MINISTRY OF HEALTH PROTECTION OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY

International Faculty

Department of Obstetrics and Gynecology

I APPROVE
Vice-rector for scientific and pedagogical work
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METHODICAL DEVELOPMENT FOR PRACTICAL LESSONS FROM ELECTIVE DISCIPLINE

International Faculty, 6th year

Elective discipline **"OBSTETRICS AND GYNECOLOGY IN THE PRACTICE OF A FAMILY DOCTOR"**

Practical lesson No5. Topic: "Early gestosis. Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia. HELLP syndrome.

Approved:

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

Protocol No. 1 dated August 28, 2023

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Practical lesson No 5

Topic: "Early gestosis. **Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia. HELLP syndrome.**
Purpose: To acquaint students with higher education with obstetric complications: early gestosis, hypertensive disorders during pregnancy, preeclampsia, eclampsia, rare forms of gestosis.
Learn how to diagnose and provide emergency care for severe preeclampsia and eclampsia.
Basic concepts: Early gestosis, Hypertensive disorders during the disease Hypertensive disorders during the disease Hypertensive disorders during the disease: classification, clinic, diagnosis, treatment. Hypertensive disorders during pregnancy. Preeclampsia: pathogenesis, classification, diagnosis, clinic, treatment, tactics, prevention. Eclampsia: clinic, diagnosis, complications, emergency care, management tactics. Rare forms of gestosis.
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, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).
According to the European Society of Cardiology, hypertensive disorders of pregnancy are the most common medical complications, occurring in 5–10% of pregnancies worldwide. They remain the main cause of morbidity and mortality of mothers, fetuses and newborns. Risks to the mother include premature abruption of the normally positioned placenta, stroke, multiple organ failure, and disseminated intravascular coagulation syndrome. The fetus has a high risk of intrauterine growth retardation (25% of preeclampsia cases), prematurity (27% of preeclampsia cases), and intrauterine death (4% of preeclampsia cases).
Early gestoses develop in the early stages of embryogenesis, often contribute to the emergence of other forms of obstetric (hypotonia, anemia of pregnant women, threat of termination of pregnancy, late gestoses) and perinatal (hypoxia, defects in fetal development) pathology, adversely affect the formation of conditions necessary for the normal adaptation of the pregnant woman's body before the presence of an egg in the uterus.

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

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

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

- ***Questions (test tasks, tasks, clinical situations) to check basic knowledge on the topic of the practical class:***

Question:

- Early gestosis: definition, etiology and pathogenesis, classification, clinical manifestations, diagnosis, principles of treatment.

-Hypertensive disorders during pregnancy: definition, clinical support of pregnant women.

-Preeclampsia: definition, new and potential risk factors of preeclampsia, pathogenesis, classification, clinical symptoms and features of clinical care of patients depending on the severity of preeclampsia.

-Algorithm of action of medical personnel in case of severe preeclampsia.

-Eclampsia: definition, clinical manifestations, management algorithm and prescriptions for eclampsia.

-Monitoring the condition of a pregnant woman during magnesium sulfate therapy.

- HELLP syndrome: definition, clinical manifestations, methods of diagnosis, differential diagnosis, modern principles of treatment.

Typical situational tasks:

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

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

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

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

Typical test tasks:

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

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

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

4. A 28-year-old primiparous woman entered labor. Complaints of headache, visual disturbances. Blood pressure - 180\110 mm Hg. Art., significant swelling of the lower limbs, anterior abdominal wall. The fetal heartbeat is clear, rhythmic - 148 beats/min. During the internal obstetric examination: the opening of the cervix is complete, the head of the fetus is on the pelvic floor. Choose the delivery tactics?
    A. Conservative delivery
    B. Stimulation of labor activity
    C. Obstetric forceps application operation
    D. Cesarean section
    E. Fertilizing operation

5. A 9-10 week pregnant woman complains of vomiting up to 15 times a day, significant salivation. In 2 weeks, the body weight decreased by 5 kg. Blood pressure

- 100\60 mm Hg. st., pulse 110 beats/min. The skin is dry, pale. The pregnant woman is mentally unstable. Diuresis is reduced. Your diagnosis?

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

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

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

Tasks for subgroups

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

II subgroup. Draw up a treatment plan for the woman and determine management tactics.

