

**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
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August 29, 2024

**METHODOLOGICAL RECOMMENDATIONS
for practical classes from the academic discipline**

Faculty international, course VI

Discipline "Endoscopic technologies in obstetrics and gynecology"
Practical lesson 7. **Topic: Endoscopy in obstetrics**

Approved:

Meeting of the Department of Obstetrics and Gynecology
of Odesa national medical university

Protocol No. 1 dated August 29, 2024

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Practical lesson №7

Topic: "Endoscopy in obstetrics".

Aim. To master the technique of obstetric invasive diagnostic methods by performing laparoscopy. Learn the plan for examining a pregnant woman before laparoscopy. Get acquainted with the possibilities of modern endoscopic equipment in the diagnosis of feto-fetal transfusion syndrome, immunoconflict, ZVUR, fetal malformations. Master the basic technique of endoscopic interventions. Determine the indications and contraindications for laparoscopy in the diagnosis of this pathology. Familiarize yourself with and determine the technique of laparoscopy for fetoscopy, chorion biopsy, amniocentesis, placentacentesis, cordocentesis and fetal skin biopsy. To form a clear idea about the examination of patients before operative laparoscopy. Learn the plan for managing patients in the postoperative period.

Basic concepts: Fetoscopy, chorion biopsy, amniocentesis, placentacentesis, cordocentesis and fetal skin biopsy. Pregnancy and ovarian tumors.

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

I. Organizational measures (greetings, checking those present, announcing the topic, the purpose of the lesson, motivating students to study the topic). The pathological course of pregnancy sometimes necessitates the use of surgical interventions. The decision to carry out one or another operation is made by a doctor or a board of doctors based on the obstetric situation and guided by the interests of the mother and the fetus.

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

2. Requirements for students' theoretical readiness to perform practical classes.

Knowledge requirements:

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

List of didactic units:

- feto-fetal transfusion syndrome,
- immunoconflict,
- ZVUR,
- fetal malformations,

- fetoscopy, chorion biopsy, amniocentesis, placentacentesis, cordocentesis and fetal skin biopsy;
- pregnancy and ovarian tumors,
- indications and features of the operative laparoscopy technique during surgery.

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

Question:

1. Endoscopy in obstetrics.
2. Use of endoscopic technologies in feto-fetal transfusion syndrome, immunoconflict, ZVUR, fetal malformations.
3. Fetoscopy, chorion biopsy, amniocentesis, placentacentesis, cordocentesis and fetal skin biopsy.
4. Pregnancy and ovarian tumors.
5. Indications and features of the operative laparoscopy technique during surgery.

Situational tasks

1. The firstborn has a Rhesus - negative blood type, no isoantibodies were detected. The man is Rh-positive. Antibodies were not detected during monthly monitoring. What should be the doctor's tactics?

Answer: Immunize a pregnant woman at 28 weeks of pregnancy and within 72 hours after childbirth.

2. 26-year-old pregnant woman, pregnancy II, 14-15 weeks. The first pregnancy ended with an abortion at 11-12 weeks. Women have O(I)Rh⁻, men have O(I)Rh⁺ blood group. What examinations should a woman undergo?

Answer: Determination of anti-Rhesus antibodies.

Test tasks

1. A 30-year-old woman gave birth to a child with an anemic-jaundic form of hemolytic disease during her second delivery. The woman's blood group is A(II)Rh⁻, the newborn's blood group is B(III)Rh⁺, the newborn's father is also B(III)Rh⁺. What is the most likely cause of immunoconflict?
 - A. Rhesus conflict
 - B. Antigen conflict A
 - C. Conflict over antigen B
 - D. Conflict over antigen AB
 - E. Conflict on AB0

2. A 28-year-old woman gave birth to a girl weighing 3,400 g, length 52 cm with manifestations of anemia and increasing jaundice during her second delivery. The blood group of the woman is B (III) Rh⁻, the father of the newborn is A (II) Rh⁺, the newborn is B (III) Rh⁺. What is the cause of anemia?
- A. Antigen conflict
 - B. Rhesus conflict
 - C. Conflict over antigen B
 - D. Conflict over antigen AB
 - E. Intrauterine infection
3. The firstborn has a Rhesus - negative blood type, no isoantibodies were detected. The man is Rh-positive. Antibodies were not detected during monthly monitoring. What should be the doctor's tactics?

