MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY
Faculty of dentistry
Department of Obstetrics and Gynecology

"APPROVED"
Vice-rector for scientific and pedagogical work
Eduard BURIACHKIVSKYI
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METHODICAL DEVELOPMENT OF THE PRACTICAL LESSON

Course IV. Faculty of dentistry

Educational discipline "Obstetrics and gynecology"

Practical lesson No. 1. Topic: "Physiology of pregnancy. Methods of examination of pregnant women"

Approved:
Meeting of the Department of Obstetrics and Gynecology
Odessa National Medical University

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Head of the department_____ Ihor GLADCHUK

Developers:
Doctor of Medicine, Associate Professor of the Department of Obstetrics and Gynecology _____ Z.V. Chumak
PhD, Assistant of Professor of the Department of Obstetrics and Gynecology
_____ O.V. Zhovtenko

Practical lesson No. 1

Topic: "Physiology of pregnancy. Methods of examination of pregnant women"

Aim: To acquaint students on the impact of additional processes on a woman's body during pregnancy. Ensuring vital activity, growth and development of the embryo and fetus in the mother's body undergo significant changes that affect almost all body systems. Compensatory changes in the organs and systems of a pregnant woman's body lead to changes in homeostasis to a state of unstable, tense equilibrium. Violations of this balance can lead to a change in homeostasis and the realization of one or another obstetric and extragenital pathology, which the dentist needs to know about.

Basic concepts: The perinatal period includes the time before childbirth - antenatal, during childbirth - intranatal and after childbirth - neonatal periods. Physiology of pregnancy and its main aspects of management. Possibilities of using methods of examination of pregnant women used in modern obstetrics**.**

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

1. Organizational measures (greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).

To identify higher education graduates for responsibility and consistency in work, sensitivity and tolerance in the attitude towards a pregnant woman. To teach the student logical clinical thinking and diagnostic methods that are new to him, to provide an opportunity for the student to independently solve an atypical problem, with an independent choice of the solution path, to develop a sense of responsibility for the correctness of professional actions in the students.

Have specialized conceptual knowledge acquired in the process of training. To be able to solve complex tasks and problems arising in professional activity. Clear and unambiguous presentation of one's own conclusions, knowledge and explanations, which are substantiated, to specialists and non-specialists. Be responsible for making decisions in difficult conditions, have deep knowledge of the structure of professional activity. Be able to carry out professional activities, update and integrate knowledge. The ability to effectively form a communication strategy in professional activities. To bear responsibility for development, the ability for further professional training with a high level of autonomy.

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

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

Knowledge requirements:

-to know the level of provision of inpatient obstetric and gynecological care to the population;

- to know the functions of a dentist in examining pregnant women;

- draw up a plan for the primary laboratory examination at the first visit of a pregnant woman to a women's consultation;

- to interpret the main performance indicators of the obstetric hospital.

List of didactic units:

-have an understanding of what "Physiological pregnancy" means;

- to have an understanding of the pathological forms that occur during "Physiological pregnancy"

- to have concepts representing methods of examination of pregnant women. examination of a pregnant woman

Questions (tests, tasks, clinical situations) to check the basic level of knowledge on the subject of the lesson.

Questions:

- Critical periods of embryo and fetal development.
- Impact of harmful factors on the embryo and fetus.
- Physiological changes in a woman's body during pregnancy.
- Hygiene and nutrition of a pregnant patient.
- Methods of examination of pregnant women.
- External and internal obstetric examination of pregnant women.
- Topography of the fetus in the uterus.
- Management of physiological pregnancy.
- Preconception care.

Situational tasks:

1. A 20-year-old patient adressed to a women's consultation to determine the presence of pregnancy. She does not remember the date of her last period. For the last 2 months, She was protected from pregnancy. For 10 days, nausea has been bothering her, aversion to meat food has appeared. When examining with the mirror, cyanosis of the mucous membrane of the vagina and cervix draws attention. During bimanual examination: the uterus is in hyperanteflexion, slightly enlarged, rounded, softened, the appendages are not defined. What are the possible signs of pregnancy?

Answer: Diagnosis: Nausea, aversion to meat food. Cyanosis of the mucous membrane of the vagina and cervix.

2. A 22-year-old patient adressed to a women's consultation with complaints of delayed menstruation for 2 months, a craving for spicy food, nausea, drowsiness,

and an aversion to tobacco smoke. During bimanual examination: the uterus is in hyperanteflexion, enlarged to the size of a goose egg, asymmetry in the region of the left angle is detected. What are the likely signs of pregnancy?

Answer: Diagnosis: Absence of menstruation, hyperanteflexion and asymmetry of the uterus

3. A 35-year-old woman, G2P2 , was examined by methods of external obstetric examination in a women's consultation. The gestation period is 37-38 weeks. When palpating the uterus above the entrance to the small pelvis, a soft part of the fetus is palpated, which does not move. A dense rounded part is defined in the right hypochondrium, the back of the fetus is turned to the left and back in relation to the wall of the uterus. The fetal heartbeat is clear, rhythmic 140 beats per minute on the left above the level of the navel. Determine the type of fetus orientation in the uterus?

Answer: Diagnosis: Breech presentation, left posterior position .

Typical test tasks:

1. 1.During the first examination of a pregnant woman, a pregnancy of 32 weeks was diagnosed. Pregnancy course is physiological. Where should the fundus of uterus be located?
   A. At the level of the navel.
   B. Midway between the xiphoid process and the umbilicus.
   C. 4 cm below the xiphoid process.
   D. Under the xiphoid process.