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

Unusual situational tasks:

1. Pregnant N, 29 years old, came to the department of pathology of pregnant women at 34-35 weeks of gestation on the referral of a family doctor. This pregnancy is the first. Has been registered since 10 weeks of pregnancy. From 29 weeks, he noted an increase in blood pressure to 130/90 - 140/90 mm Hg. Art. Associated pathology - chronic pyelonephritis with remission for 5 years. There are no complaints. Blood pressure 150/100 mm Hg. Art. on both hands. The uterus is in normal tone, the height of the bottom of the uterus is 34 cm above the womb, the circumference of the abdomen is 94 cm. The fetal head is present, palpable above the entrance to the pelvis. The fetal heartbeat is clear, rhythmic, and can be heard on the left below the navel. Swelling of the lower legs and feet. Urine protein - 0.9 g/l.

Task:

1. Make a diagnosis.
2. What additional research methods are necessary to confirm the diagnosis ? 3. What are the medical tactics in this case ?

Answer:

1. Pregnancy I, 34 - 35 weeks. The position of the fetus is longitudinal, position I, front view, main presentation. Moderate preeclampsia. Chronic pyelonephritis in Art. remission
2. Additional examination is required: general blood test (hematocrit, platelets), coagulogram (fibrinogen, AChT, PTI), biochemical blood test (total protein, bilirubin, AALT, AST, creatinine, urea, plasma uric acid, electrolytes (potassium, sodium)) ; general urinalysis, determination of daily proteinuria; ECG, consultation of a therapist, neurologist, ophthalmologist; monitoring of the condition of the fetus (ultrasound to assess the growth of the fetus and the volume of amniotic fluid, dopplerometry of the umbilical artery, BPP, CTG).
3. Hospitalization, rest in a lying position on the left side, a normal diet with increased protein intake. Blood pressure should be measured 4 times a day. Creatinine, electrolytes, ZAC (platelets), transaminases, bilirubin (2-3 times a week). Criteria for starting AGT: BP ≥ 150/100 mm Hg. Art., in the presence of additional signs of PE severity, the start of hypotensive therapy at BP ≥ 140/90 mm Hg. Art. Initial therapy may begin with one of the AHT drugs: methyldopa, beta-adrenergic blocker, or nifedipine. Target blood pressure level: cAT130-150 mm Hg. st., dAT 80-95 mm Hg. If the patient's condition is stable - conservative delivery after 37 weeks of pregnancy. If the condition worsens - immediate delivery.

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

During the examination: the general condition is difficult, retarded. Blood pressure 170/110 mm Hg. Art. on the left hand and 165/100 mm Hg. Art. on the right The uterus corresponds to 36 - 37 weeks of pregnancy, which is consistent with the expected term. The fetal heartbeat is clear, rhythmic, and can be heard on the left below the navel. Swelling of the feet, legs, hands, front abdominal wall.

Internal obstetric examination: the vaginal part of the cervix is shortened to 1.5 cm, softened; the cervical canal passes a finger behind the inner eye, the tissues in the area of the inner eye are compacted. Amniotic sac intact. The head of the fetus is placed, pressed against the entrance to the pelvis. Cape Cross cannot be reached.

Additional examination data: CTG: heart rate 152 bpm, amplitude of oscillations > 10 bpm, frequency of instantaneous oscillations > 6 per min., accelerations 2, decelerations absent. Fetal movements - more than 3, NST is reactive.

Ultrasound: Pregnancy 36 weeks, 3 days (according to menstruation). The fruit is one in the main presentation. Heart rate - +, movements - 3, breathing movements > 30 sec. The size of the fetus corresponds to 34 - 35 weeks of pregnancy. Echostructures of the lungs are mature. Placenta on the back wall, II degree of maturity. The amount of water is the norm. There are no abnormalities in fetal development.

General analysis of urine - protein 2.1 g/l. Daily proteinuria - 6.5 g/day.

Task:

1. Make a diagnosis.
2. How to conduct dynamic monitoring of a pregnant woman with severe preeclampsia ?
3. What are the medical tactics in this case ?

Answer:

1. Pregnancy I, 35 - 36 weeks. The position of the fetus is longitudinal, position I, front view, main presentation. Severe preeclampsia. ZRP
2. General blood analysis (hematocrit, platelets), coagulogram (fibrinogen, AChT, PTI), biochemical blood analysis (total protein, bilirubin, AALT, AST, creatinine, urea, plasma uric acid, electrolytes (potassium, sodium)); general urinalysis.

