**Topic 7.Abnormalities of a fertilized egg. Multiple pregnancy. Abnormalities position the fetus.**

**Multiple Pregnancy**

Multiple is the pregnancy with two or more fetuses. A woman pregnant with two fetuses is pregnant with twins, with three fetuses – with triplet babies. The children born from multiple pregnancy are called twins.

Multiple pregnancy is observed in 0.7–1.5 % cases, presently there is observed a tendency to the increase of its frequency because of hyperstimulation of ovulation in women suffering from infertility at extracorporal fertilization. A couple of follicles (3–4 and more) mature simultaneously, and accordingly, at fertilization of a couple of ovocytes multiple pregnancy may arise.



Perinatal mortality at multiple pregnancy is 3–4 times higher than at monocyesis. Perinatal losses directly depend on the body weight of children, making 10 % on average. Perinatal mortality among monozygotic children is by 2.5 % higher than among dizygotic twins, and is especially high in monoamniotic twins.

1. **Etiology and pathogenesis**

Reasons for multiple pregnancy are various and little-studied.

A certain role in disposition to multiple pregnancy is played by heredity. Multiple pregnancy is more often observed in the families, where the mother or father or both parents come from twins or more fetuses. The mother’s genotype is more important in this case.

The frequency of multiple pregnancy increases with the woman’s age and the quantity of pregnancies.

Follicle-stimulating hormone (FSH), which promotes maturing of a couple of ovocytes, plays a big role in the appearance of multiple pregnancy. This may be determined by heredity and also by medication influence (usage of ovulation stimulators, estrogen-gestagen drug withdrawal, extracorporal fertilization).

Multiple pregnancy may arise: as a result of fertilization of two or more ovocytes, which have matured simultaneously – binovular (dizygotic) twins; also at development of two or more embryos from one fertilized ovocyte – monovular (monozygotic) twins.

Binovular twins may form in case of:

- simultaneous maturing and ovulation of two and more follicles in one ovary;

- maturing and ovulation of two and more follicles in both ovaries;

- fertilization of two and more ovocytes, which have matured in one follicle.

Such variants of twins origin are testified to by finding two and more yellow bodies in one or both ovaries at surgical interventions.

There is no definite hypothesis concerning monovular twins formation. Obviously, most often formation of monovular twins (triplets, etc.) is connected with fertilization of an ovocyte with two and more nuclei. Each nucleus conjugates with the nuclear substance of spermatozoon and an embryo forms. The described ovocytes have two and three nuclei. There also exists another mechanism of enzygotic twins origin: the only embryo at the stage of breaking divides into two parts; a fetus forms from each part.

During separation before the formation of the internal cell later (at the morula stage) and turning of the external cell layer of the blastocyst into chorion elements, which takes place during the first 72 hours after fertilization, two amniotic sacs and chorions form. As a result biamniotic dichorial monozygotic twins form.

If division takes place on the 4th–8th day after fertilization, after the internal cell layer is formed and chorion anlage from the external layer has taken place, but before the laying of amniotic cells, that is before the appearance of the fetal bladder, two embryos form, each in a separate amniotic sac. That is, monochorionic monoamniotic monozygotic twins form .

If by the moment of division amnion is already laid, which takes place on the 9th–12th day after fertilization, division will lead to the formation of two embryos in one amniotic sac, i.e. monochorionic monoamniotic monozygotic twins.

After the 15th day complete division of embryonic anlages is impossible and adherent twins develop.

In most cases of enzygotic twins formation germinal layers division takes place till the 8th day (monochorionic biamniotic monozygotic twins)



1. **Dizygotic twins**

Each fertilized ovocyte, which penetrates into decidual membrane, forms its own amniotic sac and chorion, out of which its own placenta forms in future. If ovocytes penetrate into the decidual membrane close to each other, the edges of both placentas bear against each other creating an impression of a single formation. In fact each placenta has its own vasculature, each fetal bladder has its own amniotic sac and chorion. The membrane between the two fetal bladders consists of four layers: two amniotic sacs and two chorions, and the decidual membrane is common (dichorial twins) .



If fertilized ovocytes penetrate at a great distance, their placentas develop as separate formations and each embryo has its own decidual membrane.

Dizygotic twins make 70 % among all types of twins. Dizygotic twins may be both uni- and heterosexual and be in the same genetic dependence as blood brothers and sisters.

The difference in body weight in dizygotic twins is usually insignificant and ranges between 200 and 300 g. in some cases because of different conditions of intrauterine nutrition the difference may be rather considerable – up to 1 kg and even more.

Dizygotic twins

1. **Enzygotic twins**

Enzygotic twins form when at complete division both embryos locate at a distance from one another, each embryo has its own amnion and, thereby, embryos remain separated. These are biamniotic twins. If both amniotic cavities are in one common for the twins chorion, and the membrane between them consists of two layers, such twins are called monochorionic, they share a common placenta. If there forms common for the two embryos amniotic cavity, monoamniotic twins develop.

Enzygotic twins are always unisexual, have one blood group, identical colour of eyes, hair, skin relief of fingertips, form and location of teeth. (Мал. 72. Однояйцева двійня \_ біамніотичні монохоріальні близнюки. Fig.200 p.209 Степанковская). Enzygotic biamniotic twins.

Vascular anastomosis may be often detected in monochorionic placentas – either of an artery with a vein, or an artery with an artery, which conditions the development of feto-fetal transfusion syndrome. Arteriovenous anastomosis is realized through the capillary system of placenta. As a result of such anastomosis blood flows from one fetus to the other. In dichorionic placentas arteriovenous anastomosis is much rarer. The consequences of such anastomosis may be very serious. If blood pressure is symmetrical in the vascular system of placenta, both twins are in identical conditions of nutrition and development. Although, in enzygotic twins this balance may be violated as a result of asymmetric placental circulation, and then one fetus gets more blood (the recipient) than the other (the donor). The latter does not get sufficient nutrition and is in worse conditions for its development; this may the reason for intrauterine fetal development delay. At a sharp violation of balance in the system of placental circulation one of the twins (the donor) gradually peters out, dies and becomes mummified, turning into the so-called papyraceous fetus (fetus papyraceus). Not infrequently the recipient twin develops dropsy and hydramnion conditioned by cardiac insufficiency.

1. **Diagnostics and course of multiple pregnancy**

The course of multiple pregnancy compared to monocyesis is characterised by a number of unfavourable peculiarities.

Circulating blood volume at multiple pregnancy increases by 50–60 %, at monocyesis – by 40–50 %.

The most frequent complications of multiple pregnancy course are:

- preterm delivery (25–50 % cases). The average duration of pregnancy with twins makes 37 weeks, with triplets – 35 weeks;

- spontaneous abortion; - gestoses of pregnancy are observed much more frequently and have a severer course than at monocyesis;

- anemia of pregnancy;

- hydramnios;

- intrauterine fetal development delay.

Before ultrasound study was introduced into the clinical practice the diagnostics of multiple pregnancy was not always easy, not infrequently it was diagnosed at late pregnancy terms and even during delivery. Anamnesis of such pregnant women often showed that they or their husbands are one of twins. An indication to possible multiple pregnancy may be information about the pregnant woman undergoing ovulation stimulation or extracorporal fertilization. In the first trimester of pregnancy one should pay attention to the inadequacy of uterine dimensions with the pregnancy term – the growth of uterus seems to be advancing the pregnancy term.

At late pregnancy term the data of external obstetric examination are of some importance: abdomen circumference, the height of uterine fundus standing appear to be larger than they are supposed to be at this pregnancy term. Sometimes it is possible to palpate many small fetal parts and two and more large balloting parts (heads and pelvic poles). Auscultation finds in different parts of the uterus two foci of distinct heart tones of the fetuses, especially if there is the so-called zone of silence between them (the area where fetal heart tones are not heard) (Мал. 73. Схема слішимости сердцебиения при двойне. Fig.181 p.168 Атлас).. Twins are also testified to by different frequency of heart tones.

Biochemical tests have certain significance in multiple pregnancy diagnostics: at this type of pregnancy the level of chorionic gonadotropin and placental lactogen are higher than at monocyesis. The level of α-fetoprotein is also increased.

Ultrasound study is the most accurate method of multiple pregnancy diagnostics. (Мал. 74 Ультразвуковая картина двуяйцевой двойни при сроке беременности 6 недель. Fig.180 p.168 Атлас). Ultrasound diagnostics of multiple pregnancy at early terms is based on the imaging in the uterine cavity of a couple of fetal eggs or embryos and is possible beginning from 5 – 6 weeks of pregnancy. Except for the early detection of multiple pregnancy, echography in the 2nd, 3rd trimesters allows detecting the character of development, position, presentation of fetuses, localization, structure, quantity of placentas and amniotic cavities, amniotic fluid volume, presence of possible malformations.

Possible variants of position and presentation of twin fetuses:

1. Both fetuses in longitudinal position:

a) both in cranial (Мал. 75. Оба близнеца в головном предлежании. Fig.182 p.169 Атлас);

b) both in pelvic;

c) one in cranial, the other – in pelvic and vice versa (Мал. 76. Один плод в головном, второй – в тазовом предлежании. Fig.183 p.169 Атлас)..

2. Both fetuses in transversal position (Мал. 77. Оба плода в поперечном положении Fig.184 p.169 Атлас).

3. One fetus in longitudinal position, the other one – in transversal. (Мал. 78. Можливе розташування плодів при двійнях, їх частота. Fig. 207 p.213 Степанковская). Possible location of twin fetuses

For the prognosis of multiple pregnancy termination of big importance is cardiomonitoring control of fetal condition with application of non-stress test. After 30 – 32 weeks non-stress test and biophysical profile detection must be conducted daily.

Patients pregnant with twins require special attention throughout pregnancy. Attention should be paid to the function of the cardiovascular system, kidneys, detection of early gestosis symptoms. If there appear symptoms of gestosis or other pregnancy complications, the patient is to be hospitalized to the maternity obstetric service. If the course of pregnancy is uncomplicated, the patient is to be referred to the maternity hospital 2–3 weeks before the delivery, if she is pregnant with triplets – 4 weeks before the delivery. Miscarriage is a serious complication of multiple pregnancy. The very presence of multiple pregnancy is a risk factor for miscarriage appearance and requires treatment-and prophylactic measures to prevent this pregnancy complication.

1. **Delivery course and management**

The course of delivery at twins is often accompanied by significant complications:

- untimely discharge of amniotic fluid (premature or early), prolapse of umbilical cord loops and small fetal parts is possible;

- uterine overdistension often causes protracted labor since the period of cervical dilation is longer because of uterine inertia;

- the period of expulsion is also not infrequently protracted. Sometimes the presenting part of another fetus is trying to fit into the pelvis simultaneously, and continuous birth activity is needed for one head to fit in the area of brim;

- belated rupture of membranes, which also leads to delaying of this period of labor;

- untimely discharge of amniotic fluid, labor delaying increase the risk of postnatal purulo-septic complications in the mother and fetal hypoxia;

- premature abruption of placenta. The reason is quick reduction of uterus volume and intrauterine pressure after the first fetus is born;

- twins collision – a rare but very severe complication of the period of expulsion. Different varieties of fetuses linkage. Most often one fetal head links to the other fetal head and large parts of both fetuses enter the area of brim simultaneously.

- This happens in the cases when the first twin is born in pelvic presentation and the other one - – in cranial., or the first – in pelvic presentation and the other – in transversal;

- after the first twin is born the other one can take transversal position even if before the beginning of delivery it was in longitudinal position, which also me a reason for different complications;

- in the puerperal and early puerperal periods hypotonic hemorrhage arises not infrequently because of uterine overdistension;

- subinvolution of uterus is also possible in the puerperal period.

Labor management at multiple pregnancy also has its peculiarities. Multiple pregnancy at pelvic presentation of the first fetus is an indication to cesarean section.

At vertex presentation of the first fetus, intact fetal bladder, regular birth activity and good condition of fetuses labor management is active-expectant with cardiomonitoring control over the fetuses condition, observation of the character of uterine activity, fitting and descent of the presenting part of the first fetus, condition of the parturient woman. Prophylaxis of uterine inertia and hypotonic hemorrhage is being conducted.

One should provide adequate anesthesia. Lateral position of the parturient woman is optimal for the prevention of aortocaval compression.

Operative delivery is resorted to by indications: cesarean section, vaginal operative delivery (operation of obstetric forceps application, vacuum extraction by the fetal head).

After the first fetus is born, not only the fetal but also the maternal end of the umbilical cord is ligated. If this is not done, and the twins appear to be monoval, the second fetus may quickly die because of hemorrhage through the umbilical cord of the first fetus.

If after the birth of the first fetus the second one is not born during 10 – 15 minutes, the fetal bladder is opened, the amniotic fluid is slowly released, and labor is conducted conservatively at longitudinal position. At transversal position of the second fetus, at irregular fitting of the head the parturient woman is anesthetized and combined podalic version of the fetus is performed with its further extraction. If the fetus is large at pelvic or transversal position, cesarean section is carried out. If the second fetus is in the small pelvis cavity and labor is powerless, obstetric operations are also not excluded. In this case obstetric forceps are applied or the fetus is extracted by the pelvic pole.

A question concerning cesarean section may arise at multiple pregnancy and in the process of delivery: uterine inertia, fetal distress, which are not subject to medicamental correction in the absence of possibilities for urgent delivery through the natural maternal passages, prolapse of small fetal parts and umbilical cord loops.

If a woman is pregnant with three and more fetuses, delivery by means of cesarean section is preferred. Cesarean section is also resorted to in case of twins adhesion.

Special attention at multiple pregnancy is to be paid to the third (placental) period because of a high risk of hemorrhage. One should thoroughly observe the woman’s condition and the quantity of blood being lost, prevent hemorrhage, including with uterotonics.

In the puerperal period at multiple pregnancy there most often arises postpartum hemorrhage, subinvolution of uterus, endometritis. Therefore one should conduct timely prophylaxis of these complications, in particular observe contractions of the postpartum uterus, administer uterotonics in case of need.

**Fetal development delay (FDD) or fetal hypotrophy is a pathological** condition, at which the newborn’s weight or biometric parameters of the fetus are not up to gestational age.

Classification:

1) symmetric – the weight and length of the fetus are proportionally reduced, all the organs are evenly reduced in size;

2) asymmetric – fetal weight reduction at normal indices of its length, unproportional dimensions of different fetal organs.

Table 1. Differential FDD Diagnostics

|  |  |  |
| --- | --- | --- |
|  | Symmetric | Asymmetric |
| Beginning | 2nd trimester | 3nd trimester |
| Fetometry | Delay of all dimensions | Delay of abdomen dimensions |
| Placental blood flow disorders | From the 24th – 25th  week  After | After 32 weeks |
| Amniotic fluid | Oligohydramnios | Norm |
| Malformations | Frequent | Rare |

At symmetric hypotrophy newborns have small body weight at birth, such a child can not be differentiated from a premature newborn. The symmetric form is observed at severe disorders of intrauterine development beginning from the 2nd pregnancy trimester. At asymmetric FDD newborns have a considerable weight deficit at normal body length. This from is characteristic of the fetuses, in which unfavourable development conditions began in the 3rd pregnancy trimester.

There are differentiated 3 degrees of FDD severity:

- the 1st degree – delay by 2 weks;

- the 2nd degree – from 2 to 4 weeks;

- the 3rd degree – more than 4 weeks.

FDD takes place due to the following reasons: chromosome anomalies and hereditary metabolic disorders, congenital defects caused by other factors, prenatal viral infections, action of ionizing radiation and medicinal preparations, placenta pathologies, mother’s diseases, intoxication, malnutrition.

If FDD is suspected, complex examination of the pregnant woman is conducted including:

1. Detection of the height of the uterine fundus standing (HUFS) and abdomen circumference in dynamics (the weight of the woman should be taken into account). HUFS dimensions delay by 2 cm or the absence of any amount of growth during 2 – 3 weeks at dynamic observation allows suspecting FDD.
2. Sonographic fetal biometry. To asses fetal biometry there are detected the biparietal diameter of the fetal head (BDFH), diameter of the chest and abdomen, length of the fetal hip. Gestational age of the fetus is assessed by the complex of signs. If there is detected inadequacy of one or a couple of basic fetometric indices to pregnancy term, extended fetometry is conducted, correlation of the frontooccipital and biparietal dimensions, head and abdomen circumference, biparietal dimension and hip length, hip length and abdomen circumference is calculated.
3. Assessment of the biophysical fetal profile.
4. Detection of the level of hormones in the maternal organism and amniotic fluid.
5. Dopplerometry of the blood flow speed in the umbilical artery. Treatment. Pi therapy should be begun with the treatment of the fundamental illness and prevention of unfavourable factors influence. Medicamental therapy consists in the administration of drugs, which improve the uteroplacental blood flow (sigetin), microcirculation in the placenta and rheological properties of blood (dipiridamol, actovegin, esseltiale, hofitol), have antioxidant properties (tocopherol). The increase of the uteroplacental blood flow is also promoted by hyperbaric oxygenation.

Delivery:

1. Delivery per vias naturales is conducted under cardiomonitoring control of the fetal condition at normal or decelerated blood flow in the umbilical arteries, if there is no fetal distress (BPP assessment – 6 points and less).

2. Indications to cesarean section:

- critical changes of blood flow in the umbilical arteries (zero and reverse) – urgent preterm delivery is to be conducted irrespective of the pregnancy term;

- acute fetal distress (bradycardia < 100 bpm and pathological heart rate decelerations) irrespective of blood flow type (normal or decelerated) in the umbilical arteries during pregnancy;

- pathological BPP (4 points and less) in the absence of biological maturity of the neck of uterus (after 30 weeks of pregnancy). There is no efficient method of FDD treatment, therefore the key moment in managing such pregnant women is the clear assessment of fetal condition and timely delivery.

FDD prevention:

1. Detecting of FDD risk factors and conducting dynamic control over this group of pregnant women.

2. The pregnant woman holding to the day regimen and rational nutrition.

3. Giving up pernicious habits (tobacco smoking, alcohol consumption, etc.).

**Twins in utero**

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**In the final weeks, your babies will take up their positions for the birth.** The most common position is with both babies lying vertically. With 75 percent of twins, the first is head down (cephalic); the second twin may be head down or breech, or one twin may lie across the uterus (transverse). You may suspect their position from the kicks, but only a scan confirms this.

A cesarean will be recommended if you have triplets or more, or your first twin is breech or transverse (25 percent of cases). A vaginal delivery is most likely if both

twins are head down. If the first is head down and the second is transverse or breech, there are different opinions as to the best type of delivery, which you can discuss with your obstetrician.

**ABNORMALITIES OF THE AMNIOTIC FLUID VOLUME**

Oligohydramnios means reduced amniotic fluid and anhydramnios means absence of amniotic fluid.

**Prevalence:**

Oligohydramnios in the second trimester is found in about 1 per 500 pregnancies.

**Etiology:**

Oligohydramnios in the second trimester is usually the result of preterm premature rupture of the membranes, uteroplacental insufficiency and urinary tract malformations (bilateral renal agenesis, multicystic or polycystic kidneys, or urethral obstruction).

**Diagnosis:**

The diagnosis of oligohydramnios is usually made subjectively. Quantitative criteria include: (a) the largest single pocket of amniotic fluid being 1 cm or less, or (b) amniotic fluid index (the sum of the vertical measurements of the largest pockets of amniotic fluid in the four quadrants of the uterus) of 5 cm**.**

In the absence of the "acoustic window" normally provided by the amniotic fluid, and the "undesirable" postures often adopted by these fetuses, confident exclusion of a fetal defects may be impossible. Nevertheless, the detection of a

dilated bladder in urethral obstruction and enlarged echogenic or multicystic kidneys in renal disease should be relatively easy. The main difficulty is in the differential diagnosis of renal agenesis. In cases of preterm prelabor rupture of the membranes, detailed questioning of the mother may reveal a history of chronic leakage of amniotic fluid. Furthermore, in uteroplacental insufficiency, Doppler blood flow studies will often demonstrate high impedance to flow in the placental circulation and redistribution in the fetal circulation. In the remaining cases, intraamniotic instillation of normal saline may help improve ultrasonographic examination and lead to the diagnosis of fetal abnormalities like renal agenesis.

**Prognosis:**

Bilateral renal agenesis, multicystic or polycystic kidneys are lethal abnormalities, usually in the neonatal period due to pulmonary hypoplasia. Preterm rupture of membranes at 20 weeks or earlier is associated with a poor prognosis; about 40% miscarry within five days of membrane rupture due to chorioamnionitis and in the remaining 60% of pregnancies more than 50% of neonates die due to pulmonary hypoplasia. Uteroplacental insufficiency resulting in oligohydramnios at 18-22 weeks is very severe and the most likely outcome is intrauterine death.

**Polyhydramnios**

Polyhydramnios means increased or excessive amniotic fluid volume.

**Prevalence:**

Polyhydramnios in the second trimester is found in about 1 per 200 pregnancies.

**Etiology:**

There are essentially two major causes of polyhydramnios; reduced fetal swallowing or absorption of amniotic fluid and increased fetal urination. Reduced fetal swallowing may be due to craniospinal defects (such as anencephaly), facial

tumors, gastrointestinal obstruction (such as esophageal atresia, duodenal atresia and small bowel obstruction), compressive pulmonary disorders (such as pleural effusions, diaphragmatic hernia or cystic adenomatoid malformation of the lungs), narrow thoracic cage (due to skeletal dysplasias), and fetal akinesia deformation sequence (due neuromascular impairment of fetal swallowing). Increased fetal urination is observed in maternal diabetes mellitus and maternal uremia (increased glucose and urea cause osmotic diuresis), hyperdynamic fetal circulation due to fetal anemia (due to red cell isoimmunization or congenