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УЧЕБНИК

АКУШЕРСТВО И ГИНЕКОЛОГИЯ

Учебник в 4 томах

И.С. Сидорова, Н.А. Никитина

Том II

ПАТОЛОГИЧЕСКОЕ АКУШЕРСТВО

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TEXTBOOK

OBSTETRICS AND GYNECOLOGY

Textbook in 4 volumes

I.S. Sidorova, N.A. Nikitina

Volume II

OBSTETRIC PATHOLOGY

Министерство науки и высшего образования РФ

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Chapter 1
BREECH PRESENTATION

1.1. DEFINITION. GENERAL CONSIDERATIONS

Breech presentation is a **fetal malpresentation**, where the buttocks or lower extremities of the fetus *present* in the pelvic inlet *and appear first when moving along through the birth canal*. This creates many difficulties in labor and leads to numerous complications, since the diameters of the pelvic pole are much smaller than the diameters of the fetal head.

Currently, delivery in breech presentation is not considered pathological. Still, among children born in breech presentation general morbidity is somewhat higher, long-term unfavorable consequences of birth trauma (paresis, mental development retardation, epilepsy) are more common. On the maternal side, there can occur such complications as birth canal laceration, abnormal labor, postpartum infectious disease.

Unfavorable perinatal outcomes are due to the fact that the pelvic pole, the smaller part of fetus, is the first to pass through the birth canal and be delivered, followed by the larger head, delivering which can cause difficulties.

Perinatal mortality and morbidity in fetuses born in breech presentation is higher due to prematurity, congenial development anomalies, birth trauma and asphyxia.

Providing prenatal and intranatal care in breech presentations requires profound knowledge and high professional skills to provide qualified assistance to the mother and fetus. Over the last 30 years there has been a worldwide trend to deliver cases of breech presentation by cesarean section.

Prevalence of breech presentations for the last several decades remains constant, at about 3–4% on the average. This is primarily due to multiple causes of breech presentation, which are most often impossible to eliminate.

1.2. CAUSES, CLASSIFICATION AND DIAGNOSTICS OF BREECH PRESENTATION

The **causes** of breech presentation are varied, numerous and insufficiently studied. These include:

1. *Obstruction for the insertion of the head in the pelvic inlet*:
- in uterine fibroids;
- anatomically contracted pelvis and abnormal pelvic shape;
- placenta previa and low-lying placenta.

2. *Abnormal uterine tone*. This can manifest as pathological hypertone of the lower segment and hypotonic superior segments. At the same time, fetal head, as the largest and the densest part, is pushed out from the pelvic inlet and is positioned in the upper part of the uterine cavity. Such abnormalities of the uterine tone in the third trimester may be caused by changes in myometrium due to its structural impairment after inflammatory diseases, repeated curettage, multiple pregnancies and complicated labor, as well as in multiparous women.

3. *Fetal hyper/hypo-mobility*:
- preterm labor;
- polyhydramnios, oligohydramnios;
- low fetal body weight;
- prematurity or IUGR;
- multiple pregnancy;
- various changes in uterine shape due to developmental malformations (bicornuate, arcuate uterus, uterine septum);
- entanglement of umbilical cord around different parts of fetal body;
- short umbilical cord.

Classification. There are the following types of breech presentations: breech presentation (frank and complete) and footling presentation (fig. 1.1).

Breech presentations are classified as follows:
- frank breech presentation, when fetal buttocks are aiming towards the pelvic inlet, legs are parallel with the trunk (incidence: 63–75%);
- complete breech presentation (flexed breech): fetal buttocks and legs, flexed in hip and knee joints, are aiming towards the pelvic inlet (incidence: 20–24%).

Footling presentations (incidence: 11–13%) are subdivided into the following:
- complete — both legs are the presenting part in the birth canal;
- incomplete — one leg is the presenting part in the birth canal;

Fig. 1.1. Types of breech presentations: a — frank breech presentation; b — complete breech presentation; c — footling breech presentation

- kneeling breech presentation — fetal knees are the presenting part in the birth canal (incidence 0.3%).

Footling presentation develops only during labor after the rupture of membranes.

Classification of breech presentations is based on the features of labor biomechanism in each variant, as well as different size of presenting parts, which is followed by fetal trunk and head. If in case of *frank breech presentation* of a small fetus and normal pelvis size in woman, normal vaginal delivery is pos-

sible without complications, in complete breech and footling presentations the prognosis for fetal life and health worsens significantly.

Footling presentation is the most unfavorable due to the high occurrence of such complications as asphyxia, prolapse of the umbilical cord or small body parts of the fetus during labor.

Diagnosis. During physiological pregnancy the fetus assumes a position with a head down by 22–24 weeks gestation, adapting to the uterus shape. However, this position remains unstable for the ensuing 11–13 weeks. Within this period uterine contractions are asynchronous; they occur with high frequency and low amplitude, with multidirectional contractions of different uterine zones. Such type of contractions preserves the obturative function of the internal os, promotes optimization of myometrial and uteroplacental blood flow. The fetus may frequently change position, even within a day. The final positioning of the fetus at the pelvic inlet takes place by 34–35 weeks. By that time, uterine contractions become more *synchronous*; the sympathetic part of the autonomous nervous system prevails over parasympathetic. This contributes to the increase in functional capabilities of the uterine fundus and body. Contractions of longitudinal and oblique smooth muscular fascicles intensify, with simultaneous relaxation of transverse, circular and spiral fascicles in myometrium. If by 34–35 weeks, the fetus is set in breech presentation, it is strongly predictive of breech delivery.