2.Gravida I, 25 years old, LMP was on March 3, 2023. He has been feeling fetal movements since August 2, 2023. Determine the expected date of delivery:

A. November 10.
B. December 10.
C. January 10.
D. December 30.

2. During the external obstetric examination, the abdomen of the pregnant woman has a transversely oval shape. A round, dense part of the fetus is palpated in the left side, and in the right - a large soft part of the fetus, which is not movabale. The heartbeat of the fetus is heard at the level of the navel. What is the lie, position and presentation of the fetus?
   A. Transverse lie, II position, the presenting part is absent.
   B. Oblique lie, I position, the presenting part is absent
   C. Longitudinal lie, I position, head presentation.
   D. Transverse lie, I position, the presenting part is absent

Correct answers:

1 – B, 2 – B; 3 – D

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research).

- Task content (tasks, clinical situations, etc.)

Interactive task:

Students in the group are divided into 3 subgroups of 4-5 people each. We work in classes 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.

Non-typical situational tasks:

1. A woman came to doctor with complaints about the absence of menstruation for 3 months. The patient is also bothered by nausea, aversion to meat food, occasional vomiting in the morning.

Age 25, married, no pregnancies. Menstruation from the age of 13, regular after 28 days for 4-5 days. When taking anamnesis, it was found that the patient suffers from chronic tonsillitis, chronic pyelonephritis. On examination: the patient has a correct physique, satisfactory nutrition. Height 155 cm, body weight 52 kg. The skin and visible mucous membranes are pale pink, clean. Pelvis dimensions: 26-28-31-21 cm. Solovyov's index 15 cm. Blood pressure 115/66 mmHg. Pulse 72 bpm. No pathology was detected on the part of the internal organs.

During a bimanual examination: the external genitalia are developed correctly, cyanosis of the mucous membrane of the cervix and vagina is noted, the vagina is narrow, the bottom of the uterus is palpated above the pubic symphysis, soft in consistency, uterine tone increases on palpation. The appendages are not palpable. Mucous discharge.

1. Diagnosis. Specify the likely signs that confirm pregnancy.

2. List the laboratory and instrumental studies that should be performed at the first visit of a pregnant woman to a doctor.

The answer:

1. Pregnancy I, 12 weeks. Absence of menstruation for 3 months, enlargement of the uterus up to 12 weeks. pregnancy, cyanosis of the mucous membrane of the cervix and vagina, softening of the uterus, contraction of the uterus during palpation.

2. Laboratory studies: general analysis of urine (including a test for the presence of protein), culture of urine (detection of asymptomatic bacteriuria), determine blood group and Rh type, general blood analysis with determination of the number of platelets and hematocrit, serological examination for syphilis, HIV test - infection, test for the presence of HbsAg, smear for cytology, smear for flora (according to indications), ultrasound.

2. Primapara, 23 years old, came to the maternity hospital with a full-term pregnancy and complaints of contractions that started 4 hours later. Contractions last 20-25 seconds, repeated every 4-5 minutes. The general condition of woman is satisfactory. Body temperature is 36.7 °C. Blood pressure 120/80 mm Hg, heart rate is 80 in 1 minute.

The position of the fetus is longitudinal, the back is turned to the left wall of the uterus, the head is located 4 fingers above the symphysis. The fetal heartbeat is clear, rhythmic, 156 beats in 1 minute.

Internal obstetric examination: the vagina is free, the cervix is smooth, the edge is thin, the external oss has a diameter of 2 cm. The amniotic sac is intact. The fetal head is presented. The promontorium is inaccessible, the terminal lines and the inner surface of the symphysis, except for the upper edge, are partially palpable.

1. Diagnosis

2. Does the rate of opening of the cervix correspond to the period and phase of labor?

The answer:

1. Pregnancy I, 39-40 weeks. Longitudinal lie, 1st position, occipital anterior presentation. Labor I, in term, I period of childbirth. Latent phase.

2. In this case, the rate of opening of the cervix corresponds to the latent phase of the first period of labor, since the cervix was smoothed out in 4 hours, and the diameter of the cervical canal was 2 cm.

Non-typical test tasks:

Pregnant, 37 y.o., at term 36 weeks. During the external obstetric examination, the abdomen of the pregnant woman has a transverse oval shape, in the left side wall of the uterus a round, dense part of the fetus that is found, in the right - a soft part of the fetus that is not movable. The heartbeat of the fetus is heard at the level of the navel.

What is the position, position and presentation of the fetus?

A. Transverse lie, I position.

B. Occipital anterior right preseentation

C. Left posterior breech presentation

D. Occipital posterior right presantation

Recommendations (instructions) for performing tasks (professional algorithms, check- lists for the formation of practical skills and abilities, etc.)

3.1. Impact of harmful factors on the embryo and fetus.

3.2. Developmental disorders of the embryo and fetus are divided into the following groups

3.3. Harmful factors, affecting the fetus:

2. Physiological changes in a woman's body during pregnancy

4.1. Psychological conditions

4.2. Uncomfortable states
4.3. Immune system
4.5. central nervous system
4.6. Cardiovascular system
4.7. Blood system
4.8. Gastrointestinal tract
4.9. Metabolism
4.10. Kidneys
4.11. Genitalia
4.12. Body weight
4.13. Musculoskeletal system

Changes in the female body during pregnancy:

During pregnancy, significant physiological changes occur in a woman's body, which ensure the proper development of the fetus, prepare the body for future childbirth and feeding. During this difficult period, the load on all organs and systems of a woman's body increases significantly, which can lead to exacerbation of chronic diseases and the development of complications. That is why you should register as early as possible in a women's consultation, undergo all the necessary specialists and pass tests. This will allow you to take adequate preventive measures and prepare for childbirth.

Heart.

The cardiovascular system during pregnancy performs more intense work, because an additional placental circle of blood circulation appears in the body. Here, the blood flow is so great that 500 ml of blood passes through the placenta every minute. The heart of a healthy woman during pregnancy easily adapts to additional loads: the mass of the heart muscle and cardiac output of blood increase. To meet the growing needs of the fetus in nutrients, oxygen and building materials in the mother's body, the volume of blood begins to increase, reaching a maximum by the 7th month of pregnancy. Instead of 4000 ml of blood, now 5300-5500 ml circulates in the body. In pregnant women with heart diseases, this load can cause the development of complications, that is why at the time of 27-28 weeks they are recommended to be referred to specialized maternity hospitals for conducting functional tests and drawing up a plan for further management of pregnancy and childbirth.

Blood pressure.

Blood pressure during normal pregnancy practically does not change. On the contrary, in women who have an increase in it before or in the early stages of pregnancy, in the middle of pregnancy it usually stabilizes and is within the range of 100/60-130/85 mmHg. This is due to a decrease in the tone of peripheral blood vessels under the influence of the progesterone hormone. However, in the last trimester of pregnancy, blood pressure can rise, reaching very high values. High blood pressure (140/90 mmHg and higher) is one of the signs of preeclampsia in

pregnant women. This condition is very dangerous and may require emergency delivery.

Lungs

In connection with the increase in the need of a woman's body for oxygen during pregnancy, the activity of the lungs increases. Despite the fact that as pregnancy progresses, the diaphragm rises up and limits the respiratory movements of the lungs, their capacity increases. This happens due to the expansion of the chest, as well as due to the expansion of the bronchi. An increase in the volume of inhaled air during pregnancy facilitates the removal of used oxygen by the fetus through the placenta. The frequency of breathing does not change, it remains 16-18 times per minute, slightly increasing until the end of pregnancy. Therefore, with the appearance of shortness of breath or other breathing disorders, a pregnant woman should consult a doctor.

Kidneys.

During pregnancy, the kidneys function with great stress, because they remove the metabolic products of the pregnant woman and her growing fetus from the body. In addition, the pregnant uterus, turning slightly to the right, can cause difficulty in the outflow of urine from the right kidney. In this case, the risk of hydronephrosis increases, that is, the expansion of the pelvis and cups due to excessive accumulation of urine in them.

Digestive organs.

Many women in the first 3 months of pregnancy experience changes in their digestive organs: nausea and vomiting often appear in the morning (signs of early gestosis), taste sensations change, and a craving for unusual substances (clay, chalk) appears. The liver during pregnancy works with a greater load, because it neutralizes the products of the woman's and the fetus' metabolism.

Joints.

During pregnancy, women develop some laxity in their joints. The joints of the pelvis become especially mobile, which facilitates the passage of the fetus through it during childbirth. Sometimes the softening of the pelvic joints is so pronounced that a slight separation of the pubic bones is observed. Then the pregnant woman has pains in the pubic symphasis, a "duck" gait.

Mammary glands.

During pregnancy, the mammary glands prepare for future feeding. They have an increased number of particles, adipose tissue, and improved blood supply. Mammary glands increase in size, nipples become swell.

Genitals.

The biggest changes during pregnancy occur in the genitals and affect mainly the uterus. The pregnant uterus constantly increases in size, by the end of pregnancy its height reaches 35 cm instead of 7-8 cm for non-pregnant size, the weight increases to 1000-1200 g (without the fetus) instead of 50-100 g. The volume of the uterine cavity at the end of pregnancy increases approximately 500 times. The change in the size of the uterus occurs due to the increase in the size of muscle fibers

under the influence of placental hormones. Blood vessels expand, their number increases, they seem to wrap around the uterus. Irregular contractions of the uterus are observed, which become more active by the end of pregnancy and feel like "squeezing". These so-called Braxton-Hicks contractions, normally observed from the 30th week of pregnancy, are considered as training before the real contractions in labor. The position of the uterus changes according to its size. By the end of the 3rd month of pregnancy, it goes beyond the pelvis, and closer to labor date, it reaches the hypochondrium. The uterus is held in the correct position by ligaments that thicken and stretch during pregnancy. Pains that occur on the sides of the abdomen, especially when changing body position, are often caused by ligament tension. The blood supply to the external genitalia increases, varicose veins may appear in the vagina and on the labia (the same varicose veins may also appear on the lower limbs and in the rectum).

An increase in body weight.

Fetal growth and physiological changes in a pregnant woman's body affect her body weight. By the end of pregnancy, a healthy woman's body weight increases by an average of 12 kg, with variations from 8 to 18 kg. Usually, in the first half of pregnancy, it increases by 4 kg, in the second half - by 2 times more. Weekly weight gain up to 20 weeks is approximately 300 +30 g, from 21 to 30 weeks - 330 +40 g, and after 30 weeks before childbirth - 340 +30 m. In women with a low body weight before pregnancy, weekly weight gain can be even more.

Psychology of women.

In addition to physiological changes in the body, the mental state of a pregnant woman changes. A woman's attitude to pregnancy and childbirth is influenced by various factors, including social, moral-ethical, economic and other factors, as well as the characteristics of the personality of the pregnant woman herself.

In the first half of pregnancy, many women are more concerned about their own health, and in the second half, especially after the appearance of fetal movements, all the thoughts and concerns of the expectant mother are directed to the well-being of the fetus. A woman can address a child with kind words, she fantasizes, endowing him with individual characteristics. Along with this, many women consciously give up some preferences and habits for the sake of future motherhood.

Also, pregnant women may have various fears and anxieties. During this period, a woman may be concerned about changes in her appearance, loss of attractiveness, and relationships with her husband. Close relatives (especially the husband) should become a reliable support for the pregnant woman and try to provide the woman with psychological comfort. In case of severe anxiety and depression, a pregnant woman is recommended to seek the advice of a specialist.

Hormones and pregnancy.

It is known that a lot of changes occur in the body during pregnancy, and many of them are due to hormonal changes. How do these indicators change?

- Blood parameters during pregnancy
- General blood analysis
- Coagulogram.
- Biochemical analysis of blood

Topography of the fetus in the uterus.

To clarify the location of the intrauterine fetus in obstetrics, the following terms are proposed: habitus, lie, position, type and presentation.

Habitus - the relation of the limbs and head of the fetus to its trunk. With normal articulation, the fetal body is bent, the head is inclined to the chest, the legs are bent at the hip and knee joints and pressed to the abdomen, the arms are crossed on the chest.

The lie of fetus (situs) is the ratio of the axis of the fetus to the axis (longitudinal) of the uterus. Here is the fetus - a line running along the back from the nape of the neck to the coccyx.

Fetal lie options:

1. longitudinal lie - the axis of the fetus coincides with the longitudinal axis of the uterus;
2. transverse lie - the axis of the fetus and the axis of the uterus intersect at a right angle; both large parts of the fetus are located above the crista iliaca;
3. oblique lie - the axis of the fetus and the axis of the uterus cross at an acute angle, while the head or pelvic end of the fetus is located in one of the iliac regions, that is, below the crest of the iliac bone.

Position of the fetus (positio) - the relation of the back of the fetus to the left (first position) or to the right (second position) side of the uterus in the longitudinal lie. With the transverse and oblique lie of the fetus, the position is determined by the relation of the fetal head to the right or left side of the uterus (the first position is the head in the left wall of the uterus, the second - in the right).

View of the fetus (visus) - the ratio of the back of the fetus to the front and back walls of the uterus
1. anterior (front) view - the back of the fetus is turned slightly forward;
2. posterior view - the back of the fetus is turned slightly backwards

Presentation of the fetus (praesentatio) - the relationship of the lowest large part of the fetus to the birth canal (to the entrance to the pelvis). In longitudinal positions, there is either a head (96%) or a pelvic presentation (3.5%).

Examination of a pregnant woman

An objective examination of a pregnant woman begins with a general examination, which is conducted according to generally accepted rules, starting with an assessment of the general condition, temperature measurement, examination of the skin and mucous membranes. Then the cardiovascular, respiratory, digestive,

urinary, nervous and endocrine systems are examined. It is necessary to emphasize the obligation to measure blood pressure on both hands, because significant asymmetry is possible during gestosis.

Special obstetric examination consists of external obstetric examination, internal obstetric examination and additional methods.

External obstetric examination includes:

1. Determination of the circumference of the abdomen and the height of the fundus of the uterus.

Abdominal circumference is measured with a centimeter tape at the level of the navel. The height of the uterine fundus is measured from the upper edge of the symphysis to the fundus of the uterus.

The fundus of the uterus is at the level of the symphysis	12 weeks.
In the middle of the distance between the womb and the navel	16 weeks
At the level of the navel	24 weeks
In the middle of the distance between the navel and the xiphoid process	30-32 weeks
It reaches the xiphoid process	36 weeks

When multiplying the size of the abdominal circumference by the standing height of the fundus of the uterus, it is possible to determine the estimated weight of the fetus.

Palpation of the abdomen of pregnant women is carried out sequentially, using four methods of external examination **(Leopold's methods).**

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.

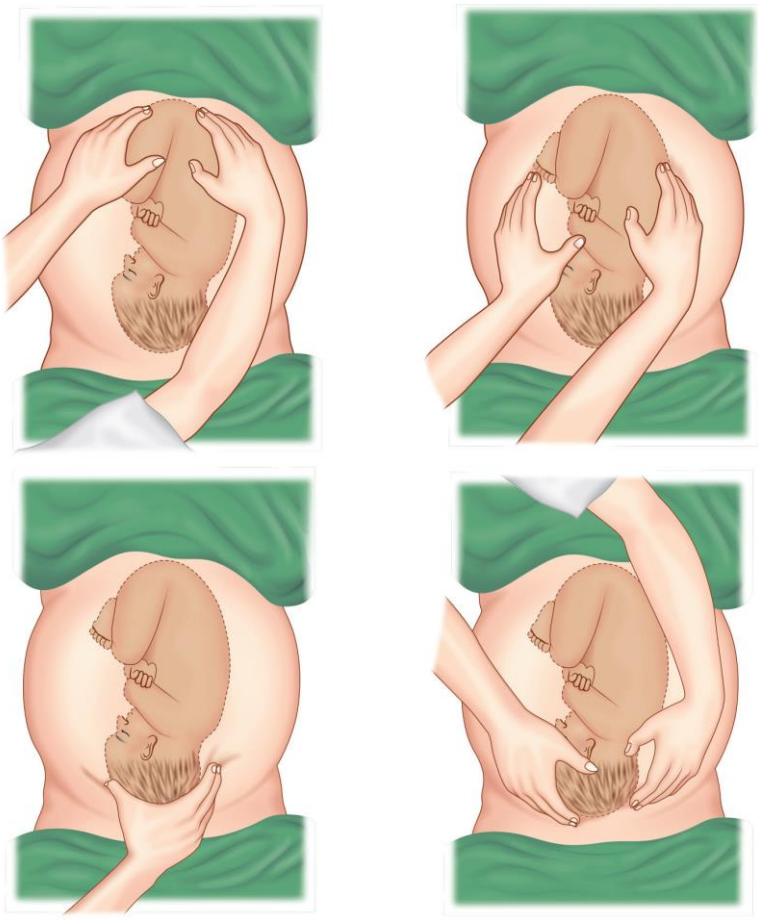
Fundal grip (First Leopold): The palpation is done facing the patient’s face. The whole of the fundal area is palpated using both hands laid flat on it to find out which pole of the fetus is lying in the fundus: (a) broad, soft and irregular mass suggestive of breech, or (b) smooth, hard and globular 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.



External pelviometry.

Assessment of the false pelvis can be done using external calipers.

Time: The assessment is done at any gestational age or at the beginning of labor.

Procedures: The patient should empty the bladder. The examination is done with the patient in dorsal position. To measure external conjugate ask patient to turn to her right side with flexed right thigh and knee and extended left leg.

Steps: Following pelvic measurements should be taken (Fig. 1):

- the interspinous diameter– the distance between antero-superior spines of iliac bones, 25-26 cm,
- the intercristal diameter – the distance between the furthest points of iliac crests, 27-28 cm,
- the intertrochanteric diameter – the distance between the greater trochanters of femoral bone, 30-31 cm
- the external conjugate – the distance between suprasacral fossa beneath the spinous process of L5 and upper edge of symphysis pubis, 20-21 cm

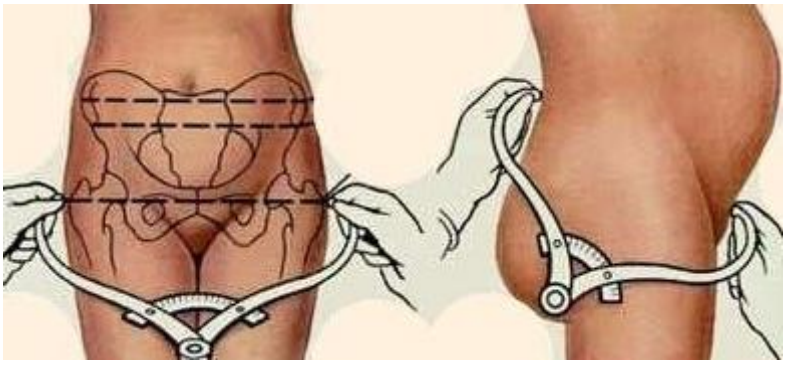


Fig.1: External pelvimetry

3. Auscultation of the fetus.

The heart activity of the fetus is determined with the obstetric stethoscope at the beginning of the second half of pregnancy. The stethoscope is placed in the place where the fetal heartbeat can be most clearly heard, perpendicular to the front abdominal wall. The heartbeat is most clearly heard from the side of the back of the fetus, in the head presentation - below the navel, in the breech presentation - above the navel, on the left - in the first position, on the right - in the second.

The normal range of fetal heart rate is 120-160 beats per minute. Heart tones are double, rhythmic, do not coincide with the pulse of the pregnant woman.

Internal obstetric examination

Vaginal examination of a pregnant woman is mandatory when entering the delivery room, discharge of amniotic fluid, to assess the progress of the opening of the cervix (every 4 hours during physiological labor), out of turn in the case of threatening conditions of labor and the fetus to clarify the obstetric situation.

Measurement of diagonal conjugate

Time: It is measured clinically during pelvic assessment in late pregnancy or in labor.

Procedures: The patient is to empty the bladder and placed in dorsal position.

Steps: Two fingers are introduced into the vagina taking aseptic precautions. The fingers are to follow the anterior sacral curvature. In normal pelvis, it is difficult to feel the sacral promontory or at best can be felt with difficulty. However, in order to reach the promontory, the elbow and the wrist are to be depressed sufficiently while the fingers are mobilized in upward direction. The point at which the bone recedes from the fingers is the sacral promontory. The fingers are then mobilized under the symphysis pubis and a marking is placed over the gloved index finger by the index finger of the left hand.

The internal fingers are removed and the distance between the marking and the tip of the middle finger gives the measurement of diagonal conjugate. For practical purpose, if the middle finger fails to reach the promontory or touches it with difficulty, it is likely that the conjugate is adequate for an average size head to pass through.

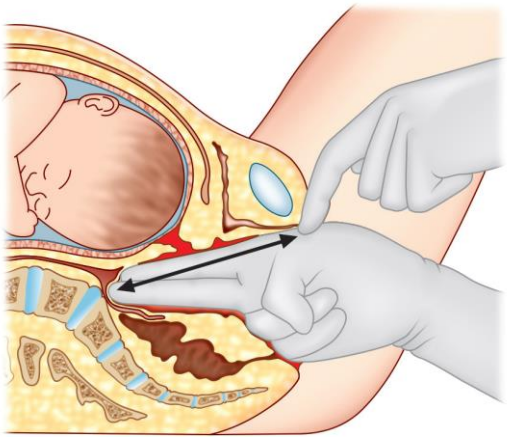


Fig.2: Measurement of diagonal conjugate

Internal pelvimetry

Assessment of the pelvis can be done by bimanual examination.

Time: In vertex presentation, the assessment is done at any time beyond 37th week but better at the beginning of labor. Because of softening of the tissues, assessment can be done effectively during this time.

Procedures: The patient is to empty the bladder. The pelvic examination is done with the patient in dorsal position taking aseptic preparations.

Steps: The internal examination should be gentle, thorough, methodical and purposeful. It should be emphasized that the sterilized gloved fingers once taken out should not be reintroduced.

Sacrum — The sacrum is smooth, well curved and usually inaccessible beyond lower three pieces. The length, breadth and its curvature from above down and side to side are to be noted.

Sacrosciatic notch — The notch is sufficiently wide so that two fingers can be easily placed over the sacrospinous ligament covering the notch. The configuration of the notch denotes the capacity of the posterior segment of the pelvis and the side walls of the lower pelvis.

Ischial spines — Spines are usually smooth (everted) and difficult to palpate. They may be prominent and encroach to the cavity thereby diminishing the available space in the mid pelvis.

Ilio-pectineal lines — To note for any beaking suggestive of narrow fore pelvis (android feature).

Sidewalls — Normally they are not easily palpable by the sweeping fingers unless convergent.

Posterior surface of the symphysis pubis — It normally forms a smooth rounded curve. Presence of angulation or beaking suggests abnormality.

Sacrococcygeal joint — Its mobility and presence of hooked coccyx, if any, are noted.

Pubic arch — Normally, the pubic arch is rounded and should accommodate the palmar aspect of three fingers. Configuration of the arch is more important than pubic angle.

Diagonal conjugate — After the procedure, the fingers are now taken out (see above).

Pubic angle: The inferior pubic rami are defined and in female, the angle roughly corresponds to the fully abducted thumb and index fingers. In narrow angle, it roughly corresponds to the fully abducted middle and index fingers.

Transverse diameter of the outlet (TDO) — It is measured by placing the knuckles of the first interphalangeal joints or knuckles of the clinched fist between the ischial tuberosities.

Anteroposterior diameter of the outlet—The distance between the inferior margin of the symphysis pubis and the skin over the sacrococcygeal joint can be measured either with the method employed for diagonal conjugate or by external calipers.

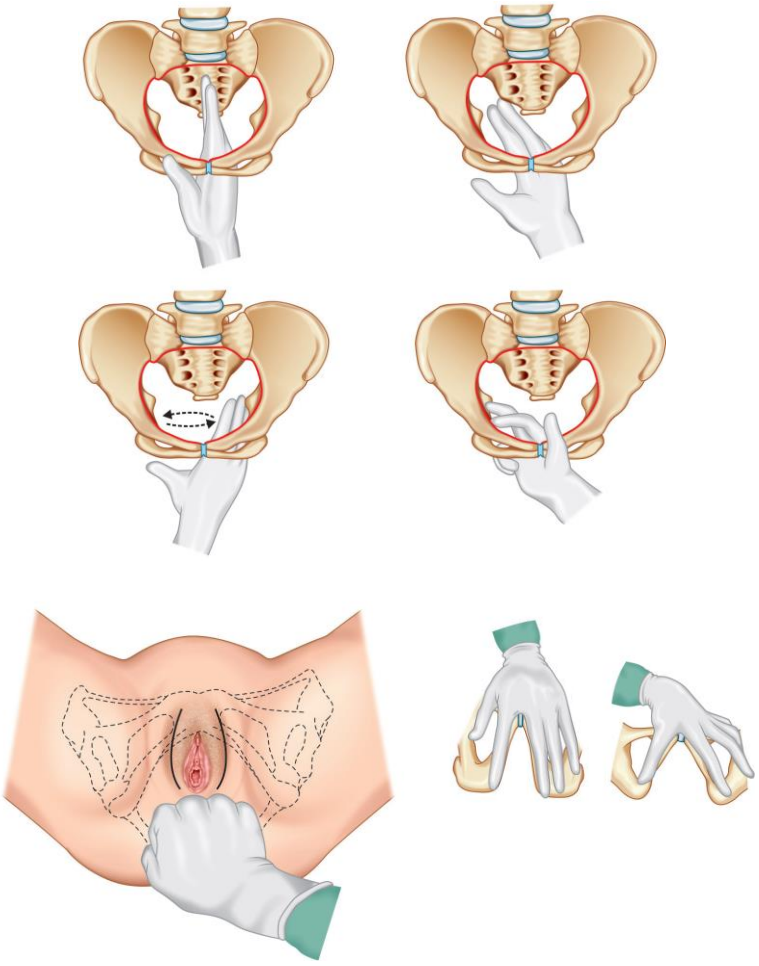


Fig. 3. Internal pelvimetry

Normal (physiological) labor is labor with spontaneous onset and

progression of labor in a pregnant woman at 37-42 weeks of pregnancy, occipital presentation of the fetus, with a satisfactory condition of the mother and the newborn after delivery. With the beginning of childbirth, a pregnant woman is called a woman in labor.

Harbingers of childbirth:

1. prolapse of the uterine fundus,
2. increased reaction of the uterus to mechanical stimulation,
3. the exit of the mucous plug from the cervical canal,
4. a decrease in a woman's weight by 1-1.5 kg,
5. decrease in the amount of amniotic fluid,
6. insertion of the head in primiparous women.

The preliminary period is rare, weak cramp-like pains in the lower abdomen and lower back, which occur against the background of normal uterine tone lasting up to 6-8 hours, leading to softening, smoothing and opening of the cervix, shaping of the lower uterine segment, descent anterior part of the fetus.

Determination of the onset of labor.

Cramps are involuntary contractions of the uterine muscles. The intervals between breaks are called pauses.

Regular birth activity - the presence of 1-2 or more contractions of the uterus within 10 minutes, lasting 20 or more seconds, which leads to structural changes in the cervix - its smoothing and opening.

The biological readiness of the body for childbirth is determined by the degree of maturity of the cervix:

Bishop scoring system:

Score	Dilation (cm)	Position of cervix	Effacement (%)	Station (-3 to +3)	Cervical Consistency
0	Closed	Posterior	0-30	-3	Firm
1	1-2	Mid position	40-50	-2	Medium
2	3-4	Anterior	60-70	-1, 0	Soft
3	5-6	--	80	+1, +2	--

0-2 points - "immature" cervix

3-5 points - cervix "not mature enough" > 6 points - cervix "mature"

Clinical course of labor

Labor course is divided into three periods:

The first period is period of opening of the cervix.

The second is expulsion of the fetus.

The third is postnatal.

With the beginning of labor, a pregnant woman is called a woman in labor.

The biomechanism of labor is a complex of translational, rotational, flexion and extension movements that the fetus makes while passing through the birth canal.

The biomechanism of labor in the occipital anterior presentation (OAP) consists of four moments.

The first moment is flexion of the head and lowering it into the plane of the entrance to the small pelvis.

The second point is the internal rotation of the head.

The third point is the extension of the head in the exit plane.

The fourth moment is the internal rotation of the shoulders and the external rotation of the head.

The biomechanism of labor in the occipital posterior presentation (OPP) consists of four moments.

The first moment is flexion of the head and lowering it into the plane of the entrance to the small pelvis.

The second point is the internal rotation of the head.

The third point is additional flexion of the fetal head.

The fourth point is the extension of the head.

The fifth moment is the internal rotation of the shoulders and the external rotation of the head**.**

Regulation of labor activity

The beginning of labor is the result of the gradual integration of the connection of morphological, hormonal, biochemical and biophysical states.

Management labor:

• assessment of the degree of predicted risk of development of maternal and perineal pathology in order to determine the necessary level of care during childbirth;
• determination of the labor plan and mandatory informed agreement with the woman;
• provision of emotional support to the mother during labor (organization of partner births);
• control over the condition of the mother and fetus during labor with partogram management;
• free position of the mother during childbirth;
• labor analgesia according to indications;
• assessment of the condition of the fetus at birth, carrying out the primary toilet of the newborn and early attachment to the mother's breast, implementation of the principles of the "thermal chain".

Preconception care includes:

Termination of harmful effects:

1. Quit smoking.

2. Refusing 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 of the risk group, which provides prevention of vertical transmission of infection, reduction of the risk of liver failure and liver cirrhosis in the mother.
9. Preparation of patients with chronic extragenital diseases:

• diabetes mellitus: 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, permitted additional use during pregnancy);
• 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, heparin prescription)
• other extragenital diseases (surgical treatment, correction of therapy, achieving disease remission).
• detection and treatment of HIV infection.

- **Control materials for the final stage of the lesson: tasks, tests, etc.**

Non-typical situational questions:

1. The concept of "physiological pregnancy”
2. Changes in the endocrine system that occur during pregnancy.
3. Changes in the genitals and mammary glands observed during pregnancy.
4. Doubtful signs of pregnancy and their diagnostic value.
5. Probable signs of pregnancy and their diagnostic value.
6. Early diagnosis of pregnancy.

7. Diagnosis of late pregnancy

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

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1. Summary of results (criteria for evaluating learning results)

Task 1.

Acute fetal hypoxia was diagnosed in a 23-year-old primiparous woman. At 17-18 weeks of pregnancy, she lifted a heavy structure, after which the problems began. The doctor on duty, after the examination, performed the operation of cavity obstetric forceps, manual separation and removal of placenta. Operations were performed without anesthesia. After the birth of the fetus, the woman's condition worsened: pale, pulse 100 bpm, blood pressure 100/60 mmHg. Vaginal discharge is bloody, moderate. Examination of the birth canal revealed a third-degree cervical tear on the left side and a left vaginal wall tear that reaches the fornix. Blood loss 300.0 ml. What combination caused the deterioration of the condition of the woman in labor.

Question:

1. Establish a preliminary diagnosis?
2. The algorithm of managment a woman?
3. Prospects for the treatment of this patient?

Correct answers:

1. Diagnosis: Pregnancy I, 17-18 weeks. Obstetric traumatic shock. Rupture of the cervix of the 3rd stage, rupture of the vagina of the 3rd stage.

2. Provide emergency care with the involvement of specialists in the maternity hospital. Provide information to the chief physician.

3. With timely assistance and use of all medical measures, prospects are favorable.

Test tasks KROK-2

1.A 28-year-old woman in labor was brought to the maternity hospital with painful often contractions. Labor is the first. Pelvis dimensions: 23-25-28-18 cm. Henkel-Wasten's sign is positive. Woman is excited, the abdomen is tense, painful in the lower parts. Contraction ring at the level of the navel, located obliquely. The fetal head is pressed against the entrance to the pelvis. Fetal heartbeat - 140/min. What complication occurred during childbirth?

Provide a preliminary diagnosis:

A. Discoordination of labor activity

B. Threat of uterine rupture
C. Initiated uterine rupture
D. Complete rupture of the uterus
E. Excessive labor activity

2.A 21-year-old pregnant woman came in with complaints of periodic nosebleeds, petechial rashes on the skin. Objectively: the uterus is in normal tone, the position of the fetus is longitudinal, the head of the fetus is mobile above the entrance to the small pelvis. The fetal heartbeat is clear, rhythmic, 140 beats/min. Laboratory data: platelets – 10.0*10^9/l, Hb – 118 g/l, erythrocytes 3.6*10^12/l, plasma coagulation factors unchanged. The diagnosis was established: 1st pregnancy of 37 weeks, thrombocytopenia.

Specify the tactics of managing a pregnant woman

A. Start labor induction, conduct labor conservatively
B. Prolong pregnancy, give birth through natural birth canals with prevention of bleeding
C. Perform a caesarean section closer to the labor date
D. Deliver immediately by caesarean section
E. Perform cesarean section simultaneously with splenectom

Correct answers: 1-B, 2-B

Protocols, standards, regulatory materials:

Medical care standards "Normal pregnancy" and Evidence-based clinical guideline "Normal pregnancy" of Ministry of Health of Ukraine dated 08/09/2022

Evaluation of the independent work of students

The independent and individual work of students involves the independent processing of educational material presented at the ISW, and is carried out in the following forms: studying educational, specialized literature, directive documents, writing essays on the topics of missed classes, etc.