Blood pressure should be measured at least 4 times a day, or depending on the clinical situation.

Creatinine, electrolytes, ZAC (platelets), coagulogram, transaminases, bilirubin (daily).

3. Hospitalization in the intensive care unit of an institution that provides tertiary (highly specialized) medical care.

Start anticonvulsant therapy (magnesium sulfate).

Initial antihypertensive therapy should begin with nifedipine (drops or chewable tablets), parenteral urapidil, or parenteral beta-blockers. With high blood pressure, urapidil is preferred. In the presence of resistant hypertension, it is possible to use clonidine or glyceryl trinitrate (nitroglycerin).

The target blood pressure level should not be lower than 150/100 mm Hg.

Delivery within 24 hours after stabilization of the hemodynamic state.

Non-typical test tasks:

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

A. Send to the inpatient maternity hospital.
B. Determine daily proteinuria.
C. Monitor blood pressure after 4 hours.
D. Prescribe treatment on an outpatient basis.
E. Assess the condition of the fetus.

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

A. Furosemide.
B. Nifedipine.

C. Magnesium sulfate.
D. Clonidine.
E. Urapidil

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

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

5. The therapist was called to a woman who was 37 weeks pregnant, who complained of headaches, swelling, difficulty breathing through the nose, and "flickering of flies" in front of her eyes. Objectively: generalized edema. Blood pressure 190/110 mm Hg, protein in urine when it is boiled. What is the diagnosis of a pregnant woman ?
A. Moderate preeclampsia.
B. Severe preeclampsia.
C. Chronic arterial hypertension.
D. Gestational hypertension.
E. Eclampsia.

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

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

ACTIONS OF MEDICAL PERSONNEL IN PRE-ECLAMPSIA/ECLAMPSIA

<table>
<tr><td>1.</td><td colspan="3">Measure blood pressure, record the time of application</td><td>Time, min</td></tr>
<tr><td rowspan="2">2.</td><td colspan="3">Ensure the position of the woman lying down with blood pressure ≥ 150/90 mm Hg. Art.</td><td></td></tr>
<tr><td colspan="2">On the left side at an angle of at least 15 - 30° or manual displacement of the uterus to the left side</td><td>After a seizure - pose survival and/or recovery</td><td></td></tr>
<tr><td>3 .</td><td colspan="3">Call on-duty doctors for blood pressure ≥ 150/90 mm Hg. and/or seizures ("panic button", telephone, staff)</td><td></td></tr>
<tr><td>4.</td><td colspan="3">Notify the hospital administration (the senior doctor on duty, or the district obstetrician-gynecologist, or the deputy chief physician for medical assistance)</td><td></td></tr>
<tr><td>5.</td><td colspan="3">Gg</td><td></td></tr>
<tr><td>6.</td><td colspan="3">Blood sampling from a peripheral vein for biochemical analysis (urea, creatinine, bilirubin, total protein, ALT), coagulogram (fibrinogen, AChT, PTI), Rhesus factor (if absent), bedside test.</td><td></td></tr>
<tr><td rowspan="5">7.</td><td colspan="3">Magnesium sulfate - seizure prevention and/or seizure control*:</td><td></td></tr>
<tr><td colspan="2">Bolus (loading dose) + Maintenance regimen:</td><td>Dose correction:</td><td></td></tr>
<tr><td>16 ml of a 25% solution of magnesium sulfate (4 g) + 34 ml of a 0.9% solution of sodium chloride - with BP>160/110 or clinical signs of severe preeclampsia (headache, pain in the epigastrium, vomiting, visual disturbances) - for 10-15 min.
- with convulsions - in 5 minutes. **
- in case of repeated convulsions – ½ dose (2 g) in 5 min.***</td><td rowspan="3">30 ml of 25% pH magnesium sulfate (7.5 g) + 220 ml of 0.9% sodium chloride solution: <u>1 g/hour (= 10 drops/min = 0.5 ml/min)</u> (24 hours after delivery or the last attack) Max. daily dose – 32 g of magnesium sulfate Do not stop administration of magnesium sulfate during delivery!!!</td><td>ChD > 16; amount of urine > 25 ml/h. Continue magnesium sulfate infusion

ChD > 16; the amount of urine is 10–25 ml/h. Reduce the dose of magnesium sulfate in 2 years.

