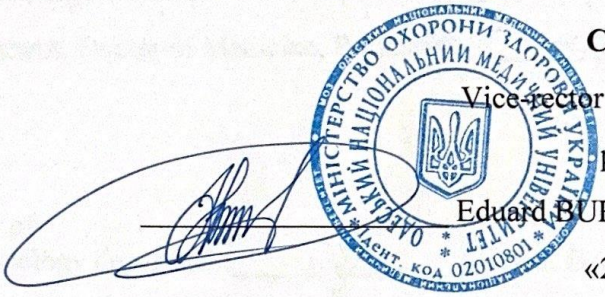
MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY



CONFIRMED by
Vice-rector for scientific and pedagogical work
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«29» August, 2024

THE METHODICAL RECOMMENDATIONS FOR PRACTICAL CLASS

International Faculty, Course VI

Discipline “Obstetrics and Gynecology”

Practical lesson №33. Topic: Anomalies of the pelvic bone. Macrosomia in obstetrics. The disparity between the size of the fetal head and mother`s pelvis. Anomalies of position of the fetus. Pelvic presentation of the fetus. Anomalies of the contraction activity of the uterus. Birth and maternal traumatism.

Approved:

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

Protocol No. 1 dated August 29, 2024.

Head of the Department, Doctor of Medicine, Professor _____ (I.Z. Gladchuk)

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Practical lesson № 33. Anomalies of the pelvic bone. Macrosomia in obstetrics. The disparity between the size of the fetal head and mother`s pelvis. Anomalies of position of the fetus. Pelvic presentation of the fetus. Anomalies of the contraction activity of the uterus. Birth and maternal traumatism.

Learning objectives

The overall aim of this topic is to gain basic knowledge about anatomical, physiological and biochemical changes during malposition and malpresentation fetus in labour , be familiar with risk factors for disproportions between pelvic cavity and position, presentation and size of the fetus. Management of all these situations including main part of it: establish whether threatened or 'real' disproportion; admit if risk high; check fetal presentation: anterior or posterior *asynclitism*, with one of the parietal bones preceding the sagittal suture (in posterior asynclitism, the posterior parietal bone leads. Significant degrees of asynclitism can result in labour dystocia and a higher risk of operative delivery. In order to achieve all the aims of the topic.

The purpose of classes - to acquaint students with the urgency of this problem, etiopatogenetic features of clinics, diagnosis and treatment of anomalies of uterus contractions.

Basic concepts:

Equipment

- Multimedia equipment (computer, projector, screen), TV.
- Obstetric models and obstetric instruments (pelvimeter, obstetric stethoscope, centimeter tape).
- Professional algorithms, structural-logical schemes, tables, videos.
- Results of laboratory and instrumental researches, situational tasks, patients, medical histories.

EDUCATIONAL TIME – 4 h

I. ORGANIZATIONAL STAGE

- Greetings,
- checking attendees,
- defining of educational goals,

- providing of positive motivation.

Secondary arrest of cervical dilatation (SACD) is much less common than the above, said to affect 6% of nulliparas and only 2% of multiparas. Although the commonest cause of SACD is still inefficient uterine activity, relative disproportion is far more likely to be the explanation than with primary disfunction labour. Secondary arrest does not always indicate genuine cephalon-pelvic disproportion, as inadequate uterine contractions can be correct, resulting in spontaneous vaginal delivery. However, a diagnosis of secondary arrest (especially in a multiparous woman) should prompt a search for obvious problems in the passenger (for example, hydrocephalus, brow presentation, undiagnostic shoulder presentation, large baby, malposition) and the passages (for example, a congenitally small pelvis, a deformed pelvis due to fracture following an accident, or masses in the pelvis). Unfavorable pelvic diameters are rarely a cause of cephalon-pelvic disproportion in the developed world. ///the fetus is more commonly the cause of relative disproportion by presenting a large diameter of the vertex due to a malposition or deflexion, or both. In such cases, the dystocia may be overcome If the flexion and rotation to an occipito-anterior position can be encouraged efficient uterine contractions.

II. CONTROL OF BASIC KNOWLEDGE (written work, written testing, online testing, face-to-face interview, etc.)

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

Knowledge requirements:

- Communication and clinical examination skills.
- Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.
- Ability to make a preliminary and clinical diagnosis of the disease
- Ability to perform medical manipulations
- Ability to determine the tactics of physiological pregnancy, physiological labor and the postpartum period.
- Ability to keep medical records.

List of didactic units:

- definition of malposition, malpresentation and cephalon-pelvic disproportion,
- current concepts in the pathophysiology of all,
- risk factors for labour and delivery,
- antenatal management,
- deciding mode of delivery,
- conducting a vaginal breech delivery,
- entrapment of the aftercoming head,
- brow and face presentation,
- shoulder presentation
- instrumental vaginal delivery.
- definition of uterine anomalies;
- classification of uterine anomalies,
- methods of diagnosis of uterine anomalies;
- clinic of different forms of uterine anomalies;
- the negative impact of labor abnormalities activity on the mother and fetus;
- treatment policy anomalies uterine contractions.

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

Questions:

- What classification of breech presentation is used?
- What are the diagnostic criteria of breech presentation?
- What is the difference between delivery in cephalic and breech presentation?
- What are the moments of labor biomechanism in breech presentation?
- What hand assistance methods for breech presentation do you know?

- How are contracted pelvises classified and diagnosed?
- What are the peculiarities of biomechanism of delivery in different types of contracted pelvis?
- What are the symptoms of contracted pelvis?
- What are the causes of macrosomia?
- What methods are used to diagnose macrosomia?
- What are pregnancy and delivery peculiarities in big fetus?
- What anomalies of labor activity do you know?
- What are the clinical signs of different anomalies of labor activity?
- What are the methods of diagnostics of different anomalies of labor activity?
- What are the main principles of treatment of patrimonial disactivity?

