MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY

Faculty International

Department of Obstetrics and Gynecology

CONFIRMED by
Vice-rector for scientific and pedagogical work
Eduard BURYACHKIVSKYI
August 29, 2024

METHODICAL DEVELOPMENT FOR A PRACTICAL LESSON IN ELECTIVE DISCIPLINE

Faculty International, 6th year

Elective discipline "**ULTRASOUND DIAGNOSTICS IN OBSTETRICS AND GYNECOLOGY**"

Practical lesson No6. Topic: "Ultrasound diagnostics in obstetrics."

ONMedU, Department of Obstetrics and Gynecology. Practical Classes №1. Fundamentals of ultrasound diagnostics of the pelvic organs in gynecology.

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

Protocol No1 of August 29, 2024

Head of the Department (Igor GLADCHUK)

Developers:

Candidate of Medical Sciences, Assistant of the
Department of Obstetrics and Gynecology Yulia ONYSHCHENKO

Practical lesson No 6

Topic: "Ultrasound diagnostics in obstetrics**."**
Objective: To understand the urgency of the problems of hereditary and congenital pathology, primarily congenital malformations (CRA), as well as chromosomal and monogenic diseases. Identify and assimilate the main indications for prenatal ultrasound screenings. Learn to evaluate the ultrasound image during ultrasound diagnosis of pregnancy. Learn the basic ultrasound characteristics markers of congenital pathology during ultrasound screenings. Learn the patient's examination plan during the first (11-14 weeks) and second screening (19-22 weeks) pregnancy, the third screening (30-32 weeks).
Basic concepts: Ultrasound evaluation of markers of congenital pathology during pregnancy screenings: basic concepts and indications. The examination process during ultrasound screening: the first (11-14 weeks), the second (19-22 weeks) and the third (30-32 weeks). The main ultrasound characteristics markers of congenital pathology during ultrasound screenings. An examination plan and parameters during ultrasound screenings are required.
Equipment: Professional algorithms, structural and logical schemes, tables, dummies, video-photo materials of ultrasound results, results of laboratory and instrumental studies, situational tasks, patients, medical histories.

I. Organizational measures (greetings, checking those present, communicating the topic, the purpose of the lesson, the motivation of higher education students to study the topic).
Ultrasound examination of the pelvic organs is the leading method used in obstetric and gynecological practice in order to: recognition of early pregnancy (VRT); determination of its term; assessment of the condition of the ovum (AE) in the uterus.

Knowledge of the diagnosis of pregnancy, especially up to 12 weeks, is necessary for a doctor of any specialty, since early detection of pregnancy allows timely diagnosis of obstetric and extragenital pathology and resolve the issue of the feasibility of further gestation and subsequent ultrasound monitoring throughout pregnancy.

2. **Control of the reference level of knowledge (written work, written testing, online testing, frontal survey, etc.).**

Requirements for knowledge:
- communication and clinical examination skills of the patient;
- ability to determine the list of necessary clinical, laboratory and instrumental studies and evaluate their results;
- the ability to prescribe appropriate management tactics for suspicious or abnormal ultrasound screening results. List of didactic units:

- Early pregnancy
- Gestational bag
- Yolk sac
- Biparietal size
- Ultrasonic Screening
- Amniotic fluid level

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

Question:

1. Features of ultrasound diagnosis of pregnancy of different periods.
2. Ultrasound assessment of the ability of the scar on the uterus.
3. Assessment of the state of the feto-placental complex.

Situational tasks:

Problem 1.

A pregnant woman of 23 years old turned to the doctor. Pregnancy is the first in a period of 7 weeks. A woman's husband is healthy somatically, age 25 years. Pedigree is not burdened with hereditary pathology.

Task: What methods of prenatal diagnosis should be considered when examining this patient?

Answer: Prenatal screening in the period of 10-14 weeks and 15-20 weeks.

Test tasks:

1. Pregnant 25 years old with a post-term pregnancy, over the past week she has noted a decrease in abdominal volume. A vaginal examination revealed almost no anterior amniotic fluid. According to ultrasound, the amniotic fluid index is 5 cm. What is the preliminary diagnosis? A. Delayed fetal development.
   B. Post-term pregnancyь. Low water of moderate degree.
   C. Post-term pregnancy. Low water of severe degree.
   D. Premature discharge of amniotic fluid.