ChD < 16; the amount of urine < 10 ml / hour. Stop magnesium sulfate infusion</td><td></td></tr>
<tr><td colspan="3">In case of an overdose of magnesium sulfate, stop the administration of magnesium sulfate and intravenously introduce 10 ml of 10% solution of calcium gluconate in 10 minutes!!!</td><td></td></tr>
<tr><td rowspan="2">8.</td><td colspan="3">Antihypertensive therapy:</td><td></td></tr>
<tr><td colspan="2">Blood pressure ≥ 150/90 mm Hg.</td><td>Blood pressure ≥ 180/100-110 mm Hg.</td><td></td></tr>
</table>

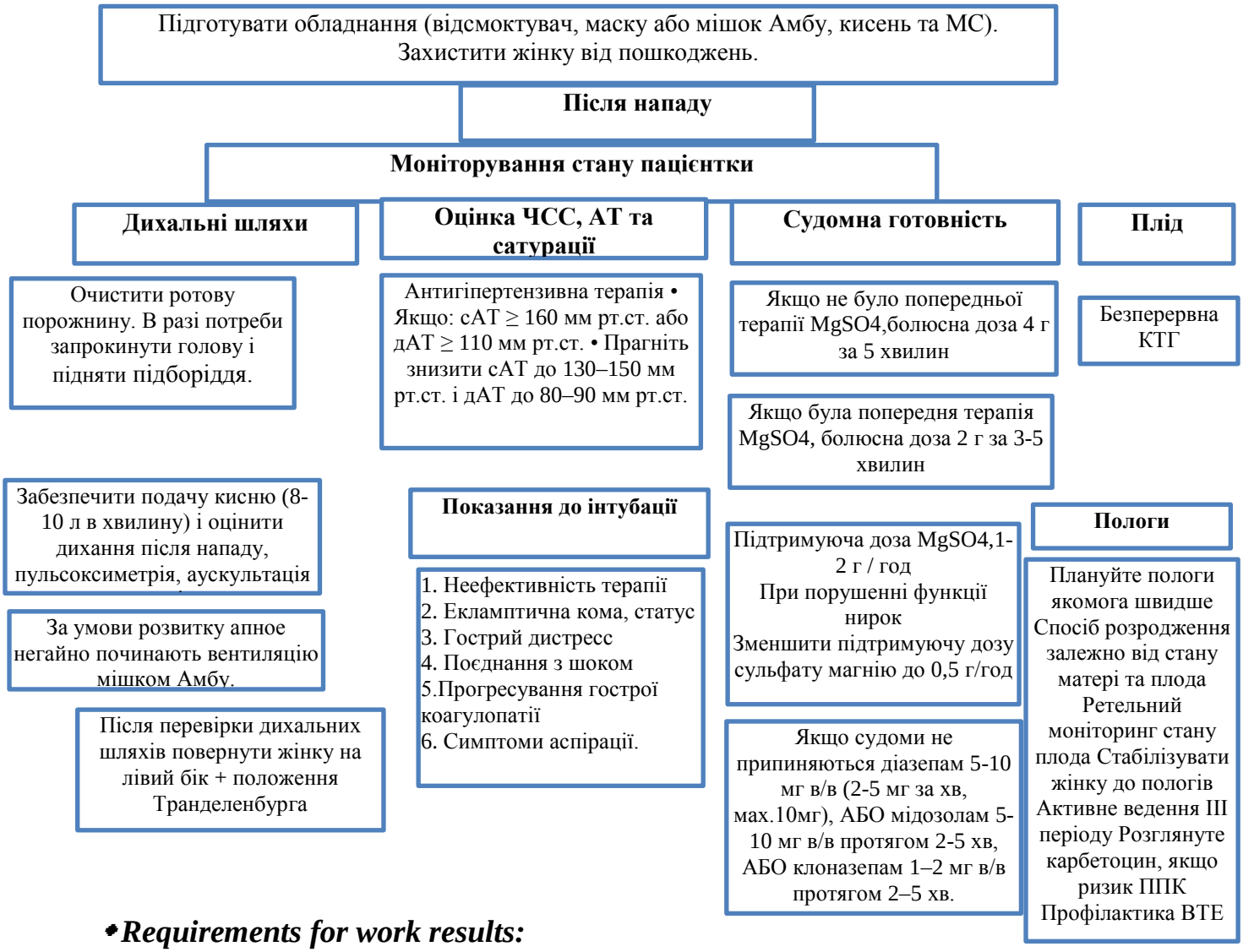
<table>
<tr><td></td><td colspan="2">Nifedipine 1 tab. (10 mg) to chew; repeat after 20 minutes 20 mg if inadequate response (max.: 100 mg/day) or 3–5 drops under the tongue; repeat after 5 min., if the response is inadequate (max.: 10–15 drops/day). Methyldopa 250-500 mg 3-4 times a day. After childbirth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