Test tasks

Direction: For each of the multiple-choice questions select the lettered answer that is the one best response in each case.

1. A primapara with pelvis size 25-28-31-20 cm has active labor activity. Waters poured out, clear. Fetus weight is 4500 g, the head is engaged to the small pelvis inlet. Vasten's sign as positive. Cervix of uterus is fully dilated. Amniotic sac is absent. The fetus heartbeat is clear, rhythmic, 136 bpm. What is the labor tactics?

A. caesarean section

B. vacuum extraction of the fetus

C. obstetrical forseps

D. conservative tactics of labor

E. stimulation of the labor activity

2. If the axis of fetus and uterus are perpendicular, head to the right, this is:

A. transversal lie, II position

B. longitudinal lie

C. oblique lie, I position

D. oblique lie, II position

E. transversal lie, I position

3. You have just delivered an infant weighing 2.5 kg (5.5 lb) at 39 weeks gestation. Because the uterus still feels large, you do a vaginal examination. A second set of membranes is bulging through a fully dilated cervix, and you feel a small part presenting in the sac. A fetal heart is auscultated at 60 beats per minute. Select the most appropriate procedure:

A. internal version

B. external version

C. midforceps rotation

D. low transverse cesarean section

E. classic cesarean section

4. A 34-year-old multipara was brought to the labor ward with regular labor activity. Her pelvic size is 26-29-32-22 cm. Vaginal examination shows 6 cm cervical dilation, the amniotic sac is unbroken. The fetus is in the breech presentation, with buttocks pressed to the entrance into the lesser pelvis. The promontory cannot be reached, no exostoses. Fetal heart rate is 140/min., expected fetal weight is 2800 g. What labor tactics should be chosen?

A. Urgent cesarean section

B. Classic combined external-internal version of the fetus

C. Delivery through the natural birth canal

D. External obstetric version of the fetus

E. Fetal extraction from the pelvic end

5. What type of the manual aids need the patients with a footling?

A- Manual aid by Tsovyanov 1;

B - Manual aid by Tsovyanov II;

C - Classic manual aid;

D - Breech extraction.

6. What type of the manual aids need the patients with a frank breech presentation?

A- Manual aid by Tsovyanov I.

B- Manual aid by Tsovyanov II;

C - Classic manual aid;

D - Breech extraction.

7.Multypara, 32 y.o., is in the I stage of labor for 5 hours. Light amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. At internal obstetric examination head of the fetus is pressed to inlet to the small pelvis, fetal bubble is absent. Disclosure of uterine cervix is 2 sm. Choose the optimum labor management?

A. Medicinal dream

B. Labor inducing

C. Cesarean section

D. Treatment of uterine inertia

E. Obstetric forceps

8. Woman-in-labor 25 y.o., is in I stage of duly labor during 14 hours with normal patrimonial activity. Sizes of the pelvis 26-28-30-18 sm. Palpitation of the fetus is dull, rhythmical, 85 b/min. Prospective mass of the fetus 3200.0+200 gr. Internal obstetric examination: disclosure of uterine os is complete, head of the fetus is in pelvic cavity. What is the tactics of labor management?

A. Applying of output obstetric forceps

B. Applying of cavity obstetric forceps

C. Conservative labor

D. Cesarean section

E. Fetus destroying operation

Typical situations of tasks:

1. N., 21 eyars old, primapara. Full term of pregnancy. The labor started 8 hours ago. The membranes ruptured 15 minutes later. Pelvic sizes: 25,28,31,20 cm. Fetal head rate 140 per minute with satisfactory characteristics. Per vaginum: the cervix is completely dilated. The amniotic sac is absent. Fetal buttocks are palpated in outlet plane of pelvic. Bitrochanter diameter is in the direct size of pelvic outlet.

Diagnosis?

What type of the manual aids need the patient?

Answer: First at term labor. Second stage of labor. The frank breech presentation.

Management: Vaginal delivery. The manual aid by Tsovyanov I.

2. Primipara F.,25 years old. Pregnancy at term. The labor started 6 hours later. The membranes ruptured 1 hour ago. Pelvic sizes: 23,25,29,18 cm. Fetal head rate 140 per minute with satisfactory characteristics. Uterine contractions are occurring every 7-8 minutes. Per vaginum: the uterine cervix dilatation is 5 sm. The amniotisac is absent. One fetal foot is palpated in the vagina. Buttocks are in the pelvic inlet.

Diagnosis?

How the delivery must be managed?

Answer: First at term labour I, first stage of labor. Footling presentation. Contracted pelvis I-II degree. Cesarean section should be performed.

III. FORMATION OF PROFESSIONAL SKILLS (mastering skills, conducting curation, determining the treatment regimen, conducting a laboratory study, etc.).

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

Interactive task:

Student groups are divided into 3 subgroups of 3-4 people each. They work in the classroom, maternity ward, maternity ward, neonatal unit with pregnant women and newborns.

Tasks:

- Subgroup I - to perform external pelviometry, measuring of diagonal conjugate, calculation of true conjugate, to assess measurements of the true and the false pelvis.
- Subgroup II - to assess grade and type of moulding in cephalic presentations.
- Subgroup III – to assess answers of subgroups I and II and makes adjustments.

Atypical test tasks:

1. A 26-year-old secundipara at 40 weeks of gestation arrived at the maternity ward after the beginning of labor activity. 2 hours before bursting of waters occurred. The fetus was in a longitudinal lie with cephalic presentation. Abdominal circumference was 100 cm, fundal height - 42 cm. Contractions occurred every 4-5 minutes and lasted 25 seconds each. Internal obstetric examination revealed cervical effacement, opening by 4 cm. Amniotic sac was absent. Fetal head was pressed to the pelvic inlet. What complication is the most likely to develop in childbirth?

A. Discoordinated labor

B. Precipitous labor

C. *Cephalopelvic dysproportion

D. Primary uterine inertia

E. Secondary uterine inertia

2. A baby was born by a young smoker. The labour was complicated by uterine inertia, shoulders dystocia. The baby's Apgar score was 4. Which of the following is a risk factor for a spinal cord injury?

A. *Shoulders dystocia

B. Young age of the mother

C. Pernicious habits

D. Uterine inertia

E. Chronic hypoxia

3. A full term baby born from the 1st noniventful pregnancy with complicated labor was diagnosed with cephalohematoma. On the 2nd day of life the child developed

jaundice; on the 3rd day of life there appeared neurological changes: nystagmus, Graefe syndrome. Urine is yellow, feces are goldenyellow. The mother's blood group is A (II) Rh−, the child's - A (II) Rh+. On the 3rd day the results of the child's blood test are as follows: Hb- 200 g/l, erythrocytes - 6, 1 · 1012/l, blood bilirubin - 58 mcmol/l due to the presence of its unconjugated fraction, Ht- 0,57. In this case the jaundice is caused by:

A. Hemolytic disease of newborn

B. Atresia of bile passages

C. Fetal hepatitis

D. *Cephalohematoma

E. Physiologic jaundice

4. A puerperant is 32 years old, it's her first childbirth, term precipitous labor, the III period is unremarkable, the uterus is contracted, tight. Examination of the birth canal revealed a rupture in the left posterior vaginal wall that was closed with catgut. Two hours later, the patient complained of a feeling of pressure on the anus, pain in the perineum, minor vaginal discharges, edema of the vulva. These clinical presentations are indicative most likely of:

A. *Vaginal hematoma

B. Hysterocervicorrhexis

C. Hemorrhoids

D. Hysterorrhesis

E. Hypotonic bleeding

5. Certain patients are more likely than others to have uterine atony and hemorrhage after delivery. Circumstances that predict possible increased bleeding postpartum include which of the following situations?

A. hypertensive disorders

B. pudendal anesthesia for delivery

C. obesity

D. *prolonged labor

E. primigravidas

6. During external obstetrical examination the abdomen of a pregnant woman has a transverse - oval form, at the left lateral uterine wall a round, dense, balloting fetal part is palpated; to the right a voluminous soft, not balloting fetal part is palpated and the presenting part is absent. Fetal palpitation is heard at the umbilical level. Establish the diagnosis.

A. *Transverse lie, left position

B. Longitudinal lie, right breech anterior presentation

C. Oblique lie, left position

D. Longitudinal lie, cehpalic anterior presentation

E. Longitudinal lie, left breech posterior presentation

3.2. Educational materials, recommendations (instructions) for performing tasks

Anatomically contracted pelvis is classified by form and grade of contraction.

Frequently met types of contracted pelvis:

Generally contracted pelvis:

- infantile pelvis;
- android pelvis;
- Dwarf pelvis.

Flat pelvis:

- simple flat pelvis;
- flat rachitic pelvis;
- pelvis with reduced anterior-posterior diameter in the plane with greatest pelvic dimensions;
- Generally contracted flat pelvis.

Seldom met types of contracted pelvis:

1. Obliquely displaced and obliquely contracted pelvis.

2. Dollichopellic pelvis.

3. Choanoid pelvis.

4. Osteocalcin pelvis.

5. Spondylolisthesis pelvis.

6. Pelvis contracted with exostoses, fractures, pelvic bones tumors.

7. Kyphotic pelvis.

There 4 degrees of pelvic constriction:

I degree – true conjugate is 10,5-9 cm

II degree - 9-7,5 cm

III degree - 7-5,5 cm

IV degree – less than 5,5 cm.

Frequency of occurrence of anatomically constricted pelvis is 2,6-12 %.

Diagnostics of constricted pelvis

Timely diagnostics of constricted pelvis may caution a rate of complications, which can arise during labor or rarely at the end of pregnancy.

Anamnesis, external examination and vaginal examination are of the main diagnostic significance.

We get important information about rickets, bone tuberculosis, osteomyelitis, traumas, late menarche, obstetric history from anamnesis. During external examination attention is paid to height (pelvis is usually constricted when the height is 145 cm or less), spinal curvatures (kyphosis, scoliosis, lordosis), shortening of lower extremities, immobility in joints, form of lumbosacral rhomb, pendulous abdomen in multipara, peaked abdomen in primipara, signs of infantilism (immature secondary sexual characteristics), intersexuality (tall stature, hypertrichosis, virializing type pillories).

1. Distention spinarum = 25-26 cm (distance between anterior superior iliac spines);

2. Distention cristarum = 28-29 cm (distance between the most distant points of iliac crests);

3. Distention trochanterica = 31 cm (distance between the most distant points of trochanters);

4. Conjugata externa = 20-21 cm

5. Conjugate diagonals is measured during vaginal examination.

If promontories can't be reached then conjugate diagonals is assumed to be over 12 cm (12,5-13 cm).

6. Conjugate Vera (true conjugate) is equal to anterior-posterior diameter of pelvic inlet.

Additional external measurement:

lumbosacral rhomb, if normal it has regular shape. Vertical size is 11 cm (is equal to true conjugate), transversal size is 9 cm.

Lateral conjugate – distance between the anterior superior iliac spine and posterior superior iliac spine of the same iliac bone (normally is 14,5-15 cm), it is decreased in contracted pelvis.

Pelvic height – distance between ischial tuberosity and pubic symphysis (normally is less than 11 cm, if it is over 11 cm prolonged labor may take place).

Anterior-posterior and transverse diameters of pelvic outlet.

circumference of pelvis is measured with measuring tape pressed under sacrum, between iliac crests on both sides and in the middle of pubic on the front (normally is 85 cm and over)

Pubic symphysis height is measured between its upper and lower edges (normally is 5-6 cm). The higher is pubic symphysis, the lesser is true conjugate.

Oblique diameter – distance between the right anterior superior iliac spine to the left posterior superior iliac spine and opposite. Normally both these sizes are equal to 20-21 cm.

Solov'jev index is estimated by measurement of the circumference of radiocarpal joint. Normally it is 14-18 cm. If it is lower pelvic bones are thin, if it is over 18 cm pelvic bones are thick.

Zangemeister's and Vasten's symptoms are used to estimate match of fetus head to pelvis.

Generally contracted pelvis

It is characterized by regular shape and equal reduction (in 1-2 cm) of all sizes (anterior-posterior, oblique and transverse), pubic angle is acute (less than 90^0), pubic and sacrum heights are reduced. Average sizes are D.sp. – 24 cm., D.cr. – 26 cm, D.tr. – 28 cm., C.ext. – 18 cm., C.diagonalis – 11 cm, C.vera – 9 cm.

There are different types of generally contracted pelvis:

Infantile pelvis is diagnosed in infantile underdeveloped women. Pelvis has some puerile signs: sacrum is narrow and isn't flexed enough, promontory is high, pubic arc is narrow, pelvic inlet has round or oval form.

Android pelvis is diagnosed in tall women with the sighs of intersexuality. Its build is alike to male pelvis: high conoid cavity, narrow pubic arc.

Dwarf pelvis is a marginal variant of generally contracted pelvis. It is diagnosed in women of proportional build with height of 120-149 cm.

Biomechanism of labor is like to the one in breech labor but has some peculiarities.

First peculiarity (in the I moment of biomechanism) – maximal head flexion and head set with its smallest diameter (diameter suboccipitoparietalis – 9 cm) in one of the oblique diameters of pelvic inlet depending on fetus position. Such set is cuneate and unstylistic.

Second peculiarity is significant head configuration (dolichocephalic configuration) because of reduction of all sizes of pelvis.

Third peculiarity is prolonged head defluxion.

Flat pelvis

Flat pelvis is a pelvis with reduced anterior-posterior diameters and normal transversal and oblique diameters. It has different types:

1. Simple flat pelvis is characterized by reduction of all anterior-posterior diameters due to relocation of sacrum closer to pubic. There is no deformation of pelvis and skeleton, build is normal. Sizes: D.sp. - 26 cm, D.cr. - 29 cm, D.tr. - 30 cm, C.ext. - 18 cm, C.diagonalis. – 11 cm, C.vera – 9 cm.

Labor has more favorable prognosis than in cases of any other type of flat pelvis.

Biomechanism of labor in simple flat pelvis has some peculiarities.

First peculiarity – prolonged high stand of sagittal suture in transverse diameter of pelvic inlet.

Second peculiarity – big fontanel is lower than small fontanel and becomes a guiding point.

Third peculiarity – unstylistic set of a head (Nagele's obliquity, Litzmann's obliquity).

Forth peculiarity – head rotation cannot be performed in pelvic cavity that leads to medium or low transverse stand of a head. If the head is big, clinical discordance may occur.

2. Flat rachitic pelvis is characterized by deformation of the upper part of sacrum that leads to reduction of anterior-posterior diameter of pelvic inlet while other diameters are normal or slightly extended, coccyx has beaked forward inclination. Besides, iliac bones are significantly spread, that's why D.sp. and D.cr. are almost equal, ishial tuberosities spread and pubic angle becomes obtuse (over 90°). Sizes: D.sp. – 26 cm, D.cr. – 26 cm, D.tr. – 31 cm , C.ext. – 17 cm, C.diagonalis – 10 cm, C.vera – 8 cm.

Biomechanism of labor in flat rachitic pelvis has its peculiarities.

First peculiarity – prolonged stand of sagittal suture in transverse diameter.

Second peculiarity – head defluxion and big fontanel descending.

Third peculiarity – Nagele's obliquity.

Forth peculiarity – after passing the inlet head quickly descends onto pelvic outlet, simultaneously flexes, performs internal rotation and deflexed.

3. Generally contracted flat pelvis – is a pelvis with reduction of all diameters but anterior-posterior diameters are reduced most of all. Women usually are low. Significant reduction of all diameters, especially of anterior-posterior and external is characteristically. Sizes: D.sp. - 23-24 cm, D.cr. - 24-25 cm, D.tr. - 27-28 cm, C.ext. - 15-16 cm, C.diagonalis – 9 cm, C.vera – 7 cm.

Biomechanism of labor is equal to such in generally contracted pelvis or simple flat pelvis depending on which form dominates.

4. Pelvis with reduced anterior-posterior diameter in the plane with greatest pelvic dimensions is characterized by reduction of anterior-posterior diameter in the plane with greatest pelvic dimensions. This type of contracted pelvis is diagnosed with X-ray.

Dolichopelvic pelvis

It is characterized by reduction of one or more transverse diameters in 0,5 cm or more with normal or extended true conjugate.

Biomechanism of labor in dolichopelvic pelvis:

First peculiarity**:** high direct stand of a head.

Second peculiarity: if occiput faces front, head flexes intensely and passes all pelvic dimensions without rotation and is born alike to when occipitoanterior position of vertex, if occiput faces back, head rotation may occur in pelvic cavity and delivery may end spontaneously. If the head is big, rotation may not occur and delivery is ended with caesarean section.

Pregnancy and delivery management in contracted pelvis

Pregnant women with anatomically contracted pelvises are hospitalized at the term of 37-38 weeks of pregnancy for the selection of delivery method. Delivery course in contracted pelvis depends on the grade of discordance and complications. Caesarean section is the only option in contraction of the 3rd and 4th degrees. It also can be performed if contraction of the 1st or 2nd degree is combined with other obstetric pathology.

Clinically contracted pelvis occurs during delivery as a result of inequality in diameters of fetal head and mother's pelvis independent to their actual sizes. The main causes of that are anatomically contracted pelvis, big head of fetus, head defluxion, protracted pregnancy, myomas which prevent advance of the head, abnormal development of feminine genitalia and fetus.

Conditions of clinically contracted pelvis diagnostics:

- cervical dilatation over 8 cm;
- absence of fetal bladder;
- empty urinary bladder;
- normal uterine contractions.
- Symptoms of clinical inequality during delivery:
- positive or even Vasten's sign, positive Zangemeister's sign;
- symptoms of urinary bladder compression;
- hyperextension of uterus, high position of contraction ring;
- absence of advance of the head whilst in full cervical dilatation and normal delivery activity;
- insufficient attachment of cervix to presenting part;
- appearance of bearing-downs whilst in high stand of fetus head;
- edema of cervix which may possibly spread onto vagina and vulva.
- If two or more signs are present the diagnosis of clinically contracted pelvis is stated and caesarean section is performed. In cases of dead fetus embryectomy is chosen

Problems of macrosomia in obstetrics,

macrocosmic pregnancy and delivery

Term ‘big fetus’ is used if by the end of pregnancy weight of fetus is 4000 g and more in cephalic presentation or 3700 g and more in breech presentation. Fetus weighting over 5000 g is called giant.

Frequency of macrocosmic labor grows and varies between 5,2-14,4%.

Frequency of patrimonial traumatism, including rupture of uterus, hypoxia of fetus, postnatal complications increase in macrocosmic labor. Perinatal lethality of big fetuses is 2-3 times higher than lethality of fetuses with normal weight. Clinically contracted pelvis occurs 6 times more frequent.

Pregnancy and delivery in breech presentation

Breech presentation is a presentation that is characterized by pelvic pole position of fetus over pelvic inlet.

Frequency of breech presentation in term labor with one fetus is 3-3,5%.

Classification

I. Frank breech:

- incomplete or extended breech (buttocks presentation);
- Complete or flexed breech (buttocks and feet presentation).

II. Footling breech:

- incomplete (one feet presentation);
- complete (both feet presentation);
- Kneeling presentation.

Diagnostics

Abdominal examination:

- round firm balloting head in the area of uterine fundus;
- irregularly shaped soft unbolting presenting part is palpated over/in pelvic inlet;
- Fetal heartbeat is auscultated on the left or on the right above navel depending on fetal position.

Differential diagnostics of different kinds of presentations based on results of vaginal examination

Presentation	Vaginal examination
Frank breech	• palpation of a big and soft presenting part • identification of ischial tubers, sacral bone, anal orifice, genitalia • possible identification of inguinal curve in incomplete breech, and feet near buttocks in complete breech
Footling breech	• palpation of heel bone, short even fingers, thumb can't be abducted and its mobility is limited • thumb can't be pressed down to sole
Face presentation	• identification of firm cylinders and jaws, mouth and nose of fetus • mouth and molar crests have triangular shape
Hand falling in shoulder position or oblique lie	• thumb is easily pressed down to palm • heel bone can't be palpated

Pregnancy care

Antenatal clinic

Necessary recommendations to pregnant women at the term of 30 weeks to induce spontaneous turn of fetus:

• endwise position on the side opposite to fetus;

• Knee-elbow position for 15 min 2-3 times a day.

Complex of corrective gymnastic exercises in one of the existent methodic is prescribed since the 32nd up to the 37th weeks.

Contraindications to gymnastic exercises:

• threatened premature labor;

• placental presentation;

• low insertion of placenta;

• Anatomically contracted pelvis of II - III grade.

External cephalic version **is not performed** at the antenatal clinic.

Necessity of hospitalization to maternity obstetric clinic is determined at the term of 38 weeks basing on the next indications:

• aggravated obstetric-gynecological history;

• feto-maternal disease;

• Extra genital pathology;

• Opportunity to perform external cephalic version.

Maternity obstetric service

Diagnosis specification:

• performing of ultrasound examination;

• evaluation of state of fetus (biophysical profile - BPP, Doppler sonography if necessary);

•estimation of readiness of maternal organism to delivery (Bishops scale);

•estimation of possibility of performing of external cephalic version.

Plan of labor management is formulated in council with anesthesiologist and neonatologist and then negotiated with a patient.

External cephalic version in full-term pregnancy leads to increasing of amount of physiological deliveries in cephalic presentation.

Indications:

- Incomplete breech in full-term pregnancy and alive fetus.

Conditions:

- presumed weight of fetus < 3700,0 g,
- normal sizes of small pelvis;
- empty urinary bladder;
- US after external version is available;
- satisfactory condition of fetus on BPP and absence of abnormal development;
- normal mobility of fetus, enough quantity of amniotic fluid;
- normal uterine tonus, unbroken fetal bladder;
- readiness of operating room to emergency care in the case of complications;
- Skilled qualified specialist acquainted with procedure of version.

Contraindications:

- Fetal-maternal disease when decision making of external version (bleeding, fetal distress, preeclampsia);

- aggravated obstetric-gynecological anamnesis (recurrent miscarriage, perinatal loss, infertility in anamnesis);

- polyhydramnios or oligohydramnios;

- multiple pregnancy;

- anatomically constricted pelvis;

- cicatricial deformity of vagina and cervix;

- III grade of head defluxion on US;

- placental presentation;

- severe extragenital pathology;

- uterine scar, peritoneal commissures;

- hydrocephaly and neck tumors in fetus;

- abnormal development of uterus;

- Tumors of uterus and annexes.

Procedure of external cephalic version:

- advise position with angle of 30-40° in direction of fetal spine;

- breech of fetus is abducted from pelvic inlet by the hands of physician that are inserted between mons pubis and breech of the fetus (a);

- breech of fetus is carefully shifted in direction of fetal position (b, c);

- head is shifted in direction opposite to fetal position (d);

- Version is finished when head is shifted to pelvic inlet and breech to uterine fundus.