A Carry out immunization after delivery within 72 hours.

B. Do not carry out desensitization and immunization.

C. Immunize a pregnant woman at 28 weeks of pregnancy and within 72 hours after delivery.

D. Carry out desensitizing therapy, do not carry out immunization.

E. Administer desensitizing therapy and immunization within 72 hours of delivery.
Відповіді 1 - A, 2- B, 3 - C.

3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.). — Content of tasks (tasks, clinical situations, etc.).

Interactive task:

The students 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 management plan for a gynecological patient.

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

Clinical tasks:

1. Repeat pregnant (34-35 weeks), suffering from hypertension II B century. for 10 years. From the 24th week of pregnancy, an increase in blood pressure to 150/90 mmHg was noted, swelling of the II degree appeared, protein in the urine up to 2 g/day. During examination, the fetus lags behind in gestational development by up to 4 weeks, despite intensive treatment.

Diagnosis? What diagnostic methods should be used to assess the state of the fetus?

Answer: ZVUR fetus of the 3rd century. Tonographic biometry of the fetus, evaluation of the biophysical profile of the fetus, determination of estradiol in the mother's body and in the amniotic fluid, cardiomonitoring in dynamics and dopplerometry of the main indicators of uterine-placental-fetal blood flow should be used.

2. In a woman in labor with anemia and hypertension of the 1st stage, when the cervix was fully opened after the discharge of amniotic fluid, the head descended into the pelvic cavity and immediately upon listening to the fetal heartbeat, bradycardia up to 100 beats/min appeared.

Diagnosis? What factors contributed to the development of this pathology?

Answer: Acute fetal distress. Possible loss of umbilical cord loops.

3. The child suffered acute distress during childbirth, which developed in the II period of childbirth, and his condition after delivery was assessed at 2 points on the Apgar scale (heart rate - 2 points, breathing - 0 points).

What preventive measures should have been taken in this case?

Answer: It was necessary to apply the output obstetric forceps to shorten the II period and speed up the birth of the child.

4. Pregnant, gestational age 38 weeks, history of primary hypothyroidism and placental dysfunction. An ultrasound examination of the placenta revealed III degree of maturity. During dopplerometry of the vessels of the umbilical cord - an increase in vascular resistance in the umbilical artery of the fetus. Diagnosis? Tactics for managing pregnancy and childbirth?

What possible disorders in a newborn should be expected first of all after delivery?

Answer: Placental insufficiency. Fetal distress. It is necessary to hospitalize a pregnant woman to a hospital for the division of pathology of pregnant women, prescribe a complex clinical and laboratory examination and therapy aimed at improving uterine-placental-fetal blood flow (Actovegin, Solcoseryl, Essentiale, vitamin E, methionine), conduct a cardiomonitor and examine the fetus in dynamics. Childbirth should be conducted conservatively, taking into account the obstetric situation, and constant CTG monitoring of the fetal condition should be carried out. Be ready to carry out resuscitation of the newborn, as in this case the respiratory distress syndrome of the newborn may occur.

4. She is 30 weeks pregnant, has a history of vomiting during pregnancy. Complains of loss of appetite, lethargy, headache. On examination, the skin and mucous membranes are pale. In the general blood analysis, hemoglobin is 88 g/l, erythrocytes are $2.95 \cdot 10^{12}/l$.

What serious condition should be warned in this case? The doctor's tactics?