Diagnostics of breech presentations is based, first of all, on the findings of external obstetric examination and vaginal examination, as well as ultrasound data.

External obstetric examination. Large fundal height is characteristic for breech presentations.

External examination (four Leopold's maneuvers) allows suspecting breech presentation. During the first maneuver, a dense, round-shaped, balloting head is determined at the uterine fundus, often displaced to the right or left from the abdominal midline. During the second maneuver, fetal back is palpated on one side of the abdomen, with small parts on the other. During the third maneuver, a large irregular presenting part is palpated above or in the pelvic inlet, soft in consistency, without balloting. The fourth maneuver is used for clarify the relation of the presenting part to the pelvic inlet.

Fetal heart beat is heard more clearly at the level of the navel or above, on the left or right, depending on the position. To confirm breech presentation and to establish the type of presentation, *vaginal examination* is recommended.

In vaginal examination of a pregnant woman, a large, soft presenting part is palpated through the anterior fornix. During labor when the cervix is dilated 4–5 cm, the inguinal fold, sacrum and coccyx are palpated. One should not attempt to determine fetal gender by palpating external genital organs due to the risk of its trauma. In complete breech and footling presentation, fetal feet are palpated, which differ from the hand by the presence of a calcaneal tuber and short toes, located in a line.

The diagnosis of footling presentation does not present difficulty, as a rule.

Breech presentation should be differentiated from face and brow presentations. In case of prolapse of small fetal parts, hand should be differentiated from feet.

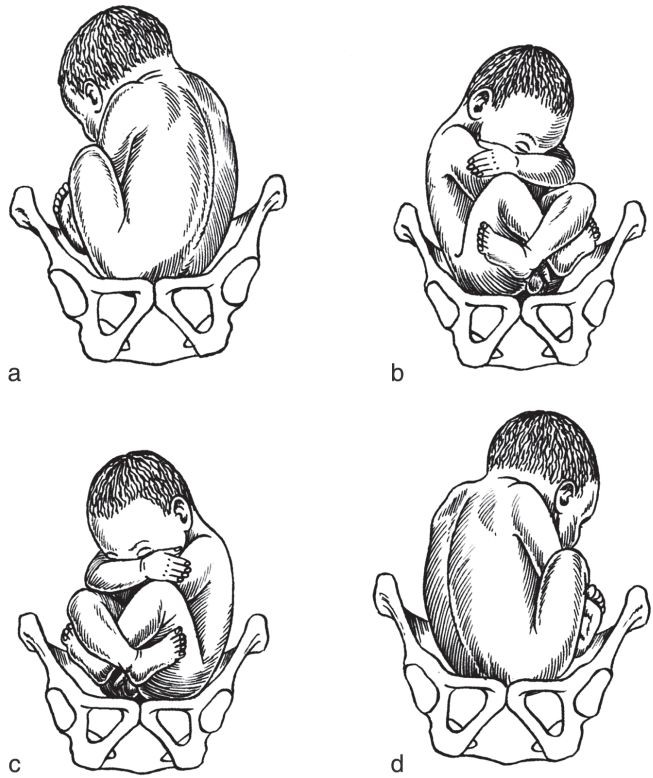

Fig. 1.2. Position variants in breech presentation: a — left (first) sacroanterior position; b — right (second) sacroposterior position; c — left (first) sacroposterior position; d — right (second) sacroanterior position

Position in breech presentation is determined based on the position of fetal sacrum and back, as well as intertrochanteric line. Like in cephalic, in breech presentation we distinguish anterior and posterior view, left (first) and right (second) position of the fetus. Ultrasound is the method providing the most information for diagnostics of breech presentation.

Ultrasound allows a precise identification of both breech presentation and its type, estimated fetal weight, position of the head (flexed, extended), amount of amniotic fluid. Based on the angle between the spine and occiput, there are 4 types of fetal head position: angle >110° — head is in flexed position, 100–110° — grade I extended (military), 90–100° — grade II extended, <90°— grade III hyperextended ("star-gazing fetus").

1.3. MANAGEMENT OF PREGNANCY WITH BREECH PRESENTATION

Management of pregnant women at the women's health clinic. Until 28 weeks gestation expectant approach is applicable, as in most cases the fetus assumes cephalic presentation spontaneously. But from 35 weeks it is reasonable to perform corrective exercises.

In patients with high risk of breech presentation occurrence, preventive measures should be taken to avoid disturbances of uterine contractions, macrosomia (big fetus). For this purpose, diet with low content of carbohydrates and, particularly, sugar, is necessary. One of the causes of macrosomia is chronic elevation of blood glucose.

If a breech presentation is diagnosed, corrective exercises, based on normalization of the uterine and anterior abdominal wall muscle tone, when the body position of a pregnant woman lying horizontally is changing, are recommended from 36 weeks (30 weeks in women at high risk). For this purpose, the woman, lying on a hard firm surface, alternately turns on her right and left side for ten minutes 3–4 times a day. Simple postural exercises are effective for version from breech to cephalic presentation in more than 60% of cases.

At a women's health clinic it is necessary to conduct a comprehensive clinical and laboratory examination, including ultrasound, fetal monitoring, Doppler ultrasound, to assess fetal condition (position, presentation, state of the head — flexed, extended, cord entanglement, fetal gender, assessment of biophysical profile, body weight and its correspondence to gestational age). One should rule out possible fetal and uterine malformations, assess pelvic dimensions in accordance with gestational age. In a number of cases radiopelvimetry is necessary.