note:

(1) Cervix: Consistency, direction and any pathology.

(2) Uterus: Size, shape, position and consistency. Early pregnancy is the best time to correlate accurately uterine size and duration of gestation.

(3) Adnexae: Any mass felt through the fornix. If the introitus is narrow, one finger may be introduced for examination. No attempt should be made to assess the pelvis at this stage.

3.3. Requirements for the results of work.

- to take a medical history (general and specific, such as menstrual, obstetrics) and record information in a standardized proforma (antenatal record book),
- to perform general examination, assess the health status of the mother,
- to determine signs and symptoms of pregnancy, assess their diagnostic value,
- to calculate gestational age and due date of labor,
- to perform abdominal inspection and asses abdominal enlargement, pregnancy marks-linea nigra, striae, surgical scars (midline or suprapubic),
- to perform abdominal palpation and note the height of the fundus above the symphysis and girth of abdomen at the level of umbilicus, calculate estimated fetal weight,
- to identify fetal lie, presentation, position, growth pattern, volume of liquor and also any abnormality, detect whether the presenting part is engaged or not,
- to perform auscultation of fetal heart sounds,
- to assess complaints of pregnant women, explain the origins of minor ailments in pregnancy, give advice how to reduce the problem,
- to asses results of clinical general and obstetrical examinations, lab tests in normal pregnancy,
- to develop a plan of prenatal care in normal pregnancy,
- to counsel the women about signs and symptoms to expect during a normal pregnancy, the importance of regular checkup, give judicious advice regarding diet, drugs and hygiene.

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

Tests

1. The softening of the cervical isthmus that occurs early in gestation is called

(A) Hegar’s sign
(B) Chadwick’s sign
(C) Braxton Hick’s contraction
(D) Von Fernwald's sign
(E) Cullen’s sign

2. Which of the following cervical changes may be found more frequently in the pregnant than in the nonpregnant state?

(A) atypical glandular hyperplasia
(B) dysplasia
(C) metaplasia
(D) neoplasia
(E) vaginal adenosis

3. Which of the following is/are characteristic of the uterine muscle?

(A) surrounds blood vessels
(B) forms interlacing bundles
(C) hypertrophy during gestation
(D) is nonstriated
(E) all of the above

4. At the 5th lunar month, the uterus in a normal pregnancy is
(A) not palpable abdominally
(B) palpable just over the symphysis pubis
(C) palpable at the level of the umbilicus
(D) palpable midway between the umbilicus and the sternum
(E) palpable at the level of the xiphoid

5. A soft, blowing sound that is synchronous with the maternal pulse and heard over the uterus is
(A) borborygmus
(B) uterine souffle
(C) umbilical cord souffle
(D) fetal movement
(E) maternal femoral vessel bruit

6. The hemostatic mechanism most important in combating postpartum hemorrhage is
(A) increased blood clotting factors in pregnancy
(B) intramyometrial vascular coagulation due to vasoconstriction
(C) contraction of interlacing uterine muscle bundles
(D) markedly decreased blood pressure in the uterine venules
(E) fibrinolysis inhibition

7. Which of the following situations generally applies to the uterus during pregnancy?
(A) rotates to the right because of the sacral promontory
(B) exhibits no rotation
(C) rotates to the right because of the rectosigmoid
(D) rotates to the left because of the sacral promontory
(E) rotates to the left because of the sigmoid colon

8. During pregnancy, the total intrauterine volume at term averages about
(A) 0,5 L
(B) 1,0 L
(C) 2,0 L
(D) 5,0 L
(E) 10,0L

9. The uterine muscle mass enlarges during pregnancy because of

(A) atypical hyperplasia
(B) anaplasia
(C) hypertrophy and hyperplasia
(D) involution
(E) none of the above; the total muscle mass actually does not change

10. During pregnancy, several ovarian changes can occur which are normal but can be disturbing if not understood. These changes include all of the following EXCEPT
    (A) luteoma of pregnancy
    (B) decidual reaction on the ovarian surface
    (C) corpus luteum of pregnancy
    (D) dermoid cysts
    (E) none of the above

Answer key

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

Case

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.

PRACTICAL LESSON No. 5

Topic: "Early gestosis. Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia. HELLP syndrome.

Purpose: To acquaint students with higher education with obstetric complications: early gestosis, hypertensive disorders during pregnancy, preeclampsia, eclampsia, rare forms of gestosis. Learn how to diagnose and provide emergency care for severe preeclampsia and eclampsia.

Basic concepts: Early gestosis, Hypertensive disorders during the disease Hypertensive disorders during the disease Hypertensive disorders during the disease: classification, clinic, diagnosis, treatment. Hypertensive disorders during pregnancy. Preeclampsia: pathogenesis, classification, diagnosis, clinic, treatment, tactics, prevention. Eclampsia: clinic, diagnosis, complications, emergency care, management tactics. Rare forms of gestosis.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

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

Knowledge requirements:

- communication and clinical patient examination skills;
- the ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to determine the necessary mode of work and rest in the treatment and prevention of diseases;
- the ability to determine the nature of nutrition in the treatment and prevention of diseases;
- the ability to determine the principles and nature of treatment and prevention of diseases;
- the ability to diagnose emergency conditions;

- the ability to determine tactics and provide emergency medical assistance;
- the ability to perform medical manipulations.

List of didactic units:

- early gestoses: classification, clinic, diagnosis, treatment;
- hypertensive disorders during pregnancy: definition, classification, treatment;
- preeclampsia: pathogenesis, classification, diagnosis, clinic, treatment, tactics, prevention;
- eclampsia: clinic, diagnosis, complications, emergency care, management tactics;
- HELLP syndrome: clinic, diagnosis, complications, management tactics.

Typical situational tasks:

1. A 23-year-old patient with a pregnancy of 7-8 weeks was admitted to the gynecological hospital with complaints of constant nausea, vomiting 15-20 times a day, lack of appetite, loss of consciousness, weight loss, temperature rise to 37.5 ° C . Ectericity of the sclera and skin, hypotension, tachycardia up to 120 bpm, the smell of acetone from the mouth, decreased diuresis, acetonuria, cylindruria, hyperbilirubinemia are determined. Last menstruation - more than 2 months ago. The therapy carried out for 4 days did not improve the condition of the pregnant woman.
Task: Name the most rational tactics for further management of a pregnant woman.
Answer: Termination of pregnancy.

2. A 28-year-old primiparous woman arrived with intensive labor. Complaints of headache, impaired vision, retardation. Blood pressure - 180/110 mm Hg. Art. Pronounced swelling of the legs, front abdominal wall. The fetal heartbeat is clear, rhythmic, 160 beats. per minute On internal examination: the opening of the cervix is complete, the fetal bladder is absent. The head of the fetus in the cavity of the small pelvis.
Task: What are the management tactics of this patient ?
Answer: Treatment of severe preeclampsia, urgent delivery with the help of cavity obstetric forceps.

3. A pregnant woman, 18 years old, 37 weeks pregnant , was admitted to the maternity hospital with complaints of constant headache, visual impairment, flickering before the eyes, pain in the epigastric area, generalized edema. Blood pressure 170/130 mm Hg. st., protein in urine 3 g/l. The 1st-degree ZRP is determined.
Task: What are the management tactics of this patient ?
Answer: Hospitalization for VRIT, magnesium therapy, antihypertensive therapy, infusion therapy according to indications. Delivery within 24 hours after stabilization of hemodynamics.

4. A 40-year-old repeatedly pregnant woman was brought to the maternity ward at 34 weeks of gestation with complaints of headache, nausea, dizziness. She has been suffering from hypertension since the age of 37, was treated in a hospital and on an outpatient basis. Blood pressure was elevated throughout the pregnancy. Upon admission: blood pressure - 160/100 mm Hg. Art. on both hands, protein in urine - 3.0 g/l.
Task: Establish the correct diagnosis and define this pathology.
Answer: Combined preeclampsia is the appearance of proteinuria after 20 weeks of pregnancy against the background of chronic hypertension.

Typical test tasks:
1. A 25-year-old pregnant woman was taken to the maternity hospital. According to relatives, there were three seizure attacks at home. She did not suffer from epilepsy. Objectively: the pregnant woman is unconscious, blood pressure on the right and left arms is 190/120 mm Hg. art., swelling on the lower and upper extremities. The gestation period is 35 weeks. Your diagnosis ?
A. Eclampsia
B. In Epilepsy
C. S.Diabetic coma
D. D.Acute renal failure
E. Preeclampsia

2. A 35-year-old pregnant woman with a gestational age of 34-35 weeks complains of a headache. Blood pressure -160/100 mm Hg. Art. Urine analysis is normal. There are no swellings. He has been suffering from high blood pressure since he was 16 years old. Your diagnosis?
A. Astheno-neurotic syndrome
B. Chronic hypertension
C. Gestational hypertension
D. Moderate preeclampsia
E. Severe preeclampsia

3. A pregnant woman with a gestational age of 37 weeks has generalized edema, blood pressure - 170/120 mm Hg. Art., proteinuria - 4 g/l. Hypotrophy of the fetus was detected during ultrasound. What pathology causes such a clinical picture?
A. Astheno-neurotic syndrome
B. Chronic hypertension
C. Gestational hypertension
D. Moderate preeclampsia
E. Severe preeclampsia

4. A 28-year-old primiparous woman entered labor. Complaints of headache, visual disturbances. Blood pressure - 180\110 mm Hg. Art., significant swelling of the lower limbs, anterior abdominal wall. The fetal heartbeat is clear, rhythmic - 148

beats/min. During the internal obstetric examination: the opening of the cervix is complete, the head of the fetus is on the pelvic floor. Choose the delivery tactics?

A. Conservative delivery
B. Stimulation of labor activity
C. Obstetric forceps application operation
D. Cesarean section
E. Fertilizing operation

5. A 9-10 week pregnant woman complains of vomiting up to 15 times a day, significant salivation. In 2 weeks, the body weight decreased by 5 kg. Blood pressure - 100\60 mm Hg. st., pulse 110 beats/min. The skin is dry, pale. The pregnant woman is mentally unstable. Diuresis is reduced. Your diagnosis?

A. Vomiting of pregnant women of mild severity
B. Vomiting of pregnant women of moderate severity
C. Excessive vomiting of pregnant women
D. Food poisoning
E. Cholecystopancreatitis

Correct answers: 1 - A; 2 – B; 3 - IS; 4 – C; 5 - S.

2. Discussion of theoretical issues.

Question:

- Early gestosis: definition, etiology and pathogenesis, classification, clinical manifestations, diagnosis, principles of treatment.
- Hypertensive disorders during pregnancy: definition, clinical support of pregnant women.
- Preeclampsia: definition, new and potential risk factors of preeclampsia, pathogenesis, classification, clinical symptoms and features of clinical care of patients depending on the severity of preeclampsia.
- Algorithm of action of medical personnel in case of severe preeclampsia.
- Eclampsia: definition, clinical manifestations, management algorithm and prescriptions for eclampsia.
- Monitoring the condition of a pregnant woman during magnesium sulfate therapy.
- HELLP syndrome: definition, clinical manifestations, methods of diagnosis, differential diagnosis, modern principles of treatment.

3. Formation of professional abilities and skills.

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

Interactive task:

the students into 3 subgroups. We work in women's consultation offices with pregnant patients at different stages of pregnancy, we give tasks:

Tasks for subgroups

And a subgroup. Collect the obstetric and gynecological and somatic history of the pregnant woman, determine the list of necessary clinical, laboratory and instrumental studies, establish the preliminary and clinical diagnosis of the disease

II subgroup. Draw up a treatment plan for the woman and determine management tactics.
III subgroup. Evaluate the correctness of the answers of subgroups I and II, if necessary, introduce corrections.

Unusual situational tasks:
1. Pregnant N, 29 years old, came to the department of pathology of pregnant women at 34-35 weeks of gestation on the referral of a family doctor. This pregnancy is the first. Has been registered since 10 weeks of pregnancy. From 29 weeks, he noted an increase in blood pressure to 130/90 - 140/90 mm Hg. Art. Associated pathology - chronic pyelonephritis with remission for 5 years. There are no complaints. Blood pressure 150/100 mm Hg. Art. on both hands. The uterus is in normal tone, the height of the bottom of the uterus is 34 cm above the womb, the circumference of the abdomen is 94 cm. The fetal head is present, palpable above the entrance to the pelvis. The fetal heartbeat is clear, rhythmic, and can be heard on the left below the navel. Swelling of the lower legs and feet. Urine protein - 0.9 g/l.
Task:
1. Make a diagnosis.
2. What additional research methods are necessary to confirm the diagnosis ? 3. What are the medical tactics in this case ?
Answer:
Pregnancy I, 34 - 35 weeks. The position of the fetus is longitudinal, position I, front view, main presentation. Moderate preeclampsia. Chronic pyelonephritis in Art. remission
Additional examination is required: general blood test (hematocrit, platelets), coagulogram (fibrinogen, AChT, PTI), biochemical blood test (total protein, bilirubin, AALT, AST, creatinine, urea, plasma uric acid, electrolytes (potassium, sodium)) ; general urinalysis, determination of daily proteinuria; ECG, consultation of a therapist, neurologist, ophthalmologist; monitoring of the condition of the fetus (ultrasound to assess the growth of the fetus and the volume of amniotic fluid, dopplerometry of the umbilical artery, BPP, CTG).
Hospitalization, rest in a lying position on the left side, a normal diet with increased protein intake. Blood pressure should be measured 4 times a day. Creatinine, electrolytes, ZAC (platelets), transaminases, bilirubin (2-3 times a week). Criteria for starting AGT: BP ≥ 150/100 mm Hg. Art., in the presence of additional signs of PE severity, the start of hypotensive therapy at BP ≥ 140/90 mm Hg. Art. Initial therapy may begin with one of the AHT drugs: methyldopa, beta-adrenergic blocker, or nifedipine. Target blood pressure level: cAT130-150 mm Hg. st., dAT 80-95 mm Hg. If the patient's condition is stable - conservative delivery after 37 weeks of pregnancy. If the condition worsens - immediate delivery.

2. A woman giving birth for the first time, 34 years old, was admitted to the maternity ward with complaints of headache, dizziness, flickering of "flies" in front of her eyes, swelling of her legs and hands.