Answer: The development of chronic placental insufficiency, taking into account the hemic genesis of the development of hypoxia. It is necessary to hospitalize the pregnant woman to the department of pathology of pregnant women, conduct a comprehensive clinical and laboratory examination and prescribe anti-anemic therapy and therapy aimed at preventing the development of placental insufficiency.

Test tasks:

1. A 32-year-old patient complains about the absence of pregnancy during 5 years of married life. Basal temperature is biphasic. The man was examined and is healthy. During metrosalpingography, the fallopian tubes are filled with contrast to the ampullary department, there is no contrast in the abdominal cavity. Which of the following is the most appropriate to prescribe for the treatment of this patient?

- A. Laparoscopic fallopian tube plastic surgery
- B. Hydro tubing courses
- C. Stimulation of ovulation
- D. In vitro fertilization
- E. Insemination with donor sperm

2. During a visit to a gynecologist, a 30-year-old woman with a 5-year history of infertility was found to have an endometrioid cyst of the left ovary 5 cm in diameter, according to clinical examination and pelvic ultrasound. Operative treatment is offered. Determine the expected volume of the operation.

- A. Laparotomy. Extraction of the cyst capsule.
- B. Laparotomy. Adnexectomy.
- S. Laparoscopy. Adnexectomy.
- D. Laparoscopy. Enucleation of the ovarian cyst capsule.
- E. Laparoscopy. Tubectomy.

Correct answers: 1 – A, 2 – D.

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

Laparoscopy is one of the methods of modern surgery, in which (without a large dissection of the abdominal wall), with the help of special optical devices (which are introduced into the abdominal cavity through small incisions in the skin), an examination of the organs of the abdominal cavity is performed.

Laparoscopy also belongs to modern methods and is used in the diagnosis of obstetric pathology.

Feto-fetal transfusion syndrome

Clinical manifestations	Variants of combinations of clinical manifestations, on the basis of which the doctor makes a conclusion about the suspicion of SFFT					
	1	2	3	4	5	6
Confirmed monochorionic twin Before assuming the presence of SFT, you should make sure that the twin is really monochorionic, because SFT is inherent only to monochorionic twins. Monochorionic twin - chorionicity confirmed within 10-13 weeks (T-sign, two layers in the interfetal membrane, the thickness of the interfetal membrane <2 mm)	yes	yes	ID *	ID	ID	ID
<u>MVC disproportion - a ratio of 1:2 or more, but does not reach the limit values (≤ 2 cm and ≥ 8 cm)</u>	yes		yes		ID	ID
One of the MICs reaches one of the threshold values, and the other does not		yes		yes	ID	ID
Unisexual fetuses In the case when chorionicity cannot be clearly determined, the presence of unisexual fetuses is a necessary condition for the diagnosis of SFFT			yes	yes	yes	ID
Discordant fetal growth (a difference of 20% or more) and the inter-amniotic membrane is not visualized					yes	
Discordant fetal growth with a tendency to polyhydramnios in larger fetuses and						yes

oligohydramnios in smaller fetuses

* ID - impossible to determine

Classification of SFFT by stages (Quintero)

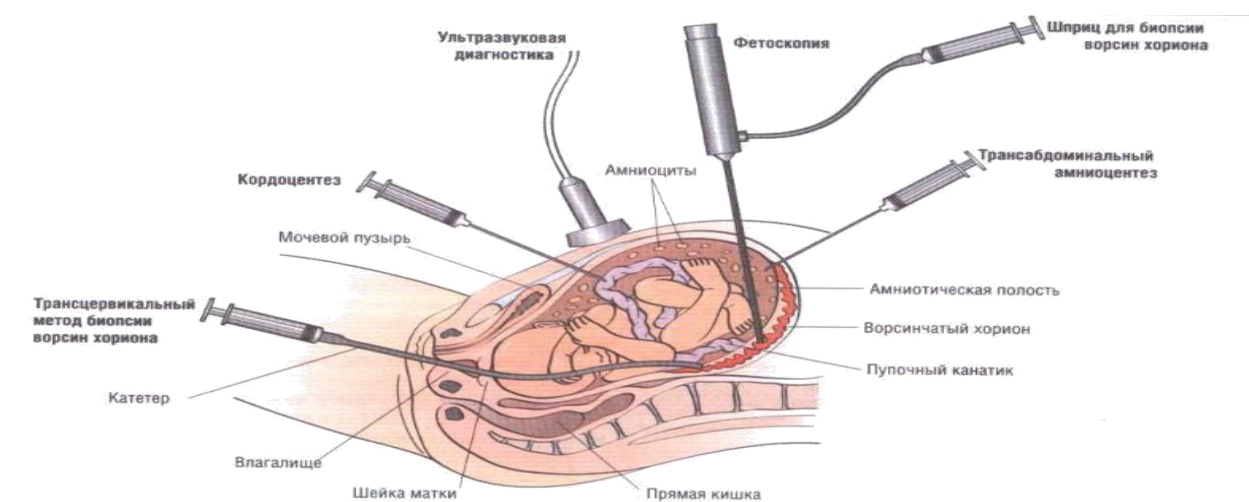
Stage	Signs
I	<ul style="list-style-type: none"> • Ascites in one fetus (IMC ≤ 2 cm) AND polyhydramnios in the second (IMC ≥ 8 cm) • The donor's bladder is visualized • Indicators of umbilical blood flow are normal
II	<ul style="list-style-type: none"> • • Ascites in one fetus (IMC ≤ 2 cm) AND polyhydramnios in the second (IMC ≥ 8 cm) • • The donor bladder is NOT visualized • • Blood flow is slowed, but not terminal
III	<ul style="list-style-type: none"> • Ascites in one fetus (IMC ≤ 2 cm) AND polyhydramnios in the second (IMC ≥ 8 cm) • • The donor bladder is NOT visualized • • Blood flow in the vessels of the umbilical cord is terminal in any fetus. The presence of at least one of the following: <ul style="list-style-type: none"> • o Absent or reversible diastolic blood flow in the umbilical cord artery • o Reversible blood flow in the ductus venosus or pulsatile in the umbilical vein
IV	<ul style="list-style-type: none"> • All of the above, plus ascites or fluid accumulation in two or more cavities (hydropericardium, hydrothorax) in any of the fetuses (more often in the recipient)
V	<ul style="list-style-type: none"> • Death of one or both fetus

For practical use, the following form is more convenient:

Classification of SFFT by degree of severity

Degree of severity	Stage	Shallow water and high water	1. The donor's bladder is not visualized	3. Terminal blood flow	2. Edema	Death of one or both fetus
Light	I	+	-	-	-	-
Middle	II	+	+	-	-	-
	III	+	+	+	-	-
Heavy	IV	+	+	+	+	-
	V	±	±	±	±	+

At the end of this stage, the doctor determines the degree of severity and the stage of SFFT. **Example of a diagnosis:** "Multiple pregnancy. Twin. Monochorionic diamniotic. SFFT of heavy foot (V stage according to Quintero). Intrauterine death of one of the fetuses.



Invasive diagnostic methods (IMD) are a collective group of studies that allow obtaining biological material of fetal origin for analysis (amniotic fluid, villi of the chorion or placenta, areas of the skin and blood of the fetus).

- **Chorionobiopsy** - obtaining cells that form the placenta (pregnancy period 10-14 weeks);
- **Placentobiopsy (placentocentesis)** - obtaining placenta cells (pregnancy period 14-20 weeks);
- **Amniocentesis** - puncture of the amniotic sac with the withdrawal of a small amount of amniotic fluid (pregnancy period 15-18 weeks);
- **early (13-14 weeks);**
- **ordinary (15-22 weeks);**
- **Fetoscopy** - insertion of a probe and examination of the fetus (performed on the 18th-19th week of pregnancy)
- **Cordocentesis** - taking blood from the umbilical cord of the fetus (from the 20th week of pregnancy);
- **in isolated cases, a biopsy of the fetal tissue is performed.**

— **Requirements for work results, including to registration**

1. Examine a pregnant woman.
2. To appoint an examination of a pregnant woman for one or another obstetric pathology.
3. Evaluate the data of the clinical, laboratory and instrumental examination of a pregnant woman.

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

Test tasks KROK-2

1. (2020) What complications of the first trimester of pregnancy do not lead to the development of placental dysfunction?

- A. Low implantation of the fertilized egg
- B. The size of the fetus slightly exceeds the gestation period*
- C. Lagging of the size of the fetus from the term of pregnancy
- D. Detachment of the chorion

2. (2019) What diagnostic methods are not used to detect fetal growth retardation?

- A. Measurement of the standing height of the uterine fundus
- B. Ultrasound examination
- C. Colposcopy*
- D. Measurement of the circumference of the fetal abdomen

3. (2018) What biometric indicators do not indicate the presence of ZVUR of the fetus?

- A. The height of the uterine fundus corresponds to the term of pregnancy*
- B. Lagging of the standing height of the uterine fundus by 2 cm according to the term
- C. Absence of increase in the standing height of the uterine fundus after 2-3 weeks
- D. The lag in the standing height of the uterine fundus is more than 2 cm according to the term

4. Summing up (criteria for evaluating learning outcomes). On-going 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 assessment in the practical session:

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

«5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
«4»	The student has a good command of the material, participates in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the topic of the lesson, demonstrates clinical thinking.
«3»	The student does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.
«2»	The student does not master the material, does not take part in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.

5. List of recommended literature (main, additional, electronic information sources)

Basic

1. Clinical obstetrics and gynecology: teaching manual: trans. 4th English ed. / Bryan A. Magova, Philip Owen, Andrew Thomson; Science editor. translation. Mykola Shcherbina. - K.: VSV "Medicine", 2021. - X, 454 p.
2. Endoscopic surgery: teaching manual/V.M. Zaporozhan, V.V. Grubnik, Yu.V. Grubnik, A.V. Malinovsky and others; edited by V.M. Zaporozhan, V.V. Grubnik -K.: VSV "Medicine", 2019. - 592 p.
3. Obstetrics and gynecology: in 4 volumes. – Volume 3. Non-operative gynecology: a textbook (University IV of the Russian Academy of Sciences) / V.M. Zaporozhan, I.B. Vovk, I.Yu. Gordienko and others; under the editorship V.M. Confused - 2014. - 928 p.

4. Obstetrics and gynecology: in 2 books. – Book 2. Gynecology: a textbook (III-IV university) / edited by V.I. Hryshchenko, M.O. Shcherbiny - 2nd ed., edition, 2017. – 376 p.
5. Medical acceptance criteria for the use of contraceptive methods: 5th edition. Guidelines. - Geneva: World Health Organization; 2015
6. 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.
7. 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.
8. Dutta, Durlav Chandra. D. C. Dutta's Textbook of Gynecology including Contraception / D.C. Dutta; ed/ Hiralal Konar. - 7th. ed. - New Delhi: Jaypee Brothers Medical Publishers, 2016. - XX, 574 p.

Additional:

1. Gynecology: a guide for doctors./ V.K. Likhachev. – Vinnytsia: Nova Kniga, 2018. - 688 p.
2. Family planning. Educational and methodological manual / N.G. Hoyda, O.V. Hryshchenko, V.P. Kvashenko, O.V. Kravchenko et al. / Kyiv, 2016. – 444 p.
3. Infertility in marriage: education. study guide higher honey. education closing III-IV years, acre. - Kh.: Khnist National Medical University, 2014. - 126 p.

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/>