If the first try was unsuccessful the second try perform is not reasonable.

Complications:

- abruption placenta;

- fetal distress;

- Rupture of uterus.

Labor management

Birth in time.

Conservative labor management:

• estimate indications, make sure that there are all necessary conditions for safe vaginal delivery and no indications to caesarean section;

• follow the course of the I period of labor by filling in the portogram (do not fill in table 2 in portogram), cardiotocography registration for 15 min every 2 hours;

• in the case of breaking of waters, immediate vaginal examination should be performed to exclude prolapse of funnies;

• II period should be managed with mobilized vein for intravenous infusion of 5 IU of oxytocin in 500,0 ml of normal saline (up to 20 drops per minute);

• Episiotomy if necessary; pudendal anesthesia;

• II period of delivery should be managed in presence of anesthesiologist, neonatologist.

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A. ***Extended and flexed breech (Tsivians manual aid method I)***

I.Labour of breech and feet:

- woman should push during the cut of breech;

- if perineum isn't able to spread enough, episiotomy is performed;

- breech appear by itself up to navel;

- both thumbs of physician are on the back surface of thighs, other fingers are on lumbosacral region of fetus;

- carefully hold breech but don't pull

Don' pull fetus for inguinal curve anticipatorily without indications (fetal distress).

Hold fetus by thighs but not by sides and abdomen because liver or kidneys can be damaged.

II.Labour of hands:

- fetus which is born up to navel is taken with the thumbs on breech and sacral region and with other fingers on front surfaces of thighs;

- body is moved down until the lower angle of shoulder blade appears;

- during down-directed traction the front hand is born from under symphisis; after substantive birth of the front hand, breech is lifted to mother's abdomen to let the rear hand appear itself; if the hands of fetus cannot appear unassisted it is accounted to be nuchal arms and classical manual maneuver of shoulder labor should be performed.

Classical manual maneuver of hands labor:

- with one hand (when I position – left hand) grab legs of fetus in the region of podetial joint and lift forward and slightly to the side opposite to the spine of fetus, closer to mother's thigh (if I position – to right thigh);
- insert the second hand in vagina following the back of fetus up to mother's sacral hollow and then follow the hummers up to the elbow and extract rear hand;
- the arm is pulled at elbow;
- the front hand is extracted after its changing to the rear position and also from the side of sacral hollow;
- grab pelvis and front surfaces of thighs of fetus with both hands (thumbs on the breech, 4 fingers of each hand on thighs; don't touch abdomen of the fetus) and turn through 180°;
- back of the fetus is under symphysis;
- The second arm is freed similar to the first from the side of sacral hollow.

III. Labor of the head:

A. In a case of uncomplicated delivery, absence of nuchal arms the head is born in a flexed position:

- physician's arm is put under the body of fetus, so the body lays on an arm and elbow of physician;
- assistant helps labor of the head by maintaining mild pressure over symphysis that prevents head defluxion;
- the body is lowered under the level of perineum for the formation of fixating point in suboccipital fossa with the lower border of symphysis;
- the body is lifted over perineum level;
- Head appears substantively in a flexing position around fixating point.

B. If the classical manual maneuver of hands labor was applied for labor of shoulders and arms, the head is born with the help of Mauriceau maneuver:

- physician's arm is put under the body of fetus, so the body lays on an arm and elbow of physician;

- put index and ring fingers on the cheek-bones of fetus and middle finger into its mouth for abduction of jaw and head flexion;

- use the second hand to hold shoulders of fetus from the back side;

- carefully flex the head to sternum with index and middle fingers until the pressure on jaw results in scalp birth;

- provide traction to your side;

- assistant pushes with palmar surface of his arm over symphisis, fixating the head in flexing position;

- Carefully apply up (forward) traction for the head birth in a flexed position.

B. Footing breech:

In a case of footing breech caesarean section is performed. Vaginal birth is provided only when:

- II period of labor – Tsivians manual aid method II is applied to provide complete cervical dilatation and breech lowering;

- Second fetus birth in the case multiple pregnancy.

Indication to caesarean section:

- presumed weight of fetus is over 3700,0 g;
- footling breech;
- head defluxion of the III grade on US;
- Neck tumors of fetus and hydrocephaly.

Classification of birth activity anomalies:

I. Pathological preliminary period (false labor).

II Powerless labor (hypoactivity or inertness of the uterus):

1) primary;
2) secondary;
3) parodynia weakness: a) primary; b) secondary.

III. Excessively strong birth activity (uterine hyperactivity).

IV. Discoordinated birth activity:

1) discoordination;

2) hypertone of the inferior uterine segment (reverse gradient, in¬version);

3) uterine tetanus (spasmodic labor pains);

4) circular dystocia (contraction ring).

1. PATHOLOGICAL PRELIMINARY PERIOD

The preliminary period is observed in 33 % pregnant women at the term of pregnancy of 38—40 weeks. The normal preliminary peri¬od is characterised by infrequent, weak spasmodic pain in the under¬belly and loin, which appears against the background of normal uter¬ine tone. Its duration may reach 6—8 h. Mature neck of uterus is di¬agnosed in 87 % women.

The pathological preliminary period is characterised by painful, intermittent by force and sensation dilating pains, which arise against the background of increased uterine tone. The pains are similar to la¬bor pains, but do not lead to structural changes and cervical dilata¬tion. The pains stimulate the pregnant woman, lead to the violation.

of the diurnal sleep rhythm and total activity. The duration of patho¬logical preliminary period makes more than 8—12 h.

The pathological preliminary period is observed in women with functional changes of central nervous system regulation (fear of labor, neurosis), neurocirculatory dystonia, endocrine system malfunction, vegetative disorders. The pathological preliminary period may direct¬ly turn into uterine inertia.

Treatment:

- sedatives and debilitants (diazepam, promedol);

- if it is ineffective — single-stage application of tocolytic thera¬py with beta-adrenoceptor agonists (hexoprenalin 25 mg (5 ml) diluted in 500 ml of sodium chloride isotonic solution and introduced i.v. drop-by-drop slowly 10—15 drops per min);

- preparation to delivery by intravaginal introduction of pros¬taglandin E2.

- Contraindications to beta-adrenoceptor agonists application:

- hypersensitivity;

- premature placenta detachment;

- uterine hemorrhage;

- endometritis;
- extragenital pathology at decompensation stage;
- myocarditis;
- hyperthyroidism;
- glaucoma.

Side effects of beta-adrenoceptor agonists: headache; vertigo; tremor; tachycardia; ventricular extrasystole; heart pains, ABP reduction.

If tachycardia arises (>100 bprn), introduction of verapamil and potassium preparations is administered to the parturient woman.

2. POWERLESS LABOR (WEAK UTERINE CONTRACTIONS)

Powerless labor (PL) is a condition with insufficient intensity, duration and frequency of labor pains, therefore smoothing, dilation of the uterine neck and fetus advancement at its correspondence with pelvic dimensions are decelerated.

There are differentiated primary and secondary types of PL. Pri¬mary PL arises at the very beginning of delivery and lasts during the period of dilation. PL arising after a period of long-term regular birth activity and manifesting itself with typical signs indicated above is called secondary.

PL may be diagnosed during 4—6 h of clinical observation and during 2 h if hystcrography is possible.

Excessively intensive birth activity develops unexpectedly. Strong labor pains take place in a short interval of time, uterine contractions frequency is more than 5 in 10 min, which promotes quick and suffi¬cient dilation of the uterine orifice.

Parturition is considered rapid if it lasts less than 6 h in pri-mipara women and 4 h in secundipara women, and accelerated — less than 4 and 2 h accordingly. Such types of delivery cause injuries of the uterus and fetus (deep ruptures of the uterus, vagina, peri¬neum, premature detachment of normally located placenta, hypot¬onic bleeding, cord rupture, cerebral hemorrhage, cephalohcmato-mas).

Treatment:

1.Oxytocin (deaminooxytocin or sandost, sandopard 25—50 IU, in. the active phase only) or preparation containing oxytocin (pituit-rin, hyphotocin, mammophysin).

2.Prostaglandin E2 (dinoproston, prostin E2, prostarmon E, menzaprost-1) 0.5 mg — pills, 5 ml — ampoules (before 4 cm cervical dilation).

3.P-adrenoceptor blocking agents (obsidan, propranolol) 5 mg/400 ml of physiological solution.

4.Aprophen (1 % — 1 ml) — peripheral and central M- and 11-anticholinergic drug — relaxes the neck of uterus, intensifies uterine contractions.

5.Ozonized transfusion media.

6.Cesarean section if uterine inertia is combined with fetal hy¬poxia.

3. DISCOORDINATED BIRTH ACTIVITY

The frequency of discoordinated birth activity (DBA) makes 1-3%. There are no coordinated contractions in different uterine parts (right and left, superior and inferior parts, violation between uterine parts up to fibrillation and tetanus). It usually de¬velops at the 1st stage of delivery till the uterine neck dilates to 5— 6 cm.

The clinical picture is characterised by the hypertone of the infe¬rior segment, irregular, strong, sharply painful parodynia that reminds the picture of threatening hysterorrhexis.

Clinical signs:

- pain;
- violated rhythm of labor pains;
- no dynamics of cervical dilation;
- no head advancement;
- hypertone of the inferior uterine segment (reverse gradient);
- spasmodic parodynia (uterine tetany);
- dystonia of the neck of uterus.

The character of birth activity is detected on the basis of quanti¬tative assessment of the three main processes:

1)dynamics of uterine contractions;

2)dynamics of cervical dilation;

3)dynamics of the advancement of the presenting part of the fe¬tus along the parturient canal.

Assessment methods:

1.Uterine activity assessment:

- subjective sensation of the parturient woman (inaccurate, dif¬ferent threshold of pain sensitivity);
- palpation;
- external cardiotocography (single-channel and multichannel);
- internal tocography.

2. The cervix of uterus: vaginal examination; ecrvieodilatometry.

3. Descending part: vaginal examination; perineal US.

Treatment. Delivery stimulation therapy with oxytocin, prostag¬landins and other uterotonics at DBA is absolutely contraindicated, otherwise uterine tetanus is possible.

The basic components of DBA treatment.

1.Anticholinergic drugs.

2.Anesthetics (tramal, tramadol, promedol, preparations of mor¬phine type).

3.beta-adrenoceptor agonists (partusisten, intrapartal).

4.Psycotherapy, electroanalgesia, seduxen, relanium, narcosis.

5.Peridural anesthesia.

6.Amniotomy.

7.Cesarean section.

Conditions of administration of uterotonics:

- absence of fetal bladder;
- correspondence of fetal dimensions to the maternal pelvis.

Contraindications:

- clinically and anatomically contracted pelvis;
- operated uterus;
- anomalous positions and presentations of the fetus;
- fetal distress;
- complete placental, presentation;
- premature detachment of the normally and low located pla¬centa;

- vaginal stricture;
- renewed perineal rupture of the 3rd degree;
- dystocia, atresia, scar changes of the neck of uterus;
- hypersensitivity.

Treatment:

— terbutaline in the dose of 250 meg i.v. slowly during 5 min or salbutamol — 10 mg in 1 L of physiologocal liquids for i.v. infusions or Ringer's lactate — 10 drops a min.