During the examination: the general condition is difficult, retarded. Blood pressure 170/110 mm Hg. Art. on the left hand and 165/100 mm Hg. Art. on the right The uterus corresponds to 36 - 37 weeks of pregnancy, which is consistent with the expected term. The fetal heartbeat is clear, rhythmic, and can be heard on the left below the navel. Swelling of the feet, legs, hands, front abdominal wall.
Internal obstetric examination: the vaginal part of the cervix is shortened to 1.5 cm, softened; the cervical canal passes a finger behind the inner eye, the tissues in the area of the inner eye are compacted. Amniotic sac intact. The head of the fetus is placed, pressed against the entrance to the pelvis. Cape Cross cannot be reached.
Additional examination data: CTG: heart rate 152 bpm, amplitude of oscillations > 10 bpm, frequency of instantaneous oscillations > 6 per min., accelerations 2, decelerations absent. Fetal movements - more than 3, NST is reactive.
Ultrasound: Pregnancy 36 weeks, 3 days (according to menstruation). The fruit is one in the main presentation. Heart rate - +, movements - 3, breathing movements > 30 sec. The size of the fetus corresponds to 34 - 35 weeks of pregnancy. Echostructures of the lungs are mature. Placenta on the back wall, II degree of maturity. The amount of water is the norm. There are no abnormalities in fetal development.
General analysis of urine - protein 2.1 g/l. Daily proteinuria - 6.5 g/day.
Task:
1. Make a diagnosis.
2. How to conduct dynamic monitoring of a pregnant woman with severe preeclampsia ?
3. What are the medical tactics in this case ?
Answer:
1. Pregnancy I, 35 - 36 weeks. The position of the fetus is longitudinal, position I, front view, main presentation. Severe preeclampsia. ZRP
2. General blood analysis (hematocrit, platelets), coagulogram (fibrinogen, AChT, PTI), biochemical blood analysis (total protein, bilirubin, AALT, AST, creatinine, urea, plasma uric acid, electrolytes (potassium, sodium)); general urinalysis.
Blood pressure should be measured at least 4 times a day, or depending on the clinical situation.
Creatinine, electrolytes, ZAC (platelets), coagulogram, transaminases, bilirubin (daily).
3. Hospitalization in the intensive care unit of an institution that provides tertiary (highly specialized) medical care.
Start anticonvulsant therapy (magnesium sulfate).
Initial antihypertensive therapy should begin with nifedipine (drops or chewable tablets), parenteral urapidil, or parenteral beta-blockers. With high blood pressure, urapidil is preferred. In the presence of resistant hypertension, it is possible to use clonidine or glyceryl trinitrate (nitroglycerin).
The target blood pressure level should not be lower than 150/100 mm Hg.
Delivery within 24 hours after stabilization of the hemodynamic state.

Non-typical test tasks:

1. Pregnant S, 38 weeks pregnant, complained of a headache that had been bothering her for 4 days during another visit to the hospital. When measuring blood pressure, an increase to 160/100 mmHg was detected. Objectively: swelling on the legs and hands. What should NOT be the tactics of the GP doctor ?

a. Send to the inpatient maternity hospital.
b. Determine daily proteinuria.
c. Monitor blood pressure after 4 hours.
d. Prescribe treatment on an outpatient basis.
e. Assess the condition of the fetus.

2. Pregnant S., 35 weeks pregnant, developed a headache. In the anamnesis - hypertensive disease of the II century. during 6 years. Objectively: blood pressure 180/130 mm Hg, edema on the legs, hands and face, the height of the uterine fundus does not correspond to the term of pregnancy. In the urine analysis, protein is 3 g/l. What should NOT be administered to provide emergency care ?

a. Furosemide.
b. Nifedipine.
c. Magnesium sulfate.
d. Clonidine.
e. Urapidil

3. At the 32nd week of pregnancy, M. developed a severe headache, impaired vision, and pain in the epigastrium. She was not registered, was not treated. Pronounced swelling of the body, face bothers for 2 weeks. Blood pressure 190/100 mm Hg. Facial muscle twitching, convulsions appeared. "Ambulance" was called. Where to hospitalize a pregnant woman ?

f. In the maternity hospital.
g. In the neurological department.
h. In the cardiology department.
i. In the nephrology department.
j. In the infectious department.

4. Pregnant M. at 37 weeks of pregnancy, complains of difficulty breathing through the nose, general swelling of the body during the week. Blood pressure 190/120 mm Hg. In the urine - protein 3 g/l. She refused hospitalization. Suddenly, she had twitching of the facial muscles, which turned into tonic and clonic convulsions. She regained consciousness after 3 minutes. What is the diagnosis of a pregnant woman ?

k. Eclampsia.
l. Eclamptic coma.
m. Epileptic attack.
n. Severe preeclampsia.
o. Eclamptic status.

5. The therapist was called to a woman who was 37 weeks pregnant, who complained of headaches, swelling, difficulty breathing through the nose, and "flickering of flies" in front of her eyes. Objectively: generalized edema. Blood pressure 190/110 mm Hg, protein in urine when it is boiled. What is the diagnosis of a pregnant woman ?

p. Moderate preeclampsia.
q. Severe preeclampsia.
r. Chronic arterial hypertension.
s. Gestational hypertension.
t. Eclampsia.

Correct answers: 1 - D , 2 - A, 3 - A, 4 - Ah, 5 – V

3.2. Recommendations (instructions) for the implementations of tasks.

ACTIONS OF MEDICAL PERSONNEL IN PRE-ECLAMPSIA/ECLAMPSIA

<table>
<tr><td>1.</td><td colspan="3">Measure blood pressure, record the time of application</td><td>Time, min</td></tr>
<tr><td rowspan="2">2.</td><td colspan="3">Ensure the position of the woman lying down with blood pressure ≥ 150/90 mm Hg. Art.</td><td></td></tr>
<tr><td colspan="2">On the left side at an angle of at least 15 - 30° or manual displacement of the uterus to the left side</td><td>After a seizure - pose survival and/or recovery</td><td></td></tr>
<tr><td>3 .</td><td colspan="3">Call on-duty doctors for blood pressure ≥ 150/90 mm Hg. and/or seizures ("panic button", telephone, staff)</td><td></td></tr>
<tr><td>4.</td><td colspan="3">Notify the hospital administration (the senior doctor on duty, or the district obstetrician-gynecologist, or the deputy chief physician for medical assistance)</td><td></td></tr>
<tr><td>5.</td><td colspan="3">Gg</td><td></td></tr>
<tr><td>6.</td><td colspan="3">Blood sampling from a peripheral vein for biochemical analysis (urea, creatinine, bilirubin, total protein, ALT), coagulogram (fibrinogen, AChT, PTI), Rhesus factor (if absent), bedside test.</td><td></td></tr>
<tr><td rowspan="4">7.</td><td colspan="3">Magnesium sulfate - seizure prevention and/or seizure control*:</td><td></td></tr>
<tr><td colspan="2">Bolus (loading dose) + Maintenance regimen:</td><td>Dose correction:</td><td></td></tr>
<tr><td rowspan="2">16 ml of a 25% solution of magnesium sulfate (4 g) + 34 ml of a 0.9% solution of sodium chloride - with BP>160/110 or clinical signs of severe preeclampsia (headache, pain in the epigastrium, vomiting, visual disturbances) - for 10-</td><td rowspan="2">30 ml of 25% pH magnesium sulfate (7.5 g) + 220 ml of 0.9% sodium chloride solution: <u>1 g/hour (= 10 drops/min = 0.5 ml/min)</u> (24 hours after delivery or the last attack) Max. daily dose – 32 g of magnesium sulfate Do not stop administration of magnesium</td><td>ChD > 16; amount of urine > 25 ml/h. Continue magnesium sulfate infusion</td><td rowspan="2"></td></tr>
<tr><td>ChD > 16; the amount of urine is 10–25 ml/h. Reduce the dose of magnesium sulfate in 2 years.</td></tr>
</table>

	15 min. - with convulsions - in 5 minutes. ** - in case of repeated convulsions – ½ dose (2 g) in 5 min.***	sulfate during delivery!!!	ChD < 16; the amount of urine < 10 ml / hour. Stop magnesium sulfate infusion	
	In case of an overdose of magnesium sulfate, stop the administration of magnesium sulfate and intravenously introduce 10 ml of 10% solution of calcium gluconate in 10 minutes!!!			
8.	**Antihypertensive therapy:**			
	Blood pressure ≥ 150/90 mm Hg.	Blood pressure ≥ 180/100-110 mm Hg.		
	Nifedipine 1 tab. (10 mg) to chew; repeat after 20 minutes 20 mg if inadequate response (max.: 100 mg/day) or 3–5 drops under the tongue; repeat after 5 min., if the response is inadequate (max.: 10–15 drops/day). Methyldopa 250-500 mg 3-4 times a day. After childbirth - ACE inhibitors	**Urapidil** Bolus: 2 - 5 ml (10 - 25 mg) IV. Do not breed !!! You can repeat the bolus dose two more times with an interval of 2–5 minutes until BP reaches 160–150/100–90. Maintenance regimen: 20 ml of urapidil + 200 ml of 0.9% sodium chloride solution (ratio 1:10) or for a perfusor – 4 ml urapidil + 40 ml of 0.9% sodium chloride solution 6-9 mg/h. (= 7 drops/min. = 0.33 ml/min.) to maintain BP 150/100-90 mm Hg. Art.		
9.	**Call a laboratory technician CITO survey!** ZAC (hemoglobin, platelets). Catheterization of the urinary bladder (after sedation of the woman) - ZAS (protein) **Call consulting doctors** (therapist, neurologist, ophthalmologist) - if necessary!			
10.	**Monitoring of the woman's condition** (data are recorded in the observation sheet) + **Monitoring of the heart rate of the fetus** every 15 minutes. OR continuous CTG			
	Respiratory tracts	Assessment of blood pressure and heart rate	Fluid balance control	Monitoring when magnesium sulfate is administered:
	In the absence of breathing, assess patency, clear the airways, and when breathing resumes, supply oxygen through a mask or cannula at 4-6 l/min. In the absence of breathing - ventilator, O2 saturation, lung auscultation	**With eclampsia or with blood pressure ≥ 160/110** - every 15 minutes. When blood pressure is stabilized - every 4 hours.	Fluid injection 60 - 80 ml/h. Control of diuresis and fluid intake Control of signs of pulmonary edema - auscultation, X-ray of the lungs. With diuresis ≤100 ml in 3-4 hours. – catheterization of the central vein (under ultrasound control) + CVT monitoring	Every 30 min. – knee reflexes, BH Hourly – blood pressure, heart rate, diuresis, temperature, neurological status, O2 saturation (not lower than 95%) Every 24 hours - ECG
11.	**Resolve the issue of childbirth** after stabilization of the pregnant woman's condition: do not use Methylerhometin! Do not use ketamine!!!*			

Diazepam is indicated for: 1) convulsions that developed before 20 weeks of pregnancy; 2) magnesium sulfate intoxication. ** If there was previous therapy with magnesium sulfate - a bolus dose of 2 g in 5 minutes. *** An alternative to a

repeated bolus dose of magnesium sulfate in case of repeated seizures is diazepam IV 2 ml (10 mg), over 2 minutes in 10 ml of 0.9% sodium chloride solution. If the convulsions have resumed or have not stopped, repeat 2 ml (10 mg). In case of exceeding the dose of 30 mg in 1 hour. depression or respiratory arrest may occur! **The maximum dose is 100 mg in 24 hours!**

3.3. Requirements for work results.

- To draw up a plan for the necessary clinical, laboratory and instrumental studies for early and late gestosis;
- Evaluate the results of clinical, laboratory and instrumental studies in early and late gestosis;
- Establish a preliminary and clinical diagnosis of the disease;
- Determine the nature of nutrition in the treatment of early and late gestosis;
- Prescribe treatment for early and late gestosis depending on the degree of severity;
- Diagnose eclampsia and HELLP syndrome;
- Provide emergency medical care for severe preeclampsia and eclampsia;

3.4. Control materials for the final stage of the lesson: problems, tasks, tests, etc
Unusual situational tasks:

1. Repeat-pregnant M., 30 years old, came to the maternity ward with complaints of headache, pain in the epigastric area, visual impairment, swelling of the lower extremities, anterior abdominal wall. The gestation period is 38 weeks.

Menstruation from the age of 12, established immediately for 4-5 days, after 28 days, in moderate quantity, painless. Sex life since 22 years.

The first pregnancy ended with a medical abortion at the woman's request at 10 weeks of pregnancy. This is the second pregnancy. The first half of the pregnancy was uneventful. In the last 3 weeks, swelling appeared on the legs. She did not attend the consultation.

General condition of medium severity, excited, blood pressure 180/120, 175/115 mm Hg. art., swelling of the lower limbs, front abdominal wall. The position of the fetus is longitudinal, the head is in front, pressed against the entrance to the small pelvis. The fetal heartbeat is muffled, rhythmic, 150 bpm on the right, below the navel. During the external obstetric examination, the doctor noticed fibrillar twitching of facial muscles and upper limbs.

Blood analysis: Hb - 126 g/l; Ht - 41%, platelets 155 × 10^{9} /l. Urine analysis: proteinuria 4.5 g/l, cylindruria.

Task:

1. Make a diagnosis.
2. What are the medical tactics in this case ?
3. With what is it necessary to carry out differential diagnosis for this pathology?
4. How long should magnesium therapy continue after childbirth?

Answer:

1.Pregnancy II, 38 weeks. Longitudinal position, main presentation. II position, front view. Eclampsia.

2.The doctor's tactics: record the time and call colleagues for help; to protect the woman from damage by holding her during a seizure; prepare equipment (air lines, suction, mask, Ambu bag, oxygen) and magnesium sulfate for bolus administration. After a seizure, if necessary, clean the oral cavity and larynx with an electric aspirator. Carry out auscultation of the lungs. Place the woman on a flat surface in a position on her left side or with the uterus shifted to the left by 15-20°. Provide oxygen (100% oxygen at a rate of 8-10 L per minute), assess breathing after a seizure, pulse oximetry, lung auscultation to rule out aspiration or pulmonary edema. If prolonged apnea develops, immediately start forced ventilation with a mask with 100% oxygen supply. If convulsions recur or the patient remains in a coma, muscle relaxants (2 mg/kg suxamethonium) are administered and the patient is transferred to artificial lung ventilation (VLA). After the attack, immediately start therapy with magnesium sulfate (inject a bolus of 4 g (16 ml of 25% saline + 34 ml of 0.9% sodium chloride solution) for 5 minutes IV, then continue at 1–2 g/h). If the attack is repeated, another 2 g (8 ml of 25% solution) is administered intravenously for 3-5 minutes, do not use diazepam as an alternative to magnesium sulfate. Instead of an additional bolus of magnesium sulfate, you can use diazepam 5-10 mg IV (2-5 mg per minute, maximum 10 mg), OR midazolam 5-10 mg IV for 2-5 minutes, OR clonazepam 1-2 mg IV within 2–5 min. Administer AGT (nifedipine (in drops or chewable tablets), parenteral urapidil or parenteral beta-adrenoblockers) Aim to lower blood pressure to 130–150 mm Hg. and blood pressure up to 80–90 mm Hg. After a seizure, immediate delivery by caesarean section is indicated.
3. Differential diagnosis is carried out with epilepsy, acute disturbance of cerebral blood circulation, encephalitis, meningitis, rupture of an aneurysm of cerebral vessels, hysteria, uremic coma.
4. Magnesium therapy should last at least 48 hours after delivery.

Test tasks STEP-2:

1**. (2019)** A 26-year-old pregnant woman was brought to the emergency department at the 36th week of pregnancy with complaints of an intense headache in the frontal area. During physical examination: blood pressure 170/90 mm Hg. Art., pulse 85/min., respiratory rate 15/min., temperature 36.9 *°C ,* edema of the extremities. Fetal heartbeat 159/min. During the examination, the woman develops an attack of generalized tonic-clonic convulsions. What drug should the doctor introduce first ?
A. Magnesium sulfate *
B. Diazepam
C. Phenytoin
D. Lamotrigine
E. Sodium valproate

2. **(2019)** A 27-year-old woman in the 8th week of pregnancy complains to the doctor that for the past 8 days she has been experiencing prolonged nausea and vomiting after almost all meals. Over the past week, the patient has lost 3 kg of weight. Now, with a height of 160 cm, a woman weighs 46 kg. Pulse 100/min., blood pressure 90/50 mm Hg. Art. Dryness of the mucous membranes, decreased

skin turgor, and asthenic physique are noted during the examination. Gynecological examination revealed the size of the uterus corresponding to the 8th week of pregnancy, without pathological changes. An ultrasound revealed a pregnancy with one fetus. Hemoglobin concentration is 150 g/l. In the general analysis of urine, ketone bodies (+++) were detected. Which of the following is the most appropriate next step in the patient's management ?

A. Intravenous administration *(3*- adrenoblockers and parenteral nutrition
B. Oral administration of antiemetics and anticholinergic drugs
C. Endoscopic examination and gastric lavage
D. Intravenous infusion therapy and the appointment of antiemetics *
E. Bed rest and frequent feeding in small portions

3. **(2015)** Pregnant with a gestation period of 7 weeks she was admitted to the maternity hospital in a serious condition with complaints of vomiting up to 20 times a day, weakness, dizziness, immediately before meals i. During pregnancy, the mass decreased by 10 kg . Ps 105/min., rhythmic, BP 90/60 mm Hg, body temperature 37.9 ° C. *In* blood : Hb- 154 g/l, in urine acetone (++++). The complex therapy being carried out is ineffective. What obstetric tactics ?

A. Termination of pregnancy *
B. Continue conservative therapy of preeclampsia
C. Apply plasmapheresis in the treatment of the patient
D. Transfer the patient to the gastroenterology department
E. Continue treatment for 1 week, then resolve the issue of the possibility of prolonging pregnancy

4. **(2014)** Birth of 23 years, II period of timely gave birth An attack of eclampsia began. During internal examination : the head of the fetus fills the entire sacral cavity, reaching the pelvic floor, the arrow-shaped seam is straight, the small head is facing the pubis. What are the tactics of childbirth at this stage i?

A. Application of obstetric forceps *
B. Cesarean section
C. Conservative management of childbirth with subsequent episiotomy
D. Intensive therapy of preeclampsia with continuation of conservative management of childbirth
E. Vacuum extraction of the fetus

PRACTICAL CLASS №6

Topic: "Pharmacotherapy during pregnancy for extragenital diseases"

Purpose: To acquaint students with higher education with the development of scientific views on perinatal protection of the fetus, data on the physiological course of pregnancy, to learn the main issues of pharmacotherapy, pharmacokinetics and pharmacodynamics of drugs during pregnancy.

Basic concepts: In the process of teaching the material, the ability to diagnose the early stages of pregnancy, observe the physiological course of pregnancy and the

properties of using pharmacological drugs for various forms of disorders is formed.
Equipment: Professional algorithms, structural and logical schemes, tables, models, video materials, results of laboratory and instrumental studies, situational problems, patients, case histories.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).
Requirements for the theoretical readiness of students to perform practical classes.
Knowledge requirements:

- Have the skills of communication and clinical examination of the patient;
- Ability to set clinical and preliminary diagnosis of the disease ;
- Ability to diagnose emergency conditions ;
- The ability to determine the principles of treatment of diseases, the necessary mode of work and rest, the nature of nutrition ;
- Be able to determine the principles of active management of the III period of childbirth, methods of analgesia during childbirth;
- Ways of harmful effects of medicinal substances on the fetus;
- Critical stages of development of the "mother-placenta-fetus" system;
- Degrees of teratogenicity of medicinal substances;
- Groups of factors affecting the placental barrier;
- Ability to use their pharmacotherapeutic knowledge;
- Ability to perform medical manipulations;
- Ability to maintain medical records.

List of didactic units:

- Mechanisms and properties of the pregnant body ;
- Extragenital pathology, what are its effects on the body ;
- Critical periods of embryo and fetus development;
- The use of pharmacotherapy in modern obstetrics ;
- Hygiene and nutrition of a pregnant woman;
- The concept of counseling and its ethical principles.

Typical situational tasks:
1. A 25-year-old pregnant patient came to the maternity ward with the diagnosis: Pregnancy I, 32-33 weeks. Childbirth I, I position, front view, main presentation. Threatening premature birth.
Task: What drug should the doctor prescribe for tocolytic therapy?
Answer : Ginipral, the recommended standard dose is 10 μg (1 ampoule of 2 ml) diluted in 10 ml of a 0.9% sodium chloride solution, administered over 5-10 minutes, then the indicators are resolved independently.

2. The first pregnant woman , 30 years old, came to the maternity ward with complaints about a pregnancy of 35-36 weeks . Childbirth I , I position, front view, main presentation. Severe preeclampsia ?
Task: What medicinal substance is the drug of choice ?
Answer: Initial dose of magnesium sulfate - 4 g slowly daily for 15 minutes. (prepare 4 g by adding 16 ml of 25% magnesium sulfate to 34 ml of water for injections). Maintenance dose - 1 g (3.33%) of magnesium sulfate/h. intravenous drip (prepare a 3.33% solution by adding 30 ml of 25% magnesium sulfate to 220 ml of 0.9% NaCl or Ringer's lactate) within 24 hours. after childbirth

Typical test tasks:
1. A 22-year-old first-time pregnant woman was admitted to the maternity ward with premature discharge of amniotic fluid. With the diagnosis: Pregnancy I, 18-19 weeks. Cramps are weak, the opening of the cervix is 2 cm. Which of the drugs should be prescribed to strengthen labor activity?
A. Folliculin.
B. Oxytocin 5 units intramuscularly.
C. Oxytocin 5 units intravenously in 400 ml of physical. solution
D. Methylergometrine. D
E. Desaminooxytocin.

2. Pregnant for 20 years, came to the maternity ward with a diagnosis: pregnancy 36-37 weeks n . Childbirth I. I position, front view, main presentation. Placental insufficiency. Fetal growth retardation syndrome. Which of the drugs is the most effective in treatment?
A. Actovegin.
B. Ascorbic acid.
C. Papaverine hydrochloride.
D. Ginipral.
E. Aloe extract liquid

3 . Pregnant for 27 years, came to the hospital with a diagnosis: pregnancy 9 weeks n . Threatening spontaneous abortion. What medicinal substance is the drug of choice?
A. Dufaston.
V. Ginipral.
C. Papaverine hydrochloride.
D. Dexamethasone.
E. Oxytocin

Correct answers: 1 – C; 2- A; 3 – A

2.Discussion of theoretical issues.
Question:

1. The ability to provide the family therapist with a timely diagnosis of extragenital pathology.
2. Possibilities at the current stage in meeting the physiological needs of the fetus in basic nutrients and energy .
3. Meeting the needs of a pregnant woman in basic nutrients and energy to preserve her health and the health of the fetus.
4. Ensuring a woman's comfortable well-being, good mood and high activity at all stages of pregnancy.
5 . The maximum variety of women's diets with the inclusion of all food groups in them.
6. Restriction of products with high sensitizing activity .
7. Maximum consideration of women's individual needs.
8. Wide use of specialized food products enriched with protein, essential fatty acids, vitamins, and mineral salts .
9. Intensity of uteroplacental blood circulation.
10. The ability of the drug to ionize and dissolve in lipids, the degree of binding to plasma proteins.

3. Formation of professional abilities and skills.
3.1. Content of tasks (tasks, clinical situations, etc.):
Interactive task:
the applicants into 3 subgroups. We work in women's consultation offices with pregnant patients at different stages of pregnancy, we give tasks:
Tasks for subgroups
And a subgroup. Collect the obstetric and gynecological and somatic history of the pregnant woman, determine the list of necessary clinical, laboratory and instrumental studies, establish the preliminary and clinical diagnosis of the disease
II subgroup. Draw up a treatment plan for the woman and determine management tactics.
III subgroup. Evaluate the correctness of the answers of subgroups I and II, if necessary, introduce corrections.

Unusual situational tasks:
1. Patient N., 44 years old, pregnant again, 28-28 weeks, complained of pain in the right iliac region, nausea, vomiting, elevated body temperature to the gynecologist of the women's consultation.
During the external obstetric examination, the following was established: longitudinal position of the fetus, main presentation, I position, front view. During the examination, gynecological problems do not bother the patient.
On general examination, the woman is frail, pale, has no appetite, and is bothered by pain in the right iliac region.
Task: What is the previous diagnosis? What are the further tactics of the examination, where to conduct the examination?
Answer: Diagnosis: Pregnancy II, Position of the fetus longitudinal, main presentation, I position, front view. Acute appendicitis.

For further examination and treatment, it is necessary to refer the patient to a surgical hospital.

2. Patient M, 30 years old, 32-33 weeks pregnant, complained of swelling of the left lower limb, pain in it. After hospitalization, a duplex scan of the veins of the lower extremities was performed, during which a floating thrombus of the deep femoral vein was detected.
External obstetric examination diagnosed the position of the fetus longitudinally, main presentation, II position, posterior view. No problems were found in obstetric pathology.
Task: What is the previous diagnosis? What complication can threaten the patient's life?
Answer: Diagnosis: Pregnancy 32-33 weeks, longitudinal position head presentation, II position, rear view. BODIES.
It is necessary to prescribe therapy, monitor the course of pregnancy in cases that are not amenable to correction, and, communicating with surgeons, direct the patient to the operative course of solving this problem.

Non-typical test tasks:
1. Childbirth is 25 years old, the third period of childbirth is actively being conducted. Which medicinal substances are used in this case?
A. Methylergometrine intravenously.
B. Misoprostol rectally.
C. Oxytocin intramuscularly 10 units.
D. Oxytocin intravenously 5 units.
E. Folliculin

2. A 27-year-old woman in labor, the weight of the fetus at birth was 4100 g. In the early postpartum period, bleeding began, the BCC deficit was 15%. What is the total volume of infusion-transfusion therapy should be prescribed?
A. Up to 2.5 l.
B. Up to 3 l.
C. Up to 4 l.
D. Up to 2 l.
E. Up to 3.5 l.

3 . Pregnant for 32 years, came to the hospital with a diagnosis: pregnancy 7 weeks. Complaints of vomiting up to 7 times a day. What medicinal substance is the drug of choice?
A. Aminazine.
B. Tocopherol acetate.
C. Papaverine.
D. Vitamin B6.
E. Vitamin B1.

4. Childbirth 30 years old, in the late postpartum period the temperature rose to 38°C. The diagnosis was established: postpartum metroendometritis. Which of the antibacterial drugs is the most acceptable?
A. Ceftriaxone.
V. Augmentin.
C. Ampicillin.
D. Metronidazole.
E. Penicillin

Correct answers: 1- C , 2-A, 3-A, 4-A.

3.2. Recommendations (instructions) for the implementations of tasks.
Most women during pregnancy take one or more medicines (on average four), not including vitamins and iron preparations.
The use of various medications during pregnancy is a very important issue, because prescribing a potentially dangerous drug to a pregnant woman can harm the future child, and it is also important because the presence of many drugs with contraindications for use during pregnancy significantly limits the possibilities of high-quality comprehensive treatment during this period.
The question of admissibility of certain drugs acquires special relevance and practical importance in the clinic of extragenital pathology of pregnant women. Pharmacological preparations can have a negative effect on the tone of the uterus, uteroplacental blood circulation and the balance of numerous hormonal factors that ensure the course of pregnancy. However, the central problem of drug therapy for pregnant women is the possible effect of drugs on the fetus - teratogenic, embryotoxic, fetotoxic.
Physiological changes that lead to a change in the concentration of medical drugs in the blood compared to the level of the achievable concentration in non-pregnant women are as follows:

- increase in intravascular volume;
- increase in glomerular filtration rate; a decrease in the level of blood plasma proteins, which leads to a decrease in the connection of the drug with blood proteins and an increase in the clearance of the drug;
- thinning of the membrane that separates the fetus from the mother, which leads to an increase in the transplacental diffusion capacity, as a result of which the ability of drugs to penetrate through the placenta increases;
- a decrease in the motor activity of the gastrointestinal tract, which is accompanied by a delay in the absorption of drugs when they are taken internally;
- acceleration of the destruction of drugs in the liver.

The following risk categories for the use of drugs during pregnancy, developed by the American Food and Drug Administration (FDA - Food) , are widely used all over the world and Drug Administration):

- drugs that were taken by a large number of pregnant women and women of childbearing age without any evidence of their influence on the frequency of development of congenital malformations or harmful effects on the fetus;
- drugs that were used by a limited number of pregnant women and women of childbearing age without any evidence of their influence on the frequency of development of congenital malformations or harmful effects on the fetus. At the same time, no increase in the frequency of damage to the fetus was found in animal studies, or such evidence was obtained, but the proven dependence of the obtained results on the use of drugs was not determined;
- drugs that have demonstrated teratogenic or embryotoxic effects in animal studies. There are suspicions that they may cause a negative adverse effect on the fetus or newborn (due to pharmacological properties), but such that they do not cause the development of congenital anomalies. No controlled studies have been conducted on humans;
- drugs that cause or are suspected of causing congenital anomalies or irreversible damage to the fetus. The risk to the fetus should be weighed against the potential benefit from the use of the medicinal product.

X is a drug with a high risk of developing congenital anomalies or permanent damage to the fetus, as there is evidence of their teratogenic or embryotoxic effect in both animals and humans. They should not be used during pregnancy.

Medicines can be divided into three groups:

- LPs that do not penetrate the placenta, therefore do not cause a negative effect on the fetus;
- LPs that penetrate the placenta, but do not cause a negative effect on the fetus;
- LPs that penetrate the placenta and accumulate in the tissues of the fetus, and have a negative effect on the fetus.

The influence of medicinal substances on **the central nervous** system of the fetus is of particular importance. The embryotoxic effects of drugs are more pronounced, the shorter the period of intrauterine development of the fetus and the greater the pharmacological activity and dose of the drug.

The distribution of the drug in the body is influenced by numerous factors: changes in hemodynamics, the volume of circulating blood, the amount of adipose tissue in the body, and the protein composition of the blood. Hemodynamic changes are caused by an increase in the volume of plasma during pregnancy (by 30-40%), extracellular fluid (by 5-8 l) and an increase in the number of erythrocytes by 18-20%. An increase in the amount of fat in the body during pregnancy (on average by 3-4 kg) is important for fat-soluble drugs that accumulate in this tissue.

Teratogenesis includes the concept of the development of not only organic, but also functional anomalies in a newborn. After the end of the embryogenesis period, you can no longer be wary of malformations.