2. The ERW was re-pregnant at 37 weeks of pregnancy, complaining that she was not feeling the baby's movements well. It is known from the anamnesis that at 11-12, 16-18 weeks she was treated in the hospital for the threat of abortion. At week 32, placental insufficiency was diagnosed using ultrasound. With auscultation – the heartbeat is muffled, up to 120 per

minute. An amnioscopy was performed – the amniotic fluid is greenish. Determine the tactics of the doctor:

A. Urgent maternity solution
B. Prolong pregnancy and conduct antihypoxic therapy
C. Prolong pregnancy and determine the biophysical profile of the fetus D. Cardiomonitor control in dynamics throughout the week
E. Perform amnioscopy 1 time in 3 days.

3. Pregnant V., 23 years old. Pregnancy 36 weeks. She came with complaints of increased fetal movements that bother for 3 days. Ob-no: The size of the abdomen corresponds to 34 tons of pregnancy, the conclusion of ultrasound: the size of the fetus corresponds to 34 tons, signs of aging of the placenta (petrificates, lacunae), amniotic fluid – opalescent.

A. Repeated ultrasound after 2 weeks
B. Amniocentesis C. Amnioscopy
D. Biophysical profile of the fetus, dopplerometry of fetoplacental circulation.
E. Cordocentesis

Correct answers: 1 – B; 2 – A; 3 – D.

3. Formation of professional skills and abilities (mastering skills, conducting curation, determining the treatment regimen, conducting laboratory research, etc.).

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

Interactive task:

Students of the group are divided into 3 subgroups in the amount of 4-5 people each. We work in ultrasound diagnostic rooms with pregnant patients, we give tasks:

And the subgroup – assessment of the patient, history taking

Ii subgroup – advising the patient according to ultrasound screenings

Subgroup III – evaluates the correctness of the answer of the I and II subgroups and makes its own adjustments.

Clinical tasks:

Problem 1.

At the reception at the gynecologist, a pregnant woman is 28 years old. During an ultrasound examination, pregnancy was diagnosed for 6 weeks, 4 days, which is progressing. From the history of a woman – pregnancy is desirable, the second, first pregnancy ended in childbirth on time, the child was diagnosed with multiple congenital malformations and a normal karyotype.

Task: Determine the tactics of the doctor and make a plan of diagnostic studies

Answer: Detailed fetal ultrasound and determination of biophysical profile markers

Test tasks:

1. Inagitna V., 23 p. Pregnancy 36 weeks. She came with complaints of increased fetal movements that bother for 3 days. Ob-no: The size of the abdomen corresponds to 34 weeks. pregnancy, conclusion of ultrasound: fetal size corresponds to 34 tons, signs of aging of the placenta (petrificates, lacunae), amniotic fluid – opalesciate.

A. Biophysical profile of the fetus, dopplerometry of fetoplacental circulation.
B. Repeated ultrasound after 2 weeks
C. Amniocentesis
D. Amnioscopy
E. Cordocentesis

2. If the placenta lobe is delayed after the birth of the afterbirth or in doubts about the integrity of the afterbirth, it is necessary:

A. Immediately proceed to a manual examination of the uterus
B. Proceed to a manual examination of the uterus after the appearance of bleeding
C. Perform an ultrasound to clarify the pathology
D. Perform curettage of the uterus

Correct answers: 1 – A, 2 – A.

— Recommendations (instructions) for the implementation of tasks (professional algorithms, orientation maps for the **formation of practical skills and abilities, etc.).**

Normal pregnancy is managed by a doctor on an outpatient basis in a health care institution chosen by the patient, regardless of the place of registration or actual residence.

Managing a patient with a normal pregnancy involves anultidisciplinary approach with the participation of obstetricians and gynecologists, general practitioners – family doctors, ultrasound doctors and other specialists according to indications.