Diazepam is indicated for: 1) convulsions that developed before 20 weeks of pregnancy; 2) magnesium sulfate intoxication. ** If there was previous therapy with magnesium sulfate - a bolus dose of 2 g in 5 minutes. *** An alternative to a repeated bolus dose of magnesium sulfate in case of repeated seizures is diazepam IV 2 ml (10 mg), over 2 minutes in 10 ml of 0.9% sodium chloride solution. If the convulsions have resumed or have not stopped, repeat 2 ml (10 mg). In case of exceeding the dose of 30 mg in 1 hour. depression or respiratory arrest may occur! **The maximum dose is 100 mg in 24 hours!**

Management and appointment algorithm for eclampsia

Покликати на допомогу («тривожна кнопка», телефон, персонал)

Під час нападу



- ***Requirements for work results:***
  - To draw up a plan for the necessary clinical, laboratory and instrumental studies for early and late gestosis;
  - Evaluate the results of clinical, laboratory and instrumental studies in early and late gestosis;
  - Establish a preliminary and clinical diagnosis of the disease;
  - Determine the nature of nutrition in the treatment of early and late gestosis;
  - Prescribe treatment for early and late gestosis depending on the degree of severity;
  - Diagnose eclampsia and HELLP syndrome;
  - Provide emergency medical care for severe preeclampsia and eclampsia;
- ***Control materials for the final stage of the lesson: problems, tasks, tests, etc***

Unusual situational tasks:

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

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

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

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

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

Task:

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

Answer:

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

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

lower blood pressure to 130–150 mm Hg. and blood pressure up to 80–90 mm Hg. After a seizure, immediate delivery by caesarean section is indicated.
3.Differential diagnosis is carried out with epilepsy, acute disturbance of cerebral blood circulation, encephalitis, meningitis, rupture of an aneurysm of cerebral vessels, hysteria, uremic coma.
4.Magnesium therapy should last at least 48 hours after delivery.

Test tasks STEP-2:

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

A. Magnesium sulfate *
B. Diazepam
C. Phenytoin
D. Lamotrigine
E. Sodium valproate

2. **(2019)** A 27-year-old woman in the 8th week of pregnancy complains to the doctor that for the past 8 days she has been experiencing prolonged nausea and vomiting after almost all meals. Over the past week, the patient has lost 3 kg of weight. Now, with a height of 160 cm, a woman weighs 46 kg. Pulse 100/min., blood pressure 90/50 mm Hg. Art. Dryness of the mucous membranes, decreased skin turgor, and asthenic physique are noted during the examination. Gynecological examination revealed the size of the uterus corresponding to the 8th week of pregnancy, without pathological changes. An ultrasound revealed a pregnancy with one fetus. Hemoglobin concentration is 150 g/l. In the general analysis of urine, ketone bodies (+++) were detected. Which of the following is the most appropriate next step in the patient's management ?

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

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

therapy being carried out is ineffective. What obstetric tactics ?

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

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

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

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

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

Final control: credit.

Assessment of the current educational activity in a practical session:

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

- methods: survey, solving a situational clinical task
- assessment: maximum mark – 5, minimum – 3, unsatisfactory – 2.

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

- methods: assessment of: a) communication with a patient b) correctness of prescribing and evaluating laboratory and instrumental studies
- assessment: maximum mark – 5, minimum – 3, unsatisfactory – 2.

3. Evaluation of work with patients on the subject of the lesson:

- methods: assessment of communication skills with the patient and his relatives; correctness of prescription and assessment of laboratory and instrumental studies; accordance to the differential diagnosis algorithm; substantiation of the clinical diagnosis; drawing up a treatment plan
- assessment: maximum – 5, minimum – 3, unsatisfactory – 2.