Today, such critical periods in the life of the embryo are distinguished,

1. From the moment of conception to 11 days.

2. 11 days to 3 weeks, when organogenesis begins in the fetus. moment of neural tube closure).
3. Between 4 and 9 weeks, when the danger of fetal growth retardation persists, but the teratogenic effect is practically no longer manifested.
4. The fertile period (from the 9th week to the birth of the child), when postnatal dysfunctions and various behavioral abnormalities may occur.
LP , the use of which is contraindicated during pregnancy .
Antibacterial agent and drug :
-antibiotics tetracycline of the new series - violation of the formation of bone tissue in the fetus and have hepatotoxicity properties;
- chloramphene and col (levom and cet and n) - risk inhibition of bone marrow function and the possibility of the development of " c i rogo syndrome in newborns
- fluoride and nolon - act on muscle joints and cartilage _ in feathers and growth in the fetus and newborn ;
- co-trimoxazole (b and septol and its analogues) - significantly increases the risk of congenital anomalies and the fetus ;
-r and fampicin, l and nkom and tsin, eti onam and d, chloroch and n (delag and l), gr and zeofulv and n, levor and n.
Other LPs :

- all statins (lovastatin , si mvastatin , mevacor , zocor) ;
- indirect anti - coagulants (phenilin , pelentan) ;
- Antistimulant drugs (dimedrol , ppolfen , suprast) ;
- oral and sugar-lowering drugs ;
- antigonadotropic drugs (danazol , klostil beg and t) ;
- androgen and ;
- antidepressants , barbiturates , neuroleptics (galoper and dol , and zercin) ;
- benzodiazepines and azepines ;
- antiparkinson and other drugs (parkopan , cyclodol, nacom) ;
- nonsteroidal anti - inflammatory drugs (melox and kam , butad and on) .

Beta-lactam antibiotics.
Penicillins. Natural (biosynthetic) penicillins: phenoxymethylpenicillin, bicillins are drugs of a narrow respiratory spectrum. The causative agents of diphtheria, syphilis and most anaerobes are sensitive to them. Semi-synthetic penicillins are divided into:
-penicillinase-resistant with predominant activity against Gram (+) microorganisms ("antistaphylococcal"): methicillin, oxacillin, cloxacillin, dicloxacillin;
- broad-spectrum penicillins (with the exception of penicillinase-producing staphylococci and Pseudomonas aeruginosa): ampicillin, amoxicillin;
- a wide spectrum of action with additional activity against blue-pustular bacillus: carbenicillin, azlocillin;
- penicillins with predominant activity against Gram(-) microorganisms: mecilinam, acidocilin.
Cephalosporins exceed penicillin in antibacterial activity.

Cephalosporins of the first generation: cefazolin, cephalothin, cephalexin - antibiotics with a relatively narrow spectrum of action.
Cephalosporins of the II generation: cefotoxin, cefuroxime have a wider spectrum of antimicrobial action. The possibilities of antibacterial therapy of pregnant women with drugs of the II generation are extended by means that can be used in two therapeutic forms. Cefuroxime has a bactericidal effect against streptococci, methicillin-sensitive staphylococci and a number of Gram (-) microorganisms (hemophilic bacilli, gonococci, enterobacteria).
In *third-generation cephalosporins,* the spectrum of antimicrobial activity is shifted towards Gram(-) pathogens and anaerobes - the main pathogens of nosocomial infections. Ceftazidime exceeds all other antibacterial agents in terms of its anti-blue fever activity. Ceftriaxone is characterized by prolonged action (used once a day) and high penetrating ability to various organs and tissues, including through the blood-brain barrier.
Cephalosporins of the I and V generations overcome the resistance of most Gram (-) bacteria and have high activity against Gram (+) bacteria, including penicillin-resistant pneumococci. The standard is cefepime. The drug penetrates well into all organs and tissues, and its high concentration in the blood after intravenous use requires a 2-time administration regimen. A wide spectrum of antimicrobial action allows the use of cefepime for monotherapy of nosocomial infections, but when anaerobic flora is suspected or the presence of Pseudomonas aeruginosa, it must be combined with metronidazole or amikacin, respectively. It is safe during pregnancy, does not cause damage to the fetus, does not increase the allergy of the pregnant woman. It also does not have a negative effect on the newborn, as it penetrates into breast milk in low concentrations.
Carbapenems: (thienam, meronem) have an extremely wide spectrum of antimicrobial activity, which includes almost all clinically significant Gram (+) and Gram (-) aerobes and anaerobes.
Aminoglycosides . Aminoglycosides are not absorbed from the gastrointestinal tract, so they are used parenterally. First-generation drugs include streptomycin and kanamycin, which have high oto- and nephrotoxicity and even limited indications for use.
Tetracyclines. They are characterized by a bacteriostatic effect, a wide spectrum of antimicrobial action, however, they are highly toxic, which does not allow their use during pregnancy.
Macrolides. They are considered relatively safe during pregnancy (with the exception of roxithromycin). They are effective against a relatively wide range of Gram (+) and Gram (-) bacteria, as well as rickettsiae and spirochetes, and can suppress the development of some strains of pathogens resistant to penicillins.
Spiramycin (rovamycin) is more active than other macrolides against streptococci, including pneumococci, resistant to being successfully used to treat toxoplasmosis during pregnancy.
Rifampicins. They are characterized by a wide spectrum of bactericidal action, which includes mycobacteria, rickettsia, bacteroids, legionella, chlamydia. However, pathogens quickly develop resistance to it, so it is mainly used for

tuberculosis and severe coccal infections. In an experiment on animals, a teratogenic effect was found.

Lincosamines. Lincomycin and clindamycin are among the effective reserve antibiotics for infections caused by strains of staphylococci and other Gram (+) pathogens.

Vancomycin is the only antibiotic that is effective against methicillin-resistant strains of staphylococci.

Sulfanilamides . They have a wide range of antimicrobial action against aerobes and anaerobes, actinomycetes and the causative agent of toxoplasmosis. But they cause many side effects.

Fluoroquinolones. Ciprofloxacin, ofloxacin are highly active antimicrobial drugs of a wide spectrum of action, effective against both Gram (+) and Gram (-) microorganisms.

Antifungal agents.

Azole derivatives - fluconazole, itraconazole are not recommended during pregnancy. One of the effective and safe means that can be used in pregnant women is natamycin, which is recognized as one of the drugs of choice for the treatment of candidiasis. It contributes not only to etiopathogenetic treatment, but also eliminates the factors contributing to fungal infection (remediation of the "depot" infection in the intestine).

In case of local candidiasis and other fungal lesions, nystatin is relatively safe. However, its effectiveness is low, especially for genital candidiasis in pregnant women. Clotrimazole has a wide spectrum of action. One of the most effective means of treatment of systemic mycoses is fluconazole. During pregnancy, the drug should be used only for life-threatening fungal infections.

Peripheral vasodilators .

Verapamil affects the elements of the conduction system of the myocardium, slows down the heart rate and has an antiarrhythmic effect. It is used for increased blood pressure in pregnant women and for the treatment of fetal tachycardia.

Nifedepine is used for the treatment of arterial hypertension and preeclampsia, as well as as a tocolytic agent for the treatment of the threat of premature birth, the pathological preliminary period, and for the preparation of pregnant women for childbirth. In animals, nifedepine has a teratogenic and embryotoxic effect.

Diuretics

Diuretics should be prescribed with caution to pregnant women, especially in severe forms of late gestosis.

Thiazide and thiazide-like diuretics act on the distal segment of the initial part of the renal tubules, increase the excretion of sodium, water and chlorine. They lower blood pressure by increasing sodium excretion, decreasing plasma volume, extracellular fluid, and cardiac output. The hypotensive effect of diuretics is also associated with a decrease in total peripheral vascular resistance.

Hydrochlorothiazide is a diuretic with moderate strength and medium duration of action. In the first trimester of pregnancy, it reduces blood flow in the vessels of the umbilical cord and placental transfusion, reduces the endocrine function of the placenta, changes the clearance of estradiol, thereby can lead to the appearance of

congenital malformations of the fetus. When it is used in the third trimester of pregnancy, there is more frequent induction of labor, inertness of the uterus, and an increase in perinatal mortality.

furosemide penetrates well through the placenta, its concentration in umbilical cord blood is equal to that in the mother's blood plasma.

Antiarrhythmic drugs.

Lidocaine is an effective means of treating gastric rhythm disorders in pregnant women. It quickly penetrates the placenta. The tool can cause respiratory depression of the newborn, various changes in the heart rate of the fetus.

Antiplatelets and anticoagulants .

Heparin is a natural anticoagulant of direct action, it forms a complex with antithrombin III, converts it into an active form, as a result of which the blood coagulation process slows down. It does not penetrate the placenta, so it does not cause congenital anomalies, however, a decrease in calcium content may adversely affect the condition of the fetus. Long-term use of heparin can lead to osteopenia in the mother and fetus. The risk of fetal bleeding increases.

Anticoagulants of indirect action are used to prevent venous thrombosis.

Analgesic means.

Paracetamol is characterized by an optimal ratio of effectiveness and safety, as well as a variety of dosage forms. It has analgesic, antipyretic and moderate anti-inflammatory effects. Does not have a damaging effect on the mucous membrane of the gastrointestinal tract. Has no effect on the function of platelets and does not increase the risk of hemorrhages. Penetrates through the placenta, but does not have a negative effect on the fetus.

Analgin has analgesic, anti-inflammatory and antipyretic effects. With long-term use, suppression of hematopoiesis is possible. In large doses and with long-term treatment, it can cause anemia, impaired liver and kidney function of the fetus.

Narcotic analgesics .

Morphine is the main representative of the group of narcotic analgesics. It quickly penetrates the placenta and can cause drug addiction in the fetus and later in the newborn. Morphine increases the contractility of the uterus and causes respiratory depression in the newborn.

Promedol does not increase the number of congenital anomalies, but the formation of drug addiction in the fetus is likely. Causes depression of the newborn's breathing. Duration of depression 1 hour or more after childbirth. The mental parameters of the child do not suffer.

Tramadol - has a relatively low narcotic potential and a wide range of indications for moderate and severe acute and chronic pain syndromes.

Anti-inflammatory agents and.

Glucocorticoids have anti-inflammatory and immunosuppressive effects. When taken during the entire pregnancy, their influence on the duration of pregnancy and the frequency of birth defects was not noted, but a slight decrease in the body weight and length of newborns was observed. The children's neurological condition and mental development were normal.

Cortisone is used only as a means of replacement therapy for adrenal insufficiency during pregnancy.
Prednisolone can lead to the development of congenital cataracts and a decrease in the function of the adrenal cortex, causes immunosuppression, which increases the risk of infection of the mother and fetus.
Dexamethasone is more anti-inflammatory than prednisolone. Its mineralocorticoid effect is the least pronounced. It penetrates the placenta and can have a negative effect on the fetus. It causes leukocytosis in the fetus, a decrease in the function of the cortex of the adrenal glands, an increase in the level of androgens, and virilization of the female fetus. The drug reduces the level of estriol and cortisol in the mother's blood. In humans, it does not increase the frequency of congenital anomalies of the fetus. It significantly reduces the likelihood of development and severity of the syndrome of respiratory disorders in newborns and mortality from these and other complications in premature infants.
Nonsteroidal anti-inflammatory drugs.
Acetylsalicylic acid in low doses (60-80 mg per day) is used to prevent preeclampsia and eclampsia. The toxic effect on the fetus is not manifested in these doses. The use of acetylsalicylic acid in large doses increases the number of congenital anomalies and perinatal mortality, reduces the weight of the fetus, and leads to intrauterine intoxication with salicylates.
Indomethacin during pregnancy is used in patients with joint diseases, autoimmune diseases, and is also sometimes used when there is a threat of premature birth, as it has a tocolytic effect. It is relatively safe for the fetus during pregnancy, but care should be taken when prescribing it, as it crosses the placenta and is detected in the blood of the fetus. The fetus may have early closure of the ductus arteriosus, which causes pulmonary hypertension in infants.

3.3. Requirements for work results.
- To draw up a plan of the necessary clinical and laboratory and instrumental studies for pathological conditions in pregnant women ;
- Evaluate the results of clinical laboratory and instrumental research;
- To be able to organize consultations for pathological processes in pregnant women;

Establish a preliminary and clinical diagnosis of the disease;
Be able to diagnose the condition of a pregnant woman;
Provide emergency medical care for conditions in pregnant women.

3.4. Control materials for the final stage of the lesson: problems, tasks, tests, etc
Unusual situational tasks:
1. A mother of two children complains of the presence of soft-elastic nodes on the lateral surface of the left lower leg and left thigh, the swelling occurs at the end of the day. After resting at night, the swelling disappears. The onset of the disease is associated with pregnancy and childbirth. But the owl has elastic stockings.
Task:

What will be the preliminary diagnosis? With what is it necessary to carry out a differential diagnosis?

Answer :

Diagnosis: Postpartum period. Varicose veins of tender limbs .

It is necessary to carry out a differential diagnosis with post-thrombophlebitic syndrome .

2. A repeatedly pregnant woman , 35-36 weeks , was admitted to a surgical hospital with a diagnosis of acute calculous cholecystitis. During the examination, the patient was found to have mechanical jaundice caused by choledocholithiasis.

Task:

Make a diagnosis. Conservative therapy without effect. What further tactics are necessary for the patient.

In response :

Diagnosis. Pregnancy II. 35-36 weeks. Acute calculous cholecystitis.

Operative intervention for choledocholithiasis was performed . However, it is necessary to coordinate the operative tactics with the obstetrician-gynecologist in order to resolve the issue of simultaneous termination of the patient's pregnancy by cesarean section during surgery .

Test tasks STEP-2:

1. The mother of two children complains of the presence of soft-elastic nodes on the lateral surface of the left lower leg and left thigh, swelling at the end of the day. After resting at night, the swelling disappears. The onset of the disease is associated with pregnancy and childbirth. Apply elastic stockings. What will be the preliminary diagnosis?

A. Varicose veins of tender limbs
B. Thrombophlebitis of subcutaneous veins of tender limbs
C. Thrombosis of deep veins of tender limbs
D. Postthrombophlebotic syndrome
E. Thrombosis of the veins of the small pelvis

2. A pregnant woman (28 weeks) was brought to the hospital in critical condition with a diagnosis of thrombophlebitis of the deep femoral vein, which was complicated by thromboembolism of small branches of the pulmonary artery. A deep femoral vein thrombosis was found during a duplex examination. What further tactics should be used in relation to this patient?

A. Warm baths, hirudotherapy, heparin ointment
B. Antibiotic therapy, bronchoscopy, sanitation of the bronchial tree, prevention of pneumonia.
C. Therapeutic walking, prescribing warfarin, foot massage.
D. Bed rest, prescription of heparin, solution to the issue of installing a coffee filter
E. Therapeutic tactics

3. A 39-year-old woman is in serious condition. Pregnancy is 10 weeks, pregnancy

is desirable. Exhausted He complains of frequent vomiting of coffee grounds and fresh blood mixed with pieces of tissue, sudden general weakness, thirst, dry mouth, dizziness. After comprehensive hemostatic treatment with repeated hemotransfusions, the bleeding stopped. The patient's condition gradually improved. Feces became normal in color, HN increased from 68g/l to 90g/l. X-ray: in the antral part of the stomach, a cup-shaped cancer with a diameter of 6.5 cm. Your diagnosis? What treatment is currently indicated for the patient?

A. Anticipation of natural childbirth and operative treatment for cancer.

B. Immediate early termination of pregnancy, complex chemo-radiation and surgical treatment of stomach cancer

C. Only radiation therapy, termination of pregnancy by caesarean section.

D. Chemotherapy, termination of pregnancy.

E. Symptomatic therapy, termination of pregnancy only when the condition of the fetus worsens.

Correct answers: 1-A; 2 – D ; 3 - B

PRACTICAL LESSON No. 7
Topic: "Miscarriage"

Goal: To systematize and deepen knowledge on the topic "Non-carrying pregnancy". Expand knowledge about various stages of spontaneous abortion and premature birth, isthmic-cervical insufficiency. To create in students of higher education a sense of responsibility that a general practitioner should have in relation to pregnant women from the risk group for the occurrence of this pathology.

Basic concepts: Spontaneous miscarriage. Isthmic-cervical insufficiency (ICN). Premature birth. Classification and diagnosis.

Equipment: Professional algorithms, structural and logical schemes, tables, models, video materials, results of laboratory and instrumental studies, situational problems, patients, medical histories.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

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

Knowledge requirements:

- the ability to collect medical information about the patient and analyze clinical data;
- the ability to determine the necessary list of laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to determine the necessary regime of work and rest in the treatment and prevention of diseases;
- the ability to determine the nature of nutrition in the treatment and prevention of diseases;

- the ability to determine the principles and nature of treatment and prevention of diseases;
- the ability to perform medical manipulations;
- ability to maintain medical documentation, including electronic forms.

List of didactic units:
- spontaneous abortion;
- isthmic-cervical insufficiency;
- premature birth

Typical situational tasks:
1. A 23-year-old woman was hospitalized with complaints of aching pain in the lower abdomen, delayed menstruation (the last menstruation was 6 weeks ago), minor vaginal discharge. First pregnancy. Vaginal: the cervix is tilted back, 2.5 cm long, the external eye is closed, the discharge is insignificant, bloody. The body of the uterus is enlarged up to 6 weeks of pregnancy, in hypertonus. Appendices - without features. Make a diagnosis.
Answer: Diagnosis: Pregnancy I, 6 weeks. Threatened abortion.

2. A 10-11 week pregnant woman was admitted to the gynecology department with complaints of severe spasm-like pain in the lower abdomen and lower back, profuse bleeding from the vagina. Pregnancy II. During a gynecological examination: the cervix is centered, the external eye is open, parts of the fetal egg are in the cervical canal. The uterus is enlarged up to 10 weeks of pregnancy, in increased tone. What is the diagnosis?
Answer: Diagnosis: Pregnancy II, 10-11 weeks. Abortion in progress.

Typical test tasks:
1. Miscarriage is an involuntary termination of pregnancy at term:
A. From the beginning of pregnancy to 36 weeks + 6 days.
A. From the beginning of pregnancy to 22 weeks.
S. From 12 to 22 weeks.
D. From the beginning of pregnancy to 12 weeks.

2. Early spontaneous abortion is an involuntary termination of pregnancy in the term:
A. From the beginning of pregnancy to 22 weeks.
A. From the beginning of pregnancy to 12 weeks.
C. From the beginning of pregnancy to 37 weeks.
D. From 12 weeks to 22 weeks.

3. A late spontaneous abortion is an involuntary termination of pregnancy in the term:
A. From the beginning of pregnancy to 12 weeks.
A. From 10 to 20 weeks.

S. From 22 to 37 weeks.
D. From 12 to 22 weeks.

4. Premature birth is birth during pregnancy:
A. From the beginning of pregnancy to 37 weeks.
A. From 12 to 37 weeks.
S. From 22 to 37 weeks.
D. From 12 to 22 weeks.

Correct answers: 1 - A; 2 – B; 3 – D; 4 - S.

2.Discussion of theoretical issues.
Question:
- Definition and classification of miscarriage.
- Risk factors for miscarriage.
- Etiology of miscarriage.
- Clinic, diagnosis and tactics of the family doctor's actions in case of threatened abortion.
- Clinic, diagnosis and tactics of actions of a family doctor during an abortion in progress.
- Clinic, diagnosis and tactics of family doctor's actions in case of incomplete abortion.
- Clinic, diagnosis and tactics of the family doctor's actions in case of complete abortion.
- Clinic, diagnosis and tactics of the family doctor's actions in the event of an abortion that did not take place (termination of the development of the embryo/fetus).
- Isthmic-cervical insufficiency (ICN): definition, diagnosis and tactics of actions of a family doctor.
- Premature birth: definition, diagnosis, family doctor's tactics.
- Prevention of miscarriage.

3. Formation of professional abilities and skills.
3.1. Content of tasks (tasks, clinical situations, etc.):
Interactive task:
The winners of the group are divided into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks:
And the subgroup - to make a preliminary diagnosis.
Subgroup II - to draw up a patient management plan.
Subgroup III – evaluates the correctness of the answer of subgroups I and II and makes its corrections.

Unusual situational tasks:
1. A first-time pregnant woman had an involuntary abortion at home at 5-6 weeks of gestation. During a vaginal examination: the external genitalia are developed

correctly, without signs of inflammation, the vagina is free, the cervix is formed, the cervical canal passes through the tip of the finger, the uterus is dense, painless on palpation, slightly increased in size. The appendages of the uterus are not enlarged, painless, the vaginal vaults are free; discharge is bloody, insignificant.

Task:

1. What stage of spontaneous abortion does this clinical picture correspond to?
2. The next tactic?

Answer:

1. Pregnancy I, 5-6 weeks. Complete abortion.
2. In the absence of complaints, bleeding and tissue in the uterine cavity according to ultrasound, there is no need for an instrumental revision of the uterus. Control ultrasound examination in 1 week. The need for prophylactic use of antibiotics is based on individual clinical indications.

2. A pregnant woman with a gestational age of 16 weeks was admitted to the maternity hospital with complaints of periodic pulling pains in the lower abdomen and in the lumbar region, dark bloody discharge from the genital tract, nausea, weakness. During vaginal examination: the uterus is enlarged up to 12 weeks of pregnancy. During ultrasound: fetal heart activity is not visualized, displacement of skull bones.

Task:

1. What is the most likely diagnosis?
2. The next tactic?

Answer:

1. Pregnancy II, froze at 12 weeks.
2. Urgently carry out the evacuation of fetal tissues from the uterine cavity surgically. The need for prophylactic use of antibiotics is based on individual clinical indications. Remember: finding a non-developing pregnancy in the uterine cavity for 4 weeks or more increases the risk of coagulopathic complications.

Non-typical test tasks:

1. A pregnant woman at 11-12 weeks was admitted to the obstetric hospital with complaints of cramp-like pains in the lower abdomen, significant bleeding. Gynecological examination: the cervix is shortened, the external eye is open, parts of the fetal egg are in the cervical canal; the tone of the uterus is increased, the size of the uterus corresponds to the period of pregnancy; discharge is bloody, significant. What is the stage of spontaneous abortion?

A. Threatened abortion
V. Abortion in progress
S. Incomplete abortion
D. Complete abortion.

2.A pregnant woman at 11-12 weeks was admitted to the obstetric hospital with complaints of cramp-like pains in the lower abdomen, significant bleeding. Gynecological examination: the cervix is shortened, the external eye is open, parts

of the fetal egg are in the cervical canal; the tone of the uterus is increased, the size of the uterus corresponds to the period of pregnancy; discharge is bloody, significant. What are the driving tactics?
A. Prescribing progesterone drugs
B. Appointment of tocolytic drugs
C. Curettage of the walls of the uterine cavity
D. Bed rest, observation
Correct answers: 1 – B, 2 – C.

3.2. Recommendations (instructions) for the implementations of tasks.

Miscarriage:

• early spontaneous abortion - spontaneous (voluntary) termination of pregnancy up to 11 weeks + 6 days:
• late spontaneous abortion from 12 to 21 weeks + 6 days;
• premature birth from 22 full to 36 weeks + 6 days (154 - 259 days).

Spontaneous abortion (involuntary, spontaneous miscarriage)- expulsion of the embryo/fetus in the period of pregnancy up to 22 weeks or weighing up to 500 grams, regardless of the presence or absence of signs of life.
According to the stages of drinking, the following are distinguished:
• Threatened abortion
• Abortion in progress
• Incomplete fetch
• Complete abortion.
In addition, there are:
Abortion that did not occur (termination of the development of the embryo/fetus);
Infected abortion.

*Hemodynamic indicators should be carefully monitored until uterine pregnancy is confirmed.

Table 2 . The scope of examination in case of habitual miscarriage

№ п/п	Way of observation	Before the pregnancy	During pregnancy
1	Analysis of anamnesis	+	+
2	Consultation of the different narrow physicians	+	+
3	Medical examination for identification of urogenital agents	+	+
4	Tests of functional diagnostics	+	+ -

5	Evaluation of hormonal levels and its metabolists	+	+
6	Ultrasound scan	+	+
7	State of Hypothisis	+	- -
8	Immunology investigation if needed	+	+
9	Antibodies to honadothropyn, antyspermal and antyovary antybodies if needed	+ +	+ -
10	Genetic examination (caple caryotiping)	+	-
11	Prenatal diagnostic	-	+
12	Hysterosalpingoscopy and hysteroscopy if needed	+	-
13	Hemostaziograma. Investigation of coagylation system	+	+
14	Estimation of the cervix condition	+	From 12 weeks

Premature birthis childbirth with spontaneous onset, progression of labor and birth of a fetus weighing more than 500 g in the period of pregnancy from 22 weeks to 37 weeks

In connection with the peculiarities of obstetric tactics and the upbringing of children born at different stages of gestation, it is advisable to distinguish the following periods:

- 22 - 27 weeks;
- 28 - 33 weeks;
- 34 - 36 weeks + 6 days of gestation.

Principles of management of premature birth:

- ***Degree evaluation***predicted risk of developing maternal and perinatal pathology in order to determine the level of inpatient care.
- ***Definition of management plan***childbirth and its informed coordination with the woman.
- ***Condition control*****mother**and the fetus during childbirth with partogram management.
- ***Prevention***respiratory distress syndrome up to 34 weeks of pregnancy.
- ***Analgesia for childbirth***according to the indications.
- ***Assessment of the child's condition***, maintaining the thermal chain, carrying out the child's primary toilet, mother and child staying together from the first hours, wide use of the "kangaroo" method when weaning children with low weight.

Pre-pregnancy preparation includes:

• Termination of harmful effects:

1. Quit smoking.
2. Refusal to drink alcohol.
3. Exclusion of the influence of factors of harmful industrial production.
4. Avoiding psycho-emotional overload and stress.

• Women's recovery and treatment of chronic diseases:

1. Normalization of the regime of work and rest.
2. Creating favorable psycho-emotional conditions at work and in the family (everyday life).
3. Rational nutrition.
4. Regular physical activity (morning gymnastics, swimming, walks, etc.).
5. Sanitation of extragenital foci of chronic infection (tonsillitis, sinusitis, pyelonephritis, etc.).
6. Normalization of body weight.
7. Vaccination against rubella of immunonegative women for the prevention of congenital rubella.
8. Vaccination against hepatitis B of women of reproductive age at risk, which provides prevention of vertical transmission of infection, reducing the risk of liver failure and liver cirrhosis in the mother.
9. Preparation of patients with chronic extragenital diseases:

- diabetes: stable compensation of carbohydrate metabolism for three months before fertilization and the appointment of folic acid 800 mcg per day for 3 months before conception;
- arterial hypertension (maintenance of normotension, switching to antihypertensive drugs, additional use during pregnancy is allowed);
- hypothyroidism (correction of L-thyroxine replacement therapy to achieve a euthyroid state);
- epilepsy (switching to anticonvulsants with less negative effect on the fetus, increasing the dose of folic acid to 800 mcg per day 3 months before conception);
- heart defects (radical surgical treatment according to indications);
- diseases that require constant anticoagulant therapy (cancellation of teratogenic coumarin derivatives, appointment of heparin)
- other extragenital diseases (surgical treatment, correction of therapy, achieving disease remission).
- detection and treatment of HIV infection.

Algorithm for performing practical skills.

Measurement and assessment of the size of the female pelvis.

1) greet the patient;
2) identify the patient (name, age);
3) inform the patient about the necessity of conducting the study;
4) explain to the patient how the study is conducted;
5) obtain permission to conduct research;
6) wash hands;
7) put on inspection gloves;

8) pick up a tazometer;
9) place the tasomer buttons on the front-upper spines of the iliac bones (indicate the normative indicator of D. spinarum = 25-26 cm);
10) transfer the buttons of the tazomer to the most distant places of the crests of the iliac bones (specify the standard indicator of D. cristarum = 28-29 cm);
11) install tasomer buttons on the large trochanters of the femurs (indicate the normative indicator of D. trochanterica = 30-31 cm);
12) lay the patient on her left side with the left leg bent at the knee joint; measure the distance from the upper edge of the symphysis to the suprasacral fossa (indicate the normative indicator of C. externa = 20-21 cm);
13) during the internal obstetric examination, measure the distance from the lower edge of the symphysis to the sacral promontory (indicate the normative indicator of C. diagonalis = 12.5-13 cm);
14) inform the patient about the results of the study;
15) thank the patient;
16) remove inspection gloves;
17) wash your hands.

Bimanual (vaginal) examination:

1) say hello to the patient;
2) identify the patient (name, age);
3) to inform the patient about the necessity of conducting the study;
4) explain to the patient how the study is conducted;
5) obtain permission to conduct research;
6) wash hands;
7) put on inspection gloves;
8) with the first and second fingers of the left (right) hand, spread the labia majora, place the middle finger of the "dominant" hand at the level of the posterior adhesion, gently press on it to open the entrance to the vagina;
9) carefully and slowly insert the middle finger, then the index finger into the vagina along the back wall to the vault and cervix, bring the fourth and fifth fingers to the palm, bring the thumb to the top;
10) determine the length of the vaginal part of the cervix in centimeters;
11) determine the consistency of the cervix (dense, soft);
12) determine the patency of the external eye of the cervical canal (closed, a fingertip passes through);
13) to assess the painfulness of the excursion of the cervix;
14) the second palm should be carefully placed on the abdomen (above the symphysis) and moderately pressed to determine the bottom of the uterine body;
15) take the body of the uterus between two hands and determine:

- the position of the uterus relative to the cervix (anteflexio, retroflexio);
- the size of the uterus (normal, reduced, increased);
- the consistency of the body of the uterus (tight-elastic, soft, compacted);

- mobility of the uterine body (relatively mobile, limited mobility);
- sensitivity during palpation (painful, painless);

16) place your fingers in the bottom of the right lateral vault and, using both hands, palpate the right vaginal vault and right appendages of the uterus, determine their size, mobility and pain;
17) place your fingers in the bottom of the left lateral vault and, using both hands, palpate the left vaginal vault and the left appendages of the uterus, determine their size, mobility and painfulness;
18) determine the capacity of the vaginal vaults;
19) inform the patient about the results of the study;
20) thank the patient;
21) remove examination gloves;
22) wash hands

3.3. Requirments for work results, including desigh.

- Collect the anamnesis and highlight the signs of miscarriage.
- Make a plan for examination of patients with miscarriage.
- Draw up a treatment plan for patients with miscarriage.
- Diagnose the threat of premature birth.
- Oral report about the thematic patient.
- Analysis and discussion of the results of the patient's examination.
- Multimedia presentation on the topic of the class (literature review using modern sources; video films, etc.).

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

Unusual situational tasks:

1. A repeatedly pregnant K., 25 years old, gestational age of 15-16 weeks, came to the gynecological department, complaining of periodic pulling pains in the lower abdomen and in the lumbar region for 5 days. In the history: the previous childbirth three years ago was complicated by a rupture of the cervix of the II degree. The postpartum period was uneventful.

The abdomen is soft, painless on palpation. Pasternacki's symptom is negative on both sides. They are worried about anchorages. Urination is painless, somewhat accelerated. During the internal obstetric examination: the cervix is softened, shortened to 1.5 cm, the cervical canal freely passes one finger. Amniotic sac intact. The uterus is normal, enlarged according to the period of pregnancy. The appendages of the uterus are not enlarged. The discharge from the genital tract is white.

Task:

Diagnosis.

What are the patient management tactics?

Answer:

Pregnancy II, 15-16 weeks. Threat of abortion. Isthmic-cervical insufficiency.

Bed rest, sexual rest, antispasmodic, sedative therapy, vaginal sanitation, applying a suture on the cervix or installing an obstetric pessary.

2. Repeat-pregnant V., 28 years old, with a gestation period of 30 weeks, came to the obstetric hospital with complaints of periodic spasm-like pain in the lower abdomen. In the history of two involuntary abortions in the late term.
The abdomen is enlarged by the pregnant uterus, ovoid in shape. The body of the uterus has clear contours, there is no local soreness. The uterus is periodically toned. Movement of the fetus feels good. The fetal heartbeat is clear, rhythmic, up to 150 beats/min, heard on the left below the navel. Pasternacki's symptom is negative on both sides. Physiological parameters are normal.
During vaginal examination: the cervix is softened, 1.5 cm long, centered; the cervical canal passes the tip of the finger; the head is presented, which is pressed against the entrance to the small pelvis. Amniotic sac intact. There are no exostoses in the pelvic cavity, the promontory is inaccessible. Mucous discharge.
Task:
Diagnosis.
Patient management tactics.
Answer:
Pregnancy III, 30 weeks. OAA. The threat of premature birth.
Taking into account the gestation period (30 weeks), the opening of the cervix is less than 3 cm, tocolytic therapy is prescribed for 48 hours. in order to prevent respiratory distress syndrome. Tocolytic therapy is performed with calcium channel blockers (nifedipine), beta-mimetics (ginipral).

Test tasks STEP-2:
1. **(2020)**A 30-year-old woman had three miscarriages and one premature birth. During the examination, there is a positive reaction to anticardiolipin antibodies and lupus anticoagulant. Make a diagnosis:
A. Antiphospholipid syndrome*
B. Stein-Leventhal syndrome
C. Hemorrhagic syndrome
D. Sheehan's syndrome
E. Syndrome of testicular feminization

2. **(2019)**A 22-year-old pregnant woman turned to a women's consultation with complaints of bleeding from the genital tract, which began 2 days ago, severe fatigue and dizziness. The gestation period is 13 weeks. During the day, she used 6 sanitary pads. During physical examination: blood pressure - 90/60 mm Hg, temperature - 37.8°C, pulse 125/min., respiratory rate - 15/min. Infusion therapy has been started. During a vaginal examination: blood in the vagina, the cervix is smoothed and opened. On ultrasound, the fertile egg in the uterine cavity, the heartbeat and movements of the fetus are not determined. Which of the following steps in the management of the patient would be most appropriate?
A. Methotrexate

B. Bed rest and analgesics
C. Magnesium sulfate intravenously
D. Dilation and curettage of the uterus*
E. Antibiotic therapy

3. (2016) A 24-year-old female patient was brought to the hospital by an ambulance team due to complaints of cramp-like pains in the lower abdomen, profuse, clotted bloody secretions from the genital tract, weakness. AT-100/60 mm Hg, Ps- 90/min. The last normal menstruation was 2 months ago. During the examination of the cervix, the remains of embryonic tissue are observed in the mirrors. During the bimanual examination: the uterus is enlarged up to 6 weeks of pregnancy, painless, the cervical canal passes a finger. What is the previous diagnosis?
A. Incomplete abortion*
B. Dysfunctional uterine bleeding
C. Violated ectopic pregnancy
D. Inflammation of the appendages of the uterus
E. Myoma of the uterus

4. (2010, 2009) An 18-year-old first-time pregnant woman at 27-28 weeks of pregnancy was operated on for acute phlegmonous appendicitis. What complications should be prevented in the postoperative period?
A. Miscarriage*
B. Intestinal obstruction
C. Fetal hypotrophy
D. Premature detachment of the placenta
E. Late gestosis

PRACTICAL LESSON № 8
Topic: "Children's gynaecology"

Purpose: To teach the physiological changes of the reproductive system of children and adolescents depending on the age period. To teach the peculiarities of examination and interpretation of the obtained data, tactics of management and treatment in girls and adolescents with gynecological diseases. Master counseling on contraception for teenagers. To teach how to prevent HPV among teenagers.
Basic concepts: Age periods of development of girls and teenagers. Formation of the reproductive system. Peculiarities of the physiology of girls and teenagers. Puberty. Disorders of menstrual function in girls and adolescents. Primary and secondary amenorrhea, algodispenorrhea in adolescence. AMC of the pubertal period. Diagnosis of genital malformations. Contraception in teenagers, disease prevention. Vaccination against HPV in teenagers.

1. Control of the reference level of knowledge (written work, written test, online test, face-to-face survey, etc.).

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

Knowledge requirements:

- communication and clinical patient examination skills;
- the ability to determine the list of necessary clinical and laboratory and instrumental studies and evaluate their results;
- the ability to establish a preliminary and clinical diagnosis of the disease;
- the ability to perform medical manipulations;
- the ability to conduct consultations on children's and adolescent gynecology;
- the ability to keep medical records.

List of didactic units:

- counseling on anatomical and functional features of the reproductive system at different age stages of development of girls and teenagers;
- assessment of puberty;
- general overview of menstrual disorders in adolescence: primary and secondary amenorrhea, abnormal uterine bleeding in puberty;
- assessment of the patient;
- necessary examination, which is carried out before making a decision on the use of a specific method of treatment;
- counseling on HPV prevention;
- counseling on contraception for teenagers.

Typical situational tasks:

1. The girl was examined by a gynecologist. The mammary glands stand out, the peri-mammary ring together with the nipple form a single cone. Thin pubic hair is noted, there is no hair growth in the armpits. Menstruation is absent. Estrogen secretion is low. What period of sexual development takes place. Make a sexual formula.

Answer: puberty. Ma2Ax0R1Me0

2. A 16-year-old girl consulted a doctor with complaints of bleeding from the genital tract for 10 days, weakness, dizziness. Bleeding began against the background of a delay of menstruation for a week. It grew and developed normally. Denies extragenital diseases. Menstrual periods from the age of 12, established immediately 4-5 after 28 days, regular, painless. Objectively: each integument is pale, pulse 96 bpm, blood pressure 100/60 mm Hg on both hands. Ma3Ax2P2Me03. The abdomen is soft, painless, peristalsis is active. Gynecological status: the external genitalia are properly developed, pubic hair is female-type, the hymen is intact, during recto-abdominal examination: the size of the uterus corresponds to the age, the appendages on both sides are without pathological changes. Bloody discharge from the genital tract is profuse.

Previous diagnosis?

Driving tactics?

Answer: Abnormal uterine bleeding during puberty. Posthemorrhagic anemia. Additional examination: ultrasound of the pelvis, ACS, coagulogram, blood group, Rhesus factor, etc., start treatment with symptomatic hemostatic therapy, in case of ineffectiveness - hormonal hemostasis, depending on the data of the additional examination.

Typical test tasks:

1. Colposcopic picture of a normal mucous membrane of the cervix:

A. Adolescents and women of reproductive age do not differ

B. In adolescents, the junction zone of the cylindrical and multi-layered flat epithelium is located in the area of the external pharynx

C. In adolescents, the junction zone of the cylindrical and multilayered flat epithelium is often located outside the opening of the external pharynx

D. In adolescents, the junction zone of the cylindrical and multilayered squamous epithelium is located in the area of the lower third of the cervical canal

E. Teenagers do not have a connection zone

2. A 17-year-old patient complains of soreness and swelling of the mammary glands, headaches, irritability, swelling of the lower extremities. These symptoms disturb the beginning of menarche, appear 3-4 days before the start of the next menstruation. Gynecological examination did not reveal any pathology.
What disease does the girl have?

A. Neurasthenia

B. Premenstrual syndrome

C. Kidney disease

D. Mastopathy

E. Diseases of the cardiovascular system

The correct answer is 1-C, 2-D

2. Discussion of theoretical issues.

Question:

1. Age periods of development of girls and teenagers?
2. What is a sexual crisis?
3. By what indicators is the development of secondary sexual characteristics evaluated? What is the sexual formula?
4. Peculiarities of gynecological and laboratory examination in girls and adolescents.
5. What is a morphogram, body mass index, hirsute number?
6. Classification of disorders of menstrual function in adolescence.
7. Define the concept of abnormal uterine bleeding during puberty
8. Algorithm of diagnosis and provision of medical care for AMC PP?
9. Prevention of AMC PP?
10. Prevention of HPV in adolescence.
11. Choosing a method of contraception in adolescence.

3. Formation of professional abilities and skills.
3.1. Content of tasks (tasks, clinical situations, etc.):
Interactive task:
We divide students of higher education into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks:
The first subgroup is the assessment of the patient.
Subgroup II - counseling of the patient on puberty
Subgroup III – evaluates the correctness of the answer of subgroups I and II and makes its corrections.

Unusual situational tasks:
1. A 17-year-old patient turned to the doctor with complaints about the absence of menstruation for 6 months. From the anamnesis: the first menstruation at the age of 12, the first year the cycle was regular 4-5 after 26 days. In recent years, it increased to 35-45 days, became irregular. The weight gain was 18 kg. Hair appeared in the area of the mammary glands, along the white line, in the groin area. Sex life is regular from the age of 16. During bimanual examination, it was established: the cervix is conical in shape, 3.0 cm long, the body of the uterus is pear-shaped, 48x36x30mm, painless. The ovaries are palpated on both sides, slightly enlarged, painless. Mucous secretions are insignificant.
Task: establish a preliminary diagnosis? Driving tactics?
Answer: Stein-Leventhal syndrome. Additional examinations: testosterone, DEA-sulfate, 17-KS, glucose tolerance test. A low-calorie diet for weight stabilization. COCs with an antiandrogen component, for example Diane-35.

2. A 16-year-old female patient consulted a family doctor. During the year, he has irregular sexual relations. He has dyskinesia of the gall bladder. Insists on the installation of the Mirena intrauterine contraceptive, insisting that she has contraindications to oral contraceptives.
Tasks: 1. Is it appropriate to use an intrauterine spiral for the purpose of contraception in this case?
Answer:
Women who have not given birth and are planning to give birth - it is not recommended to use IUDs. It is necessary to choose other methods of contraception.

Non-typical test tasks:
1. A 13-year-old girl has bruises of various sizes and colors on her skin. She complains of dizziness, uterine bleeding. On examination, the condition is severe, the skin is pale, on auscultation of the heart, the heart rate is 140 bpm. Rough systolic murmur, blood pressure - 90/40 mm Hg. The liver and spleen are not enlarged. In the clinical blood analysis, Er. - 1.8x1012/l, Hv - 50 g/l, CP - 0.7, ret - 4%, platelets -
20x10 ^{9} /l, L-12x10 ^{9} /l, e-2%, p-5%, c-75%, l-16%, m-2%, SZE-15 mm/h. Hematocrit -0.25. What determines the severity of the patient's condition?
A. Thrombocytopenia

B. Acute blood loss
C. Heart failure
D. Symptoms of intoxication
E. Decreased blood pressure

2. A 16-year-old girl has primary amenorrhea, lack of pubic hair growth, normal development of mammary glands, karyotype 46 XY, absence of uterus and vagina. Diagnosis?
A. Itsenko-Cushing syndrome
B. Rokitansky-Küstner syndrome
C. Syndrome of testicular feminization
D. Sheehan's syndrome
E. Stein-Leventhal syndrome

Correct answers: 1 - A, 2 - C.

3.2 Recommendations (instuctions) for the implementations of tasks.
The assessment of the development of secondary sexual characteristics is carried out according to the degree of their expressiveness, and they are guided by single designations: mammary glands - Ma, pubic hair - Pb, hair in the inguinal areas - Ah, menstruation - Me.
The degree of sexual development is determined by the formula Ma·Рб·Ax·Me.
Stages of mammary gland development:
Ma0 – the mammary gland is not enlarged, the nipple is small, not pigmented.
Ma1 - swelling of the nipple circle, increase in its diameter, nipple pigmentation is not expressed.
Ma2 – mammary gland of a conical shape, the nipple circle is unpigmented, the nipple is not elevated.
Ma3 is a mature mammary gland with a rounded shape.
Stages of hair growth:
Pb0Ax0 – there is no hair on the pubis and in the groin areas.
Pb1Ax1 – a single straight hair.
Pb2Ax2 – the hair is thicker and longer, located in the central part of the above-mentioned areas.
Pb3Ax3 – the hair on the entire pubic labia triangle is thick and curly; the axillary area is completely covered with curly hair.
Expression of menstrual function:
Me0 - absence of menstruation.
Me1 - menarche during the examination period.
Me2 - irregular menstruation.
Me3 - regular menstruation.
When assessing sexual development, the definition of morphotypes is used. The morphogram is drawn according to growth indicators, chest girth, the sum of the external dimensions of the pelvis, and age. Normally, the line on the morphogram

grid is straight, deviations of 1.5 points are possible. Premature sexual development is characterized by macrosomic intersexual and uniformly retarded
(infantile) morphotype.
Medical control over the course of the puberty process includes an assessment of the age at which pubertal changes appear.
9 - 10 years - growth of pelvic bones, rounding of the buttocks, slight lifting of the nipples of the mammary glands.
10-11 years old - appearance of pubic hair, raising of mammary glands.
11-12 years old - the appearance of hair under the armpits, increased growth, enlargement of the external genitalia.
12–13 years old – the development of the glandular tissue of the mammary glands, the pigmentation of the nipples, the appearance of menarche.
13-14 years old - active growth of hair under the armpits, menstruation may be irregular.
14-15 years old - change in the shape of the pelvis and buttocks.
15-16 years old – regular menstrual cycle, voice mutation.
16-17 years old - stop of skeletal growth, end of puberty.
The earliest limit of appearance of sexual characteristics is 8-8.5 years, menstruation is at 9 years. Earlier - indicates premature puberty. The absence of sexual characteristics before the age of 13 and menstruation before the age of 15 indicates a delay in puberty.
To unify the assessment of pubertal changes, most doctors use the classification of J. Tanner (1969) and S. Frasier (1980),
glands
And - and Ma0 Pb0 Ax0 Me0 Up to 9 years
And - b Ma1 Pb1 Ax1 Me0 9 - 10 years
II Ma2 Pb2 Ax1 Me0 10-11 years old
III Ma3 Pb3 Ax2 Menarche (Me1) 12 – 13 years
IV Ma4 Pb3 Ax3 Ovulation 14-15 years
V Acne, lowering of the tone of voice, growth arrest 15-17 years
To assess puberty and its disorders, hair growth on the skin of other locations is also determined: the upper lip, chin, chest, upper and lower half of the back and abdomen, shoulders, forearms, thighs, lower legs. The expression of hair in these places is evaluated on a 4-point scale:
1- separate, scattered hair;
2- moderate diffuse hair growth;
3- moderate continuous or scattered total hair growth;
4- intensive continuous hair growth.
The sum of the hairiness scores of the forearms and lower legs is the indifferent number (IR), and that of all the last parts of the body is the hormonal number (HR). In sum, they form a hirsut number (HR), which is on average equal to 4-5 points and should not exceed 10-12 points. A higher number of points of these indicators indicates hormonal disorders.
Pathological course of menarche:

- earlier than 11.5 years - accelerated puberty;

- appearance at the age of 15-16 - delayed puberty;
- excessive pathological bleeding from menarche;
- irregular menstrual bleeding (more often 12-16 days or long delays up to 45-60 days or more);
- AMC from the beginning of menarche;
- hyperpolymenorrhea

The pathogenesis of AMC PP can occur in two ways.

And an option. When the menstrual function is established, the secretion of gonadotropins is initially chaotic, uneven in time and quantity, gradually this process becomes cyclical. Adverse effects lead to disruption of the establishment of a cyclic physiological process: the instability of gonadotropin secretion remains, folliculogenesis and, as a result, steroidogenesis is disrupted, which causes the pathological development of the endometrium and its lack of transformation into the secretory stage and makes the process of its physiological rejection impossible. This becomes the starting moment of AMK PP. During puberty, a girl's body is extremely vulnerable to negative influences.

Option II. Infectious (primarily viral), somatic and genital diseases can lead to a violation of the sensitivity of the endometrium to the effects of hormones. Inflammatory processes are accompanied by a violation of microcirculation, which affects the receptivity of the endometrium. It is the pathological condition of the mucous membrane of the uterus that can cause AMC PP.

Diagnostics. Algorithm for carrying out diagnostic measures at AMK PP

The physical examination is carried out in order to compare the degree of physical and sexual maturation with age norms and taking into account psychological characteristics.

There are several types of psychological characteristics of patients with AMC PP:

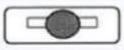
Hypoestrogenic – a fragile physique, lag in sexual development compared to peers and a desire to surpass others in everything (perfectionism);

normoestrogenic – harmonious physical and sexual development, tendency to anxiety-depressive mental disorders;

Hyperestrogenic – disharmonious acceleration of sexual development and physical acceleration with delayed psychosomatic development.

Self-assessment of the amount of blood loss (icon) is a visual-analog method of estimating the amount of menstrual blood loss by the amount of blood on a sanitary pad (day and night), a tampon, and by secretions in the toilet (subjective method). Degrees of blood loss are presented in the icon (unified clinical protocol of medical care "Abnormal uterine bleeding", approved by the order of the Ministry of Health of Ukraine dated 04.13.2016 No. 353) (Table 1).

Таблиця 1. Піктограма самооцінки обсягу кровотрати під час менструації

Гігієнічна прокладка	Тип	Обсяг, мл	Тампон	Тип	Обсяг, мл	Виділення в туалеті	Тип	Обсяг, мл
	Денна	1		Легкий	0,25		Незначні	1
	Нічна	1		Середній	0,5			
				Тяжкий	1,0			
				Надважкий	1,0			
	Денна	2		Легкий	0,5		Помірні	3
	Нічна	3		Середній	1,0			
				Тяжкий	1,5			
				Надважкий	2,0			
	Денна	3		Легкий	1,0			
	Нічна	6		Середній	1,5			
				Тяжкий	3			
				Надважкий	4			
	Денна	4		Легкий	3,0		Виражені	5
	Нічна	10		Середній	4,0			
				Тяжкий	8,0			
				Надважкий	12,0			

In the pubertal age, the normal parameters of MC are: the interval is 22-38 days, the duration of bleeding is 6 ± 2 days. In 80% of teenage girls, menstruation immediately becomes regular, the majority of MCs are anovulatory. In a third of girls in the first 3-5 years after menarche, MC is characterized by a deficiency of the corpus luteum. The first ovulation is the culminating period of puberty, but does not mean puberty.

Laboratory diagnosis of AMC PP includes a general blood test (platelets and reticulocytes), hemostasiogram (activated partial thrombus platelet time, prothrombin index, fibrinogen level, blood clotting time, platelet count, platelet aggregation, soluble fibrin monomer complexes, activated recalcification time), biochemical blood analysis , determination of β-chorionic gonadotropin in the blood serum of sexually active adolescents, bacterioscopic examination, polymerase chain reaction, diagnosis of infectious diseases of the genital tract, examination for helminthiasis.

In the case of AMC PP, an ultrasound of the pelvic organs (OMT), thyroid gland, additionally - mammary glands and organs of the abdominal cavity should be performed.

The shape, size and structure of the uterus, thickness (d), uniformity and echogenicity of the endometrium, the structure, dimensions, volume and thickness of the ovarian capsule are determined by the method of OMT ultrasound (Table 2). The presence of pregnancy must be excluded.

In adolescence, with AMC PP, the ultrasound picture of OMT is characterized by the following signs:

- *uterus* – the size in most cases corresponds to the age norm, may be slightly increased, the structure of the myometrium is mostly homogeneous, sometimes with slightly reduced echogenicity;
- *endometrium* – the thickness is increased, its size does not coincide with the day of MC: on the 8th-10th day – it is 8-9 mm, on the 16th-18th – ≥ 12 mm; d = 6-7 mm with continued bleeding indicates the inferiority of the receptor apparatus, the immaturity of the regulatory mechanisms of menstrual function;
- *ovaries* - their sizes are normal or enlarged; the structure may include a follicular cyst (echonegative uniform inclusion with a diameter > 25-30 mm); have a persistent follicle (a follicle with a diameter > 18-20 mm is present during bleeding or the day before, there may also be several follicles of a smaller diameter); be polycystic (several follicles ≥ 8 mm in diameter) or multifollicular (follicles 3-5 to 7-8 mm in diameter).

Treatment of AMC PP

Treatment measures are carried out in several stages: on the 1st stage – stopping of bleeding, anti-anemic therapy, correction of mental status; on the 2nd – anti-relapse therapy (correction of MC and endometrial condition).

The therapy of the first choice is inhibitors of the transition of plasminogen to plasmin:

- tranexamic acid: intravenous 15 mg/kg during the first hour of therapy, then drip 1 g/h for 8 h; the total dose should not exceed 6 g. Possible prophylactic use *per os* 1 g 4 times a day from the 1st to the 4th day of menstrual bleeding (the World Federation of Hemophilia recommends prescribing Tranexam 1-2 days before the start of menstruation to all girls with hemophilia disorders);
- aminomethylbenzoic acid;
- aminocaproic acid.

Nonsteroidal anti-inflammatory drugs (NSAIDs) regulate the metabolism of arachidonic acid by inhibiting the activity of cyclooxygenase, and reduce the production of prostaglandins and thromboxanes. Diclofenac 50 mg 1-2 times a day or mefenamic acid 200 mg 4 times a day are usually used. NSAIDs should be prescribed no earlier than 4-5 days after the start of hemostatic therapy using Tranexam.

If the bleeding lasts more than 10 days or if AMC occurs against the background of respiratory or somatic inflammatory diseases, the appointment of antibacterial agents is the first-line therapy. It is carried out by parenteral antibiotics of a wide spectrum of action.

Symptomatic treatment for AMC PP includes sedatives, calcium preparations, vitamin therapy, hepatoprotectors, phyto- and homeopathic therapy.

A clinical feature of adolescence can be the formation of borderline states between normality and pathology in female patients. Functional disorders of the digestive tract accompanied by impaired absorption of necessary trace elements, vitamins and nutrients occur more often. One of these disorders is chlorosis - a hidden iron deficiency that precedes iron deficiency anemia (IDA). Therefore, teenage girls are especially vulnerable to excessive blood loss during menstruation.

With AMC PP, ZDA is formed very quickly. In addition, post-hemorrhagic anemia also determines the severity of the child's general condition. The norm of hemoglobin (Hb) in teenagers is 130 g/l. Degrees of anemia: mild – Hb level 110-119 g/l, medium – Hb level 80-109 g/l, severe – Hb level < 80 g/l. Recurrences of bleeding lead to UTI, which significantly affects the development of the function of the reproductive system. Hemic hypoxia, which occurs in this disease, is one of the causes of chaotic pulsation of gonadotropin -releasing hormone and, as a result, unstable secretion of gonadotropins, which makes it impossible to establish biphasic MC.

With ZDA on the background of AMC PP, the primary task is to stop the bleeding. Oral preparations of ferrous iron are prescribed for 3 months under the control of a general blood test 21 days after the start of treatment, then monthly. In case of menstrual bleeding or polymenorrhea, significant iron losses (decrease in Hb and ferritin levels), ferrous iron preparations are also prescribed for 3 months. According to the unified clinical protocol of medical care "Iron deficiency anemia" (order of the Ministry of Health of Ukraine dated November 2, 2015 No. 709), dietary supplements, multivitamin and mineral complexes are not used for the treatment of ASD.

In case of disorders of MC, especially AMK, to correct the hormonal balance and carry out symptomatic hemostatic therapy in puberty, preference should be given to *phytotherapeutics means* (Mastodinon ®). Phytotherapy can be both a sufficient independent remedy and can be combined with symptomatic and hormonal treatment.

Mastodinon is an effective remedy for the treatment of MC disorders. The use of the drug allows you to restore the homeostasis of sex hormones: prolactin, estrogens and progesterone, the level of gonadotropins; to normalize the psycho-emotional state; reduce manifestations of inflammation of the genital organs; suppress hyperproliferative processes.

With the growth of the mammary glands against the background of hormonal imbalance, girls suffer from mastodynia and mastalgia, which is often observed in AMC PP. Mastodinon helps to reduce and eliminate these pathological manifestations.

Criteria for the appointment of hormonal therapy for AMC PP :

- lack of effect from symptomatic treatment;
- duration and intensity of bleeding (with the development of secondary anemia);
- thickness of the endometrium (according to ultrasound data): tendency to hyperplasia (d ≥ 10-12 mm) or hypoplasia of the endometrium (d < 7 mm).

For hormonal hemostasis, only monophasic combined oral contraceptives (COC) or progestagen drugs are used.

Among the monophasic COCs, which are advisable to use when the thickness of the endometrium is < 8 mm, those containing ethinyl estradiol (hemostatic effect) and progestagen (stabilization of the stroma and the basal layer of the endometrium) are effective. The most typical scheme of therapy: 1st day – 1 tablet. 4 times a day, 2-4th - 1 tablet. 3 times a day, 5-6 days - 1 tablet. 2 times a day, in the future - 1 tablet.

1 time a day. The duration of treatment from the first COC administration is 21 days.
With bleeding on the background of hyperplastic endometrium, it is advisable to use oral progestins (norethisterone). The most typical scheme of therapy: 1st day – 5 mg 4 times a day, 2-4th – 5 mg 3 times a day, 5-20th – 5 mg 2 times a day. With a normal thickness of the endometrium (9-12 mm), it is possible to use progestogens for the purpose of transformation of the uterine mucosa and its detachment. Prescribe dydrogesterone or sublingual micronized progesterone for 10-14 days.
Surgical treatment is indicated for life-threatening profuse uterine bleeding, severe secondary anemia (Hb ≤70 g/l, hematocrit up to 20%), and suspected pathological changes in the structure of the endometrium (polyps). The method of dilation and curettage (therapeutic and diagnostic scraping of the walls of the uterine cavity) is performed with the written consent of the child's parents or guardians or ex consilium.
First-line drugs in the treatment of AMC PP are a combination of antifibrinolytics and broad-spectrum phytotherapeutic agents. Against the background of the use of phytotherapy, the volume and duration of hormone therapy for AMC PP are significantly reduced (scheme).

Criteria for choosing anti-relapse phytotherapy for AMC PP:
- gynecological age less than 1 year;
- chronic AMC PP;
- sufficient effect when stopping bleeding with symptomatic means;
- categorical refusal to use hormonal drugs.

Indications for the use of anti-relapse phytotherapy in AMC PP: follicle persistence, ovarian follicular cysts, endometrial hyperplasia, accelerated thelarche, hyperprolactinemia, premenstrual syndrome, mastodynia - Mastodinon is prescribed for 2-3 MCs. After that, Cyclodinon is used for 2-3 cycles to establish the rhythm of hormone secretion, which is characteristic of biphasic MC .
Cyclodinone is a monocomponent herbal remedy from the dry extract of the fruits of the common barberry (Vitex sacred), which contains the active substance BNO 1095, devoid of unwanted effects. The property of Cyclodinon to restore and maintain the luteal phase of MC allows its use in the anti-relapse therapy of AMC PP and disorders of menstrual function during puberty with functional hyperprolactinemia.
With hypoplasia of the endometrium, hypoestrogenic conditions accompanied by bleeding, it is advisable to use mulimene, with hypoplasia of the endometrium against the background of the inflammatory process (chronic endometritis) - gynecochel.
For the prevention of heavy menstrual bleeding and for the purpose of the formation of biphasic MC, preference should be given to phytotherapy, remediation of infection foci, treatment of anemia, as well as general health measures.
Adolescents who have had menstrual function for less than 1 year are given hormone therapy only for vital indications in case of inefficiency of phyto- and symptomatic therapy.

Criteria for choosing anti-relapse hormone therapy for AMC PP: insufficient effectiveness of symptomatic and phytotherapy, recurrence of bleeding, SDA, gynecological age of more than 1 year.

Anti-relapse therapy of AMC PP with the help of COC. After stopping AMK with the help of monophasic COCs, it is necessary to continue the appointment of these drugs for three MCs. In the first cycle of COC cancellation, a phytotherapeutic agent is used (from the 1st day of MC for two MCs) and progestogens (from the 14th day of MC for 10 days). The criterion for prescribing these drugs is the thickness of the endometrium.

Precautions when using COCs . The decision to prescribe COCs both for the purpose of hemostasis and prevention of bleeding recurrences should be carefully considered. All contraindications to the use of these drugs should be taken into account, the rules of their administration should be clearly explained, the importance of self-control while taking COCs should be emphasized, the purpose of prescribing hormonal drugs should be explained. It is necessary to inform the patient (parents, guardian) about the duration of the treatment, which should be limited to three courses with mandatory ultrasound control of the OMT and clarification of the effectiveness of the treatment.

The use of COCs in adolescence without prior determination of the level of gonadotropins (FSH and LH) threatens the development of a long-term syndrome of hyperinhibition of the hypothalamic-pituitary chain, even with the impossibility of creating biphasic MC in the future.

In order to prevent AMC PP, progestogens and progestogens in adolescence are recommended to be prescribed for endometrium d > 8 mm; with a tendency to endometrial hyperplasia (d > 12 mm), the use of progestogens (norethisterone, linestrenol) is more appropriate.

Anti-relapse therapy of AMC PP is carried out with progestogens (for example, norethisterone 5 mg 2 times a day from the 14th day of MC for 10 days for three MCs) and progestogens (dydrogesterone or micronized progesterone sublingual in a minimal therapeutic dose from the 14th day of MC for 10 days for 3 -6 MC).

Precautions when using progestogens and progestogens: it is necessary to control the thickness of the endometrium (with the help of ultrasound), changes in the course of MC and the duration of menstrual bleeding. After the cessation of hormone therapy, it is more reliable in the prevention of relapses of MC disorders by prescribing phytotherapeutic agents for two cycles. Treatment with progestogens is stopped gradually: first, the duration is reduced from 10 to 5 days, then the dose of the drug is reduced to the minimum therapeutic level. In the last MC, in which progestogens are prescribed, hormone therapy should be combined with one of the phytotherapeutic agents (Mastodinon, Cyclodinon).

In case of ineffectiveness of the treatment, i.e. recurrence of bleeding, an additional clinical examination should be carried out and assistance should be resumed taking into account the results obtained. It is necessary to approach the appointment of hormonal drugs in the pubertal period with instability of regulatory mechanisms with great caution. The wrong choice of these medicines can cause profound negative changes in metabolism and lead to the development of metabolic disorders,

vegetative-vascular dysfunction, diseases of the mammary glands (fibrocystic disease), obesity, virilization, disorders of the function of the gastrointestinal tract and hepatobiliary system, disorders of the coagulation system blood, exacerbation of extragenital diseases. Sometimes, when using hormones, the dependence of cell function on their intake is formed, which is similar to that of narcotics. In the absence of drugs, the cells do not function, which leads to hyperinhibition syndrome, secondary amenorrhea, stopping the development of the reproductive system.

Criteria for the effectiveness of treatment of AMC PP: establishment of a regular biphasic MC, the duration of which corresponds to the norm; absence of anemia, as well as recurrence of bleeding during the year.

Establishing the correct management tactics for patients with AMC PP depends on the correct diagnosis of the causes of bleeding, the choice of the direction of treatment, taking into account all possible negative effects. The main mistake in the management of such patients is the appointment of medical measures without a preliminary examination, and in the future - the lack of control over the results of its use and effectiveness. This especially applies to hormonal drugs.

Family planning for different categories of the population and according to periods of life (Order No. 59 dated 21.02.2014)

Position protocol	**Justification**	**Necessary actions**
1. Methods of contraception for teenagers and young people.	Teenage pregnancy is always unplanned. First of all, teenage pregnancy carries a higher health risk, the younger they are (it is especially significant for 13-16-year-olds).	<u>*Mandatory:*</u> 1. Conduct counseling on healthy lifestyle, sex education, prevention of unplanned pregnancy and STDs. 2. Start counseling about contraceptive methods with a conversation about the most reliable method of avoiding pregnancy - ***the absence of sexual contact.*** 3. Offer methods of contraception: ***Condom:*** - protects against STIs/HIV; - use is simple and without a visit to the doctor; - has no side effects. ***COOK:*** - for young women who have a regular sex life and a permanent sexual partner; - does not protect against STIs/HIV. ***Double method*** (simultaneous use of COCs with a condom). ***VMC:***

		- do not offer to teenagers and young women who have not given birth and do not have one sexual partner; - does not protect against STIs/HIV. ***Fertility recognition methods:*** - can be offered to disciplined girls with a regular menstrual cycle who are highly motivated to use this method and have one partner; - does not protect against STIs/HIV. ***Emergency contraception:*** - high efficiency; - cannot be used as regular contraception, only for episodic use with irregular sexual life; - does not protect against STIs/HIV.

Back in the 2000s, a third of the world's countries introduced HPV vaccination into the national vaccination schedule. However, there is great unevenness in the application of these programs. Among high-income countries, 70% of adolescents are vaccinated against papilloma. With an average profit of 20%. And only 3% of boys and girls are vaccinated in low-income countries. Traditionally, the reason lies in financial and social problems.

Types of papillomavirus vaccines:

- **"Cervarix"** is a recombinant vaccine made from highly purified non-infectious virus-like particles (HPV) of the main capsid protein (L1) of the HPV type 16 and 18 envelope;
- **"Gardasil-4"** is an adjuvant non-infectious recombinant quadrivalent vaccine that protects against HPV types 6, 11, 16 and 18;
- **"Gardasil-9"** is an adjuvant non-infectious nine-valent recombinant vaccine against the human papilloma virus (protects against 9 types: 6, 11, 16, 18 31, 33, 45, 52, 58).

Vaccination with these vaccines prevents the following diseases:

- cervical cancer . If a woman was not infected with HPV and was vaccinated before the age of 25, the effectiveness of protection is 98-100%;
- precancerous conditions and malignant neoplasms of the vulva and vagina;
- anal cancer in women and men;
- genital warts, precancerous or dysplastic conditions;
- cervical intraepithelial neoplasia of the vulva, vagina, anal canal of various degrees, etc.

However, we remember that the mentioned HPV vaccines protect against a maximum of 9 types of HPV, namely, 15 types are highly oncogenic.

Vaccination against HPV

In order to achieve the greatest effect, vaccination against the papillomavirus should be done before the start of sexual life. Studies prove that immunity lasts for about 10

years. Ideally, during this time, a person finds a permanent sexual partner and creates a family. So, after that, even with reduced immunity, the risk of HPV infection will be minimal.
In general, vaccination against the human papilloma virus is recommended for both girls and boys aged 9 to 45 years ("Cervarix" is used only up to 25).
Vaccination against HPV is carried out with the help of an intramuscular injection in the shoulder area in two or three doses for six months.
Revaccination (repeated papilloma vaccine) is not done. **Vaccination against HPV is carried out ONLY after a preliminary examination by a doctor.** It is not necessary to take a blood test or be tested for HPV before vaccination.
As you can see, it is possible to protect yourself from HPV infection. Remember that the so-called "HPV vaccination" or "HPV vaccination" is preventive, not curative. Vaccination will help to prevent infection of the body with certain types of virus, but, unfortunately, it will not stop those processes that have already started.

Algorithm for performing practical skills.

Bimanual (vaginal) examination:

1. say hello to the patient;
2. identify the patient (name, age);
3. to inform the patient about the necessity of conducting the study;
4. explain to the patient how the study is conducted;
5. obtain permission to conduct research;
6. wash hands;
7. put on inspection gloves;
8. with the first and second fingers of the left (right) hand, spread the labia majora, place the middle finger of the "dominant" hand at the level of the posterior adhesion, gently press on it to open the entrance to the vagina;
9. carefully and slowly insert the middle finger, then the index finger into the vagina along the back wall to the vault and cervix, bring the fourth and fifth fingers to the palm, bring the thumb to the top;
10. determine the length of the vaginal part of the cervix in centimeters;
11. determine the consistency of the cervix (dense, soft);
12. determine the patency of the external eye of the cervical canal (closed, a fingertip passes through);
13. to assess the painfulness of the excursion of the cervix;
14. the second palm should be carefully placed on the stomach (above the symphysis) and moderately pressed to determine the bottom of the uterine body;
15. take the body of the uterus between two hands and determine:

a. the position of the uterus relative to the cervix (anteflexio, retroflexio);
b. the size of the uterus (normal, reduced, increased);
c. the consistency of the body of the uterus (tight-elastic, soft, compacted);
d. mobility of the uterine body (relatively mobile, limited mobility);
e. sensitivity during palpation (painful, painless);

16. place your fingers in the bottom of the right lateral vault and, using both hands, palpate the right vaginal vault and right appendages of the uterus, determine their size, mobility and pain;
17. place your fingers in the bottom of the left lateral vault and, using both hands, palpate the left vaginal vault and the left appendages of the uterus, determine their size, mobility and painfulness;
18. determine the capacity of the vaginal vaults;
19. inform the patient about the results of the study;
20. thank the patient;
21. remove examination gloves;
22. wash hands

Clinical examination of mammary glands:

1) say hello to the patient;
2) identify the patient (name, age);
3) to inform the patient about the necessity of conducting the study;
4) explain to the patient how the study is conducted;
5) obtain permission to conduct research;
6) wash hands;
7) put on inspection gloves;
8) examine the mammary glands, evaluate their shape, skin color, nipples, areas around the nipple (asymmetry, retractions, etc.);
9) examine the tissue of the mammary glands clockwise or in quadrants and determine its density, homogeneity, sensitivity, presence/absence of bulky neoplasms;
10) when a neoplasm is detected, determine its shape, size, consistency, limits of formation, mobility, relationship with breast tissue, pain;
11) to palpate lymph nodes in the supraclavicular, subclavian and axillary areas;
12) determine the presence of pathological secretions from the mammary glands;
13) inform the patient about the results of the study;
14) thank the patient;
15) remove examination gloves;
16) wash hands

3.3. Requirements for work results, including to registration

- Conduct puberty counseling for girls and teenagers.
- Assess the patient.
- Choose examination, management tactics and treatment for girls with menstrual disorders.
- Conduct contraceptive counseling for teenagers.
- Oral report about the thematic patient.
- Analysis and discussion of the results of the patient's examination.
- Multimedia presentation on the topic of the class (literature review using modern sources; video films, etc.).

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

Unusual situational tasks:

1. A 13-year-old patient turned to a pediatric gynecologist with complaints of pain in the lower abdomen that appeared approximately 6 months ago. The pains recur every month and last 2-3 days. Two months ago, a patient with an attack of pain was hospitalized in the surgical department with suspicion of acute appendicitis, the diagnosis of which was not confirmed later. She grew and developed normally. History: childhood infections, acute pyelonephritis. Ma2-3Ax2P2Me0. Gynecological status: the external genitals are developed correctly, when the labia are parted, a tense virgin bluish membrane is revealed. During ultrasound, a normal-sized uterus and a fluid formation of 110x70 mm (hematocolpos) located below it are determined.

Previous diagnosis?

Driving tactics?

Answer: Hymen atresia. Hematocolpos. Surgical treatment is indicated - hymen dissection.

2. A 15-year-old patient turned to a pediatric gynecologist with complaints of spasm-like pains in the lower abdomen, sacrum, headache, nausea, vomiting, diarrhea, which begin simultaneously with the onset of menstrual bleeding and last the first two days of menstruation. The patient is unable to work these days. It grew and developed normally. History: whooping cough at the age of six. Menstruation since the age of 13, the first 1.5 years are not regular, recently 4-5 days after 28, moderate, painful. Ma3Ax2P2Me03. Gynecological status: the external genitalia are properly developed, pubic hair is female-type, the hymen is intact, during recto-abdominal examination: the size of the uterus corresponds to the age, the appendages on both sides are without pathological changes.

Previous diagnosis?

Driving tactics?

Answer: Algodysmenorrhea. Additional examination to rule out anatomical causes of pain during menstruation. Symptomatic therapy with prostaglandin inhibitors.

Test tasks STEP-2:

(2019) A 32-year-old woman turned to a gynecologist with complaints of chronic pelvic pain that worsens during menstruation, dyspareunia, bleeding before and after menstruation. Last period 3 weeks later. When examined in mirrors: on the cervix, there are 2 cysts with a diameter of 3 and 5 mm, blue-purple in color, from which a dark brown liquid is secreted. During bimanual examination: the body of the uterus is spherical in shape, enlarged up to 6 weeks of pregnancy, painful during palpation. Appendages on both sides without features. The doctor was informed that the birth of a child is not planned in the near future. What is the most appropriate treatment strategy for this patient?

A. Controlled ovarian hyperstimulation

B. Appointment of combined oral contraceptives *
C. Appointment of androgens
D. Surgical intervention
E. Appointment of gonadotropin-releasing hormone antagonists

(2008) A 26-year-old woman who gave birth 7 months ago has been troubled by nausea, vomiting in the morning, and drowsiness for the past two weeks. She is breastfeeding, there was no menstruation. She was not warned against pregnancy. Which of the methods should be used to clarify the diagnosis?
A. Ultrasound examination *
B. Ro -graphy of the pelvic organs
C. Palpation of the mammary glands and milk ejection
D. Two-handed vaginal examination
E. Research using mirrors

4. Summing up .
Current control: oral survey, testing, assessment of performance of practical skills, solution of situational clinical tasks, assessment of activity in class, etc.
The structure of the current evaluation in the practical lesson :
Evaluation of theoretical knowledge on the subject of the lesson:
- methods: survey, solving a situational clinical problem;
- the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2

Evaluation of practical skills and manipulations on the subject of the lesson:
- methods: assessment of correct performance of practical skills;
- the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2 .

Evaluation of work with a patient on the subject of the lesson:
- methods: assessment of: a) communication skills of communicating with the patient, 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 is 5, the minimum score is 3, the unsatisfactory score IS 2 .

Current assessment criteria for practical training:

«5»	The student is fluent in the material, takes an active part in the discussion and solution of situational clinical problems, confidently demonstrates practical skills during the examination of a pregnant 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 pregnant and interpretation of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, demonstrates clinical thinking.

«3»	The student isn't well versed in material, insecurely participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a pregnant and interpretation of clinical, laboratory and instrumental studies with significant errors.
«2»	The student isn't versed in material at all, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of a pregnant and the interpretation of clinical, laboratory and instrumental studies.

List of recommended literature.

Basic:

1. Family Planning: A Universal Guide for Family Planning Providers.Updated 3rd edition 2018. Copenhagen: WHO Regional Office for Europe; 2021
2. Obstetrics and gynecology:in 2 books. – Book 2. Gynecology: a textbook (III-IV university) / edited by V.I. Hryshchenko, M.O. Shcherbiny - 3rd ed., edition, 2020. – 376 p
3. Clinical obstetrics and gynecology: 4th edition/Brian A. Magowan, Philip Owen, Andrew Thomson. - 2021. - 454 p.
4. Medical acceptance criteria for the use of contraceptive methods: 5th edition. Guidelines.-Geneva: World Health Organization; 2015
5. Family planning and contraception: study guide / V.I.Boyko, N.V. Kalashnyk, A.V. Boyko and others; in general ed. Dr. Med. Sciences, Prof. V.I. A fight – Sumy: Sumy State University, 2018. – 223 p.
6. Oats, Jeremy Fundamentals of Obstetrics and Gynecology [Text]: Liewellyn-Jones Fundamentals of Obstetrics and Gynecology / J. Oats, S. Abraham. - 10th ed. – Edinburgh [etc.]: Elsevier, 2017. – VII, 375 p.
7. Dutta, Durlav Chandra. DC Dutta's Textbook of Gynecology including Contraception / DC Dutta; ed/ Hiralal Konar. - 7th. ed. - New Delhi: Jaypee Brothers Medical Publishers, 2016. - XX, 574 p.

Additional:

1. Lopez LM, Grimes DA, Schulz KF. Steroidal contraceptives: effect on carbohydrate metabolism in women without diabetes mellitus. Cochrane Database Syst Rev. 2019 Nov 12; 2019(11).
2. Plu-Bureau G, Sabbagh E, Hugon-Rodin J. Hormonal contraception and vascular risk: CNGOF Contraception Guidelines. Gynecol Obstet Fertil Senol. 2018 Dec;46(12):823-833.
3. Current "Clinical protocols", approved by order of the Ministry of Health of Ukraine for Obstetrics and Gynecology.

Internet sources for preparation:

1. https://www.cochrane.org/
2. https://www.ebcog.org/
3. https://www.acog.org/
4. https://www.uptodate.com

5. https://online.lexi.com/
6. https://www.ncbi.nlm.nih.gov/
7. https://pubmed.ncbi.nlm.nih.gov/
8. https://www.thelancet.com/
9. https://www.rcog.org.uk/
10. https://www.npwh.org/