Independent work of students during the ongoing control of mastering the topics of the sections in the corresponding classroom classes. Mastery of topics that are assigned only to independent work is checked during test control.

Evaluating individual tasks of students

In order to increase the arithmetic average of all grades received by the student during the study of the discipline, the grade for individual tasks is awarded to the student only under the condition of their successful completion and defense.

4.Current success rate

Current control: oral survey, assessment of communication skills during role play, solving situational clinical tasks, assessment of activity in class.

Final control: credit.

Evaluation of the current educational activity in a practical lesson:

1. Evaluation of theoretical knowledge on the subject of the lesson:

- methods: survey, solving a situational clinical problem

- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

2. Assessment of work with patients on the subject of the lesson:

- methods: assessment of: a) communication skills of communication with the patient b) the correctness of prescribing and evaluating laboratory and instrumental studies before using a contraceptive c) the ability to conduct family planning counseling.

- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The grade for one practical lesson is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Criteria of ongoing assessment at the practical class

«5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills and interprets the results of clinical, laboratory and instrumental studies, expresses his opinion on the topic, and 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 and interprets the results of clinical, laboratory and instrumental studies with some errors, expresses his opinion on the topic, and demonstrates clinical thinking.
«3»	The student does not have enough material, uncertainly participates in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination and interprets the results of clinical, laboratory and instrumental studies with significant errors.
«2»	The student does not have the material, does not participate in the discussion and solution of the situational clinical problem, and does not demonstrate practical skills during the examination and interpret the results of clinical, laboratory and instrumental studies.

5.Recommended literature

Basic:

1. Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
2. Williams Manual of Obstetrics (24th Ed) F. G. Cunningham, K. J. Leveno, S. L. Bloom, C. Y. Spong, J. S. Dashe, B. L. Hoffman, B. M. Casey, J. S. Sheffield, McGraw-Hill Education/Medical. – 2014. – 1377 pp.
3. DC Dutta's Clinics in Obstetrics / edited by Hiralal Konar- 2021- 306 pp.
4. Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed). Jeremy Oats, Suzanne Abraham. Elsevier. 2016. – 384 pp.
5.The FIGO Textbook of Pregnancy Hypertension. An evidence-based guide to monitoring, prevention and management. L. A. Magee, P. Dadelszen, W. Stones, M. Mathai (Eds), The Global Library of Women's Medicine. – 2016. – 456 pp.
6.Mayo Clinic Guide to a Healthy Pregnancy. (2 nd Ed) Myra J.Wick / ebook- 2018. – 946 pp.
7.Clinical Obstetrics and Gynaecology: 4th Edition/ Brian A. Magowan, Philip Owen, Andrew Thomson. - 2018. – 416 pp.
8.Gynecologic Health Care: With an Introduction to Prenatal and Postpartum Care: With an Introduction to Prenatal and Postpartum Care 4th Edition / K. D. Schuiling, F. E. Likis – 2020/- 500 pp.
9.Oats, Jeremy Fundamentals of Obstetrics and Gynaecology [Text]: Liewellyn-Jones Fundamentals of Obstetrics and Gynaecology / J.Oats, S.Abraham. – 10th ed. – Edinburgh [etc.]: Elsevier, 2017. – VII, 375 p.
10,Obstetrics: Normal and Problem Pregnancies, 7th Edition S. Gabbe, J. R. Niebyl, J. L. Simpson, M. B. Landon, H. L. Galan, E. R. M. Jauniaux, D. A. Driscoll, V. Berghella and W. A. Grobman, Elsevier. – 2017. – 1320 pp.
11. Obstetrics and Gynecology : in 2 vol. : textbook. Vol. 1. Obs tet rics / V.I. Gry shchenko, M.O. Shcherbina, B.M. Ventskivskyi et al. ; edited by V.I. Gryshchenko, M.O. Shcherbina. — 2nd edition. — K. : AUS Medicine Publishing, 2018. — 392 p.
12.Oxford Textbook of Obstetrics and Gynaecology / edited by Sabaratnam Arulkumaran, William Ledger et all/ - 2020- 2546 pp.

Additional:

1. Obstetrics by Ten Teachers (20th ed) Louise C. Kenny, Jenny E. Myers. – CRC Press. – 2017. – 342 pp.
2. Current Progress in Obstetrics and Gynaecology. Vol 4. Eds. J. Studd, Seang Lin Tan, F. Chervenak. – 2017. – 419 pp.
3. Recent Advances in Obstetrics and Gynaecology. Vol 26. W. Ledger, J. Clark. – JP Medical. – 2015.– 230 pp.
4. Proactive Support of Labor. Reuwer P., Bruinse H., Franx A. – 2015. – 216 pp.

5. The model of screening for preeclampsia in the second and third trimesters of gestation / L. Berlinska, V. Marichereda, O. Rohachevskyi, A. Volyanska, G. Lavrynenko // Electronic Journal of General Medicine. - 2023 - 20(3), em473, https://www.ejgm.co.uk/
6. Current "Clinical protocols", approved by order of the Ministry of Health of Ukraine for Obstetrics and Gynecology.

- Order of the Ministry of Health of Ukraine dated August 9, 2022 No. 1437 "On approval of standards of medical care "Normal pregnancy".
- Order of the Ministry of Health of Ukraine dated January 26, 2022 No. 170 "On approval of the Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Physiological childbirth".
- Order of the Ministry of Health of Ukraine dated January 24, 2022 No. 151 "On approval of the Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Hypertensive disorders during pregnancy, childbirth and the postpartum period."
- Order of the Ministry of Health of Ukraine dated 09/24/2022 No. 1730 "On approval of standards of medical care "Ectopic pregnancy".

Electronic information resources

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/
11. http://www.aagu.com.ua/ асоціація акушер-гінекологів України