The grade for one practical session 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. List of recommended literature.

Basic:

1. Gladchuk I.Z. Obstetrics: student`s book / Gladchuk I.Z., Ancheva I.A. . – Vinnitsia: Nova Knyha, 2021. – 288 p.
2. Obstetrics and Gynecology: in 2 volumes. Volume 1. Obstetrics: textbook / V.I. Gryshchenko, M.O. Shcherbina, B.M. Ventskivskyi et al. (2nd edition). – «Medicina», 2018. – 392 p.
3. Hiralal Konar DC Dutta's Textbook of Obstetrics (9th Ed.) / Hiralal Konar (Ed.). – Jp Medical Ltd, 2018. – 700 p.
4. F. Gary Cunningham Williams Obstetrics (26th Edition) / F. Gary Cunningham, Kenneth Leveno, Jodi Dashe, Barbara Hoffman, Catherine Spong, Brian Casey. – McGraw Hill / Medical, 2022. – 1328 p.
5. Jeremy Oats, Suzanne Abraham Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology (10th Ed) / Jeremy Oats, Suzanne Abraham. – Elsevier, 2016. – 384 p.

Additional:

1. The PROMPT-CIPP Editorial Team. (2019). PROMPT-CIPP Course Participant's Handbook: Care of the Critically Ill Pregnant or Postpartum Woman (Critical Car Prompt Practical Obstetric Multi-professional Training). – Cambridge University Press; 1st edition, 2019. – 136 p.

2. L. A. Magee 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 p.
3. Edwin Chandraharan Handbook of CTG Interpretation: From Patterns to Physiology / Edwin Chandraharan. – Cambridge University Press; 1st edition, 2017. – 256 p.
4. Louise C. Kenny, Jenny E. Myers Obstetrics by Ten Teachers (20th ed) / Louise C. Kenny, Jenny E. Myers. – CRC Press, 2017. – 342 p.
5. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 4. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2017. – 419 p.
6. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 5. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2019. – 403 p.
7. J. Studd Current Progress in Obstetrics and Gynaecology. Vol 6. / J. Studd, Seang Lin Tan, F. Chervenak. – TreeLife Media (A Div of Kothari Medical), 2022. – 309 p.
8. Mark Landon Obstetrics: Normal and Problem Pregnancies, 8th Edition / Mark Landon, Henry Galan, Eric Jauniaux, Deborah Driscoll, Vincenzo Berghella, William Grobman, et al. – Elsevier, 2021. – 1280 pp.
9. Mark B. Landon Gabbe's Obstetrics Essentials: Normal & Problem Pregnancies, 1st Edition / Mark B. Landon, Deborah A. Driscoll, Eric R. M. Jauniaux, Henry L. Galan, William A. Grobman, Vincenzo Berghella. – Elsevier, 2019. – 496 pp.
10. Ian M. Symonds, Sabaratnam Arulkumaran Essential Obstetrics and Gynaecology, 6th Edition / Ian M. Symonds, Sabaratnam Arulkumaran. – Elsevier, 2020. – 480 pp.
11. Myra J. Wick Mayo Clinic Guide to a Healthy Pregnancy, 2nd Edition / Myra J. Wick. – Mayo Clinic Press, 2018. – 520 p.

Internet sources:

1. https://www.cochrane.org/ - Cochrane
2. https://www.acog.org/ - The American College of Obstetricians and Gynecologists
3. https://www.uptodate.com – UpToDate
4. https://online.lexi.com/ - Wulters Kluwer Health
5. https://www.ncbi.nlm.nih.gov/ - National Center for Biotechnology Information
6. https://pubmed.ncbi.nlm.nih.gov/ - National Library of Medicine
7. https://www.thelancet.com/ - The Lancet
8. https://www.rcog.org.uk/ - Royal College of Obstetricians & Gynaecologists
9. https://www.npwh.org/ - Nurse practitioners in womens health
10. http://moz.gov.ua

11. www.ama-assn.org – American Medical Association
12. www.who.int
13. www.dec.gov.ua/mtd/home/
14. http://bma.org.uk
15. www.gmc-uk.org- *General Medical Council (GMC)*
16. www.bundesaerztekammer.de
17. www.euro.who.int