Criteria of birth activity character assessment:

A. Tocographically (Table 1):

Table 1. Tocographic Criteria of Birth Activity Assessment

	Hypo-	Norm	Hyper-dynamics
Labor pains frequency per 10 min	<2	2-5	> 5
Basal tone, mm of mercury	<8	8-12	>12
Labor pains intensity (amplitude), mm Hg	<30	30-50	> 50
Labor pains duration, sec	<50	60-100	> 100
Irregular rhythm, min	3	1-2	<1
Activity, Montevideo units	<100	100-250	> 250

B. By the cervical dynamics (Table 2):

Table 2. Birth Activity Assessment by Cervical Dynamics

	Hypo-dynamics	Norm	Hyper-
Latent phase (duration)	>	7.5 h (5)	<

(Smoothing of the uterine cervix, the rate of dilation up to 3—4 cm)		0.35 cm/h	
Active phase (duration)	>	2-3 h (1-1.5)	<
(The rate of dilation from 4 to 8 cm)		1.5 cm/h	
Deceleration phase (duration)	>	1.5-2 h (1-1.5)	<
(The rate of dilation from 8 to 10 cm)		1.0 cm/h) (1.5)	
Duration of the 1st stage	> 18(14)	10-12 h (6-7)	<4

3.3. Requirements for the results of work.

- To perform an fetal heart tones auscultation.
- To prescribe an adequate treatment of fetal hypoxia.
- Ultrasonography assessment.
- To evaluate of fetal heart tones during electronic fetal monitoring.

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

1. Multipara is in the 1st stage of labor for 7 hours. Contractions last 25 sec , occur every 5-6 min, they are painful and spread from lower segment upwards. . Auscultation of the fetus is clear, rhythmical, 160 b.p.m. During internal obstetric examination was found out that uterine cervix is 1 cm long, opened up to 3 cm. Head of the fetus is above the entrance of the small pelvis. What is likely complication of labor?

A. Uterine inertia

B. Strong labor activity

C. Threaten hysterorrhesis

D. *Discoordination of labor activity

E. Distocia of uetrine cervix

2. Multipara was admitted to maternal hospital with painful contractions , that occur every 2 min. Opening of the uterine cervix is 2 sm. Two hours after giving of

spasmolytics , she complains about painful contractions again. Opening of uterine cervix is the same. The most likely diagnosis?

A. Weakness of labor activity

B. Active stage of labor

C. Latent phase of labor

D. Preliminary period

E. *Discoordination of labor activity.

3. Multipara, 32 y.o., is in the I stage of labor within 5 hours. Clear amniotic fluid has flown out 1 hour ago. Signs of clinical disproportion are absent. During internal obstetric examination head of the fetus is pressed to inlet of the small pelvis, bith tumor is absent. The uterine cervix is opened up to 2 cm. Choose the right labor management?

A. *Labor induction

B. Medicinal dream

C. Cesarean section

D. Treatment of uterine inertia

E. Obstetric forceps

4. Primagravida is in I stage of labor for 9 hours. Head of the fetus is engaged to inlet of the small pelvis. Contractions are weak, irregular. . Auscultation of the fetus is clear, rhythmical, 136 bp.m. At vaginal examination uterine cervix is flattened, thickened, opened up to 4 cm. The amniotic membranes are present. During of internal examination, situation are the same in 4 hours . The most likely diagnosis?

A. Intrauterine hypoxia of fetus

B. *Uterine inertia

C. Premature separation of normally posed placenta

D. Discoordination of labor activity

E. Preeclampsia of light degree

5. Primapara, 30 y.o., full-term pregnancy , had pathological preliminary period. The amniotic fluid had flown out 6 hours ago. There is no labor activity. Head is

engaged in the pelvic inlet. Auscultation of fetus is clear, rhythmical, 142 b.p.m. During internal obstetrical examination uterine cervix is “immature”. Choose the right management of labor?

A. Prolongation of pregnancy and antibiotic therapy

B. Prostaglandin’s administration

C. Labor stimulation

D. *Conservative tactic and antibacterial therapy in 12 hours

E. Cesarean section

6. Primapara, 37 y.o. is in the I stage of labor within 10 hours. Contractions last 20-25 sec , occurevery 6-7 min. Position of the fetus is longitudinal, head is in the pelvic inlet plane. During internal obstetrical examination: uterine cervix is 1 cm long, opened up to 4 cm. Amniotic sac is absent. The most likely diagnosis?

A. *Primary uterine inertia

B. Pathologic preliminary period

C. Secondary uterine inertia

D. Physiological preliminary period

E. Discoordination of labor activity

IV. SUMMING UP

Current control: oral examination, testing, assessment of practical skills, solving situational clinical problems, assessment of activity in the classroom.

Criteria for current assessment on the practical lesson:

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

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

IV. METHODICAL SUPPORT MATERIALS

1. Williams Manual of Obstetrics (24th Ed) F. G. Cunningham, K. J. Leveno, S. L. Bloom, C. Y. Spong, J. S. Dashe, B. L. Hoffman, B. M. Casey, J. S. Sheffield, McGraw-Hill Education/Medical. – 2014. – 1377 pp.

2. Textbook of Gynecology (6th Ed) Dutta DC., Hiralal Konar (Ed.). – JAYPEE BROTHERS MEDICAL PUBLISHERS (P) LTD, 2013. – 702 pp.

3. Obstetrics by Ten Teachers (20th ed) Louise C. Kenny, Jenny E. Myers. – CRC Press. – 2017. – 342 pp.

4. Kaplan. USMLE Step 2 CK Lecture Notes: Obstetrics and Gynecology. 2019.-pp. 786.

INTERNET SOURCES:

- https://www.cochrane.org/
- https://www.ebcog.org/
- https://www.acog.org/
- https://www.uptodate.com
- https://online.lexi.com/
- https://www.ncbi.nlm.nih.gov/
- https://pubmed.ncbi.nlm.nih.gov/
- https://www.thelancet.com/

- https://www.rcog.org.uk/
- https://www.npwh.org/