Prenatal care (DPD) for a patient with a normal pregnancy can begin when a woman seeks primary medical care to establish/confirm pregnancy or is referred to

a care provider or obstetric health care facility. DPD includes measures for prenatal education, counseling, physical, laboratory, instrumental studies and other activities in accordance with the schedule of visits agreed with the patient.

Ultrasound during pregnancy is carried out exclusively by doctors for ultrasound diagnostics, who have been trained in prenatal diagnosis, according to the approved protocol form (Annexes 2, 3)

Indications for ultrasound up to 10 weeks of pregnancy:

1. Clinical or echo signs of the threat of abortion
2. Discrepancy between obstetric and ultrasound gestational periods:
3. lag - (undeveloped pregnancy, ectopic pregnancy)
4. acceleration - (volumetric formation, trophoblastic disease, multiple pregnancies)
5. Suspected ectopic pregnancy
6. Anomalies in the development of the uterus
7. Volumetric formations in the pelvis
8. Pregnancy after reproductive technologies (in vitro fertilization)
9. History of habitual miscarriage in early pregnancy

Indications for in-depth research in specialized institutions.

1. The discrepancy between the size of the embryo and the obstetric gestational age of more than 2 weeks and the disproportionate development of individual structures in the period of 12-14 weeks
2. The thickness of the cervical fold is more than 3 mm
3. Detection of anomalies in the development of embryo structures
4. Multiple pregnancies (more than 2) and disproportionate embryo development
5. Monoamniotic multiple pregnancy
6. Comorbidities of the mother (diabetes mellitus, chronic diseases of the kidneys and urinary tract, arterial hypertension, genetic diseases, mental illness, negative Rh-factor)

It is advisable to conduct prenatal screening - ultrasound in the period of 11 + 0-13 + 6 weeks (fetal KTR 45-84 mm), in normal anatomy of the fetus and KP < 3.5 mm - collection of venous blood of a pregnant woman to study the levels of biochemical markers (free β-chorionic gonadotropin of a person associated with pregnancy protein-A plasma RARR-A; optional – placental growth factor PlGF) - to calculate the individual risk of a woman regarding the presence of widespread chromosomal pathology in the fetus (trisomy of chromosomes 21, 18, 13) and to predict the risk of preeclampsia.

The main purpose of this ultrasound is to assess the anatomical structures of the fetus, search for early malformations and minor echo markers, clarify the

duration of pregnancy and the expected date of delivery. In the group of pregnant women of low risk.

Додаток 2
до Стандартів медичної допомоги
«Нормальна вагітність»

Протокол УЗД у терміні 11^{+0}-13^{+6} тижнів вагітності (КТР 45-84 мм)

Заклад охорони здоров'я _____ Прізвище, ініціали вагітної _____ Дата народження _____ Дата останньої менструації _____ Термін вагітності за датою останньої менструації _____ Дата дослідження _____ Апарат _____ Датчик _____ Лікар, який направив вагітну _____ Лікар, який проводив УЗД _____		**Оцінка анатомії плода**	**норма**	**аномалії**	**не візуалізується**
		Голова			
		Форма			
		Серп мозку			
		Судинні сплетіння			
		Лицевий скелет			
		Профіль			
		Очні яблука			
		Черевна стінка – місце відходження пуповини			
		Шлунок - зліва під діафрагмою			
		Серцебиття □ так □ ні ЧСС____уд./хв.			
		Серце розташування			
		Серце: 4 камери та очікувана «V» ознака в режимі КДК			
Кількість гестаційних мішків (яєць/міхурів)		**Сечовий міхур** у сагітальній проекції, мм			
Кількість плодів в порожнині матки		**Кінцівки** Ліва верхня кінцівка			
		Права верхня кінцівка			
Оцінка хоріальності при багатоплідній вагітності («λ» або «Т» ознака)		Ліва нижня кінцівка			
		Права нижня кінцівка			
Куприково-тім'яний розмір (КТР) плода _____мм відповідає терміну		**Хоріон:** однорідний / неоднорідний			

Продовження додатка 2

2

<table>
<tr><td rowspan="6">_____ тижнів вагітності</td><td colspan="3">Хоріон: входження судин пуповини
□ центральне □ децентроване</td></tr>
<tr><td>Основні хромосомні маркери</td><td></td><td>Наявність у лікаря з УЗД сертифікату FMF ID _____</td></tr>
<tr><td>товщина комірцевого простору</td><td>_____ мм</td><td>□ так
□ ні</td></tr>
<tr><td>носова кістка</td><td>□ наявна
□ відсутня
□ неможливо оцінити</td><td>□ так
□ ні</td></tr>
<tr><td>венозна протока</td><td>реверсна хвиля
□ є
□ немає</td><td>□ так
□ ні</td></tr>
<tr><td>тристулкова регургітація</td><td>□ є
□ немає</td><td>□ так
□ ні</td></tr>
<tr><td rowspan="3">Допплерографія маткових артерій (МА)
Наявність у лікаря з УЗД сертифікату FMF □ так □ ні</td><td>PI правої МА</td><td colspan="2"></td></tr>
<tr><td>PI лівої МА</td><td colspan="2"></td></tr>
<tr><td>Середній PI обох МА</td><td colspan="2">□ норма / □ підвищений</td></tr>
<tr><td colspan="3">Особливості органів малого тазу
Матка
_____
Придатки матки
_____
Шийка матки
_____</td></tr>
<tr><td colspan="3">Коментарі</td></tr>
<tr><td colspan="2">Висновок

□ нормальний та повний результат огляду

□ нормальний, але неповний результат огляду</td><td>Рекомендації</td></tr>
</table>

Підпис і печатка лікаря з УЗД

Fetometry in the first trimester of pregnancy.

The protocol of the ultrasound examination at 10 to 14 weeks, in addition to assessing the uterus, the contents of the fertile bladder (chorion, amnion, yolk bladder, exocelome) and ovaries (appendages) /as before 10 weeks/ should necessarily include morphological evaluation of the fetus.

1.0. Mandatory biometrics.

1.1. Coccygeal-parietal size (KTR) - strictly in the sagittal plane.
1.2. Biparietal size (BPR), fronto-occipital size (LPR), head circumference (OG), abdominal diameter (J) and abdominal circumference (OG), hip length (DS).
2.0. Evaluation of anatomical structures.
2.1. Bones of the vault of the skull and spine.
2.2. The presence of the median M-eh (sickle), choroids (in the form of a "butterfly"), brain bubbles, thalamus and cerebellum.
2.3. Structures of the face - the presence of 2 orbits, the assessment of the profile of the fetus - the presence of bones of the nose and their size (assessment strictly in the sagittal plane according to the methodology - the appropriate scale, angle of insonation, etc.).
2.4. Assessment of the neck and measurement of the collar space (strictly in the sagittal plane, according to the measurement methodology up to tenths of a mm), assessment in accordance with nomograms (gestational age and KTR).
2.5. Evaluation of the heart: localization in the left quadrant of the chest cavity, axis (45 + 15 degrees), size, area, presence of 4 chambers and their ratio (if possible, assessment of the great vessels in the cut through 3 vessels - the presence of 3 vessels located in one line). Evaluation of heart rate.
2.6. Evaluation of internal organs: the presence of a hypoechoic stomach bladder in the left upper quadrant of the abdomen.
2.7. Evaluation of the anterior abdominal wall; Perhaps the presence of a physiological keel up to 12 weeks, its size.
2.8. The presence of both kidneys and bladder (normally the size of the bladder is up to 8 mm).
2.9. Presence of upper and lower extremities (with 3 segments) on the left and right.
2.10. Evaluation of local and general fetal movements.

Druge ultrasound is carried out in a period of 18-22 weeks for a detailed assessment of the anatomical structure of the fetus, the exclusion of later malformations and control over the course of pregnancy. If signs of chromosomal pathology in the fetus, congenital malformations of the fetus are detected in the pregnant group of moderate and high risk, a geneticist is consulted to select further examination; according to indications - consultations of other specialists, prenatal consultation for choosing tactics for managing pregnancy and childbirth in accordance with the current industry standards in the field of health care.

The third ultrasound is performed according to indications within 28-32 weeks to assess the condition of the fetus and fetometry.

Indications for ultrasound examination in the second and third trimesters of pregnancy.

a. Screening study
b. Clinical signs of the threat of abortion (regardless of the duration)

c. Dynamic observation in complicated pregnancy (gestosis, fetal growth retardation, anemia, diabetes mellitus, immunoconflict pregnancy, low birth, multiplicity, feto-fetal transfusion s-m, etc.)
d. Invasive Ultrasound-Controlled Interventions
e. Emergencies: suspected intrauterine fetal death, placental abruption, etc.) Preparation for the study. Screening in the second and third trimesters does not require special training. If the task of the ultrasound study includes an assessment of the state of the postoperative scar on the uterus or the state of the inner eye with the threat of interruption, it is recommended to perform a transvaginal examination.

Додаток 3
до Стандартів медичної допомоги
«Нормальна вагітність»

Протокол УЗД у терміні 18-22 та 28-32 тижні вагітності

<table>
<tr><td colspan="3">Заклад охорони здоров'я
_____
_____
Прізвище, ініціали вагітної
_____
Дата народження
_____
Дата останньої менструації
_____
Термін вагітності за датою останньої менструації
_____
Дата дослідження
_____
Апарат
_____
Датчик
_____
Лікар, який направив вагітну
_____
Лікар, який проводив УЗД
_____</td><td>Оцінка анатомії плода</td><td>норма</td><td>аномалії</td><td>не візуа-лізується</td></tr>
<tr><td colspan="3" rowspan="2">Плодова біометрія</td><td>Голова</td><td></td><td></td><td></td></tr>
<tr><td>Форма</td><td></td><td></td><td></td></tr>
<tr><td>Параметр</td><td>мм</td><td>тижні</td><td>Порожнина прозорої перетинки</td><td></td><td></td><td></td></tr>
<tr><td>Біпарієтальний розмір</td><td></td><td></td><td>Серп мозку</td><td></td><td></td><td></td></tr>
<tr><td>Окружність голівки</td><td></td><td></td><td>Таламус</td><td></td><td></td><td></td></tr>
<tr><td>Окружність живота</td><td></td><td></td><td>Бокові шлуночки, стандартний розмір до 10 мм</td><td></td><td></td><td></td></tr>
<tr><td>Довжина стегна</td><td></td><td></td><td>Мозочок</td><td></td><td></td><td></td></tr>
<tr><td>Довжина плеча</td><td></td><td></td><td>Велика цистерна – стандартний розмір 2-10 мм</td><td></td><td></td><td></td></tr>
<tr><td>Поперечний розмір мозочка</td><td></td><td></td><td>Обличчя</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Маса плода (г)</td><td>Орбіти</td><td></td><td></td><td></td></tr>
<tr><td colspan="3" rowspan="2"></td><td>Профіль обличчя</td><td></td><td></td><td></td></tr>
<tr><td>Носова кістка (мм) _____</td><td></td><td></td><td></td></tr>
<tr><td colspan="3" rowspan="2"></td><td>Верхня губа, нижня губа</td><td></td><td></td><td></td></tr>
<tr><td>Альвеолярний відросток верхньої щелепи</td><td></td><td></td><td></td></tr>
<tr><td colspan="3" rowspan="2"></td><td>Шия, потилична складка стандартний розмір до 6 мм</td><td></td><td></td><td></td></tr>
<tr><td>Серце</td><td></td><td></td><td></td></tr>
<tr><td colspan="3" rowspan="2"></td><td>ЧСС _____ уд./хв.</td><td></td><td></td><td></td></tr>
<tr><td>Розташування</td><td></td><td></td><td></td></tr>
<tr><td colspan="3" rowspan="2"></td><td>Розміри</td><td></td><td></td><td></td></tr>
<tr><td>Огляд 4 камер</td><td></td><td></td><td></td></tr>
</table>

Продовження додатка 3

2

Плацента Розташування (стінка) _____ Відстань від внутрішнього вічка (мм)_____	Огляд 3 судин та трахеї			
Амніотична рідина (об’єм) □ нормальний □ аномальний Індекс амніотичної рідини (см) _____ Максимальна вертикальна кишеня (см) _____	Лівошлуночковий викид крові Правошлуночковий викид крові			
Рухи плода □ нормальні □ відсутні	**Черевна порожнина**			
Положення плода □ поздовжнє □ поперечне □ косе	Шлунок			
Передлежання плода □ головне □ тазове	Петлі кишечника			
Цервікометрія ____ мм **Коментарі:** **Висновок:** □ нормальний та повний результат огляду □ нормальний, але неповний результат огляду _____ _____ _____ _____ _____ _____ _____	**Нирки**			
	Сечовий міхур			
	Прикріплення пуповини до плаценти			
	Кількість судин пуповини	□ 3	□ 2	
	Скелет			
	Кінцівки			
	Ліва верхня кінцівка			
	Права верхня кінцівка			
	Ліва нижня кінцівка			
	Права нижня кінцівка			
	Стать (опційно)	□ чол □ жін		
Рекомендації:				

Підпис і печатка лікаря з УЗД

The main fetometric indicators are measured and their compliance with the gestational age is assessed:

1. BPD of the glans - cross section at the level of visualization of the thalamus,
2. OG - at the same level,
3. J and coolant - a cross section at the level of visualization of the umbilical part of the left portal vein, including the thickness of the skin on both sides,
4. DS - femur along a long axis with a measurement of its length. Additionally:
   1. DP shoulder length;

2. length of the forearm and lower leg.

With the help of computer programs or tables, it is possible to calculate the predicted weight of the fetus.

Study the ultrasound anatomy of the fetus:

— The integrity of the bones of the skull,
— In the cross sections of the glans - the symmetry of both hemispheres of the brain,
— Median anechogenic structures:
— Iii ventricle,
— Transparent membrane cavity,
— The width of the lateral ventricles of the brain is normally up to 10 mm, when they expand, the height of the ventricular bodies is additionally measured, which normally is up to 7 mm,
— Visualization of the posterior fossa, cerebellum and large tank with measurement, if necessary, of the diameter of a large tank and the width of the cerebellum, which up to 20 weeks corresponds to the gestational period, (2-4 mm away ahead of gestational age) IV ventricle.

The condition of the facial structures is assessed:

— The presence of two orbits,
— Profile - nasal bones and their length (assessment according to nomograms),
— Nasolabial triangle.
— The thickness of the occipital fold (up to 22 weeks) in the transverse plane is estimated.

In cross sections of the body:

— In the chest cavity
— Homogeneity of lung structure,
— Visualization of the 4-chamber section of the heart with an assessment
— Localization
— Axis
— Sizes in the area relative to the chest area (normally up to 30%),
— The ratio of chambers;
— Absence/presence of septal defects,
— The level of atrioventricular valves. In

the upper mediastinum

— Cross-section of 3 vessels located along the same line, with a consistent decrease in the diameter of the vessel:
— Pulmonary artery slightly larger
— Aorta that is larger
— The superior canopy of the vein and

— Additionally, a cut through 3 vessels at the level of the aortic and tracheal arch (normally, the pulmonary artery and aorta form a "v"-shaped configuration; the trachea is localized to the right)

In the sagittal plane, an assessment of the past section of the aortic arch is performed; the frequency and rhythm of heartbeats is estimated. If possible, the initial tracts of the left and right ventricles are evaluated along the long axis of the heart. Evaluate the continuity of the diaphragm dome.

In the abdominal cavity - visualization

— Stomach
— Intestines,
— Liver
— Both kidneys,
— Places of exit of the umbilical cord with an assessment of the number of vessels,
— The condition of the anterior abdominal wall, —
Visualization of the bladder.

The spine is examined throughout by obtaining longitudinal (or frontal) and transverse sections with a demonstration of three points of ossification of the vertebrae.

Limbs are visualized with an assessment of the presence of three segments:

— Shoulder (thigh),
— Forearm (lower leg),
— Bone (foot) and
— Measuring the length of long tubular bones:
— Shoulder length
— Forearm
— Hip
— Shin and
— Foot length (estimated presence, length, shape, integrity and echogenicity of tubular bones).

The amount of amniotic fluid is estimated, the amniotic index is calculated by adding the height of the fluid in the longitudinal sections in the right and left upper and lower quadrants of the uterine cavity, which normally ranges from 9 to 22; on average 14-17.

Evaluate the placenta

— Localization (including in relation to the inner eye),
— Structure and
— Thickness (up to 37 weeks, the thickness of mm corresponds to the weeks of pregnancy),
— Indicate its degree of maturity,

— Visualize the place of attachment of the umbilical cord and
— Number of vessels
— Signs of umbilical cord entanglement.

If fetal malformations are suspected, intrauterine developmental delay, extended fetobiometry and dopplerographic examination of uterine-placental-fetal arterial blood flow are performed in specialized institutions of prenatal diagnosis.A general examination of the uterus and appendages is necessarily performed in order to assess: the tone of the uterine wall, the presence of structural changes, and the length of the cervix, which normally is more than 3 cm, the state of the inner eye and cervical Channel.

— Requirements for the results of work, including registration.

1. Consult a pregnant woman.
2. Explain the need for an ultrasound examination according to the gestational age to the patient

3.Evaluate the data of ultrasound examination of the pregnant woman according to the results.

5. Determine the further tactics of managing a pregnant woman and the need for a laboratory examination.

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

Situational tasks:

A 22-year-old pregnant woman turned to antenatal clinic with complaints of aching pain in the lower abdomen. A week ago, I had ORVI, with symptoms of a runny nose, fever. There is a history of 1 birth, 3 medical abortions, sex life without preventing pregnancy. Heredity is not burdened. Temperature 36.80C blood pressure 120/180 mmHg According to ultrasound OMT Uterus: state of anterflexio, middle position; spherical shape, the contour is even, clear, dimensions: the body length of the uterus is 55.5 mm, width 57.1 mm, anteroposterior size is 71.4 mm. The echostructure of the myometrium is homogeneous. In the uterus, a fertile egg with a diameter of 13.5 mm. Embryo and embryo KTR are not visualized. Fetal heart rate is not recorded.

Question

1. Diagnosis.
2. What are the further treatment tactics?

Answer.

1. Fetometrically pregnancy 6 weeks 1 day, uterine, frozen. Anembryony.
2. Pass hCG twice with intervals of 2 days, repeat the ultrasound of OMT after 5 days. When confirming the diagnosis, artificial abortion

Test tasks KROK-2 (2020):

Pregnant, gestational age 38 weeks, history of primary hypothyroidism and placental dysfunction. Ultrasound examination of the placenta revealed iii degree of maturity. With dopplerometry of the umbilical cord vessels – an increase in vascular resistance in the umbilical cord artery of the fetus. Diagnosis? Tactics of pregnancy and childbirth? What possible disorders in a newborn should be expected first of all after childbirth?

Answer: Placental insufficiency. Fetal distress. It is necessary to hospitalize a pregnant woman in the hospital from the division of the pathology of pregnant women, prescribe a comprehensive clinical and laboratory examination and therapy aimed at improving the uterine-placental-fetal blood flow (actovegin, solcoseril, essentiale, vitamin E, methionine), conduct a cardiomonitor without examining the fetus in dynamics. Childbirth is conservative, given the obstetric situation, to conduct constant CTG-monitoring of the condition of the fetus. Be prepared before resuscitation of the newborn, since in this case the occurrence of respiratory distress syndrome of the newborn is possible.

4. Summing up (criteria for evaluating learning outcomes).

Current control: oral questioning, testing, evaluation of practical skills, solving situational clinical problems, evaluation of activity in the classroom, etc. ***The structure of the current assessment in the practical lesson***:

1. Evaluation of theoretical knowledge on the topic 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.
2. Assessment of practical skills and manipulations on the topic of the lesson:
- methods: assessment of the correctness of practical skills;
- The maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2.
3. Evaluation of work with the patient on the topic of the lesson:
- methods: assessment of: a) communication skills of communication with the patient, b) the correctness of the appointment and evaluation of laboratory and instrumental studies, c) compliance with the algorithm for conducting a differential diagnosis d) justification 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.

Criteria for the current assessment in a practical lesson:

Score	Evaluation criteria
«5»	The student is fluent in the material, takes an active part in the discussion and solution of a situational clinical problem, confidently demonstrates knowledge of ultrasound screening diagnostics in obstetrics and the correct appointment of laboratory and instrumental studies, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
«4»	The student is well versed in the material, participates in the discussion and solution of a situational clinical problem, demonstrates knowledge of ultrasound screening diagnostics and the correct appointment of laboratory and instrumental studies with some errors, expresses his
	opinion on the topic of the lesson, demonstrates clinical thinking.
«3»	The student does not have enough knowledge of the material, uncertainly participates in the discussion and solution of a situational clinical problem, demonstrates knowledge of ultrasound screening diagnostics and the correct appointment of laboratory and instrumental studies with significant errors.
«2»	The student does not own the material, does not participate in the discussion and solution of a situational clinical problem, does not demonstrate knowledge of ultrasound screening diagnostics and the correct appointment of laboratory and instrumental studies.

List of recommended literature.

Main:

1. Obstetrics and Gynecology: in 2 books. - Book 2. Gynecology: textbook (university III-IV r.a.) / ed. V.I. Gryshchenko, M.O. Shcherbyna - 3rd ed., vypr., 2020. – 376 s
2. Clinical Obstetrics and Gynecology: 4th Edition/ Brian A. Magovan, Philip Owen, Andrew Thomson. – 2021. – 454 p.
3. National approaches to the implementation of the system of regionalization of perinatal care in Ukraine (practical guidelines) // Digest of professional medical information. — 2012. — № 48—49. — pp. 1–59.
4. *Obstetrics and Gynecology : textbook. posib. / M. A. Bolotnaya, V. I. Boyko, T. V. Babar. – Sumy: SumDU, 2018. – 307 p.*
5. *Workshop on phantom obstetrics / P. Yavirsky, V. Shatylo, T. Yavirska – K. : "Medicine", 2017– 144 p.*

6. *Nazarova I.B. Physiological obstetrics: textbook / I.B. Nazarova, V.B. Samoylenko. — 2nd ed., revised. and reported. — K.: VSV "Medicine", 2018. — 408 p. + 4 p. color. incl.*
7. *Dias T, Arcangeli T, Bhide A, Napolitano R, Mahsud-Dornan S, Thilaganathan B. First-trimester ultrasound determination of chorionicity in twin pregnancy. Ultrasound Obstet Gynecol 2011; 38: 530– 532.*
8. *Fisher J. First-trimester screening: dealing with the fall-out. Prenat Diagn 2011; 31: 46–49*
9. *Bernard J-P, Cuckle HS, Stirnemann JJ, Salomon LJ, Ville Y. Screening for fetal spina bifida by ultrasound examination in the first trimester of pregnancy using fetal biparietal diameter. Am J Obstet Gynecol 2012; 207: 306.e1–5.*

Additional:

1. Gynecology: a guide for doctors./ V.K. Likhachev. – Vinnytsia: New Book, 2018.- 688 p.
2. *Situational tasks in gynecology: a textbook. / I.Z.Gladchuk, A.G.Volyanska, G.B.Shcherbyna and others.; ed. prof. I.Z.Gladchuk. – Vinnytsia: LLC "NilanLTD", 2018.-164 p.*
3. *Diagnosis of obstetric and gynecological endocrine pathology: [textbook for interns and doctors-students of institutions (fac.) postgraduate diploma. education of the Ministry of Health of Ukraine] / ed. V.K. Likhacheva; V.K. Likhachev, L.M. Dobrovolskaya, O.O. Taranovska and others; UMSA (Poltava). – Vinnytsia: Publisher Maksimenko E.V., 2019. – 174 p.*
4. Voronenko Yu.V., Shekera O.G., Vdovychenko Yu.P. Topical issues of obstetrics in the practice of a family doctor. /Publishing House "Zaslavsky A.Yu.", 2016. — 348 p.

10. *Dubossarska Y.O. Chronic arterial hypertension and its complications in pregnant women / Y.O. Dubossarska // Materials of the scientific program of practical lecture "Female Doctor" / Ed. S.I. Zhuk // Kyiv. – 2015. – pp. 31 – 37.*

5. *Current "Clinical Protocols", approved by the order of the Ministry of Health of Ukraine on obstetrics and gynecology.*

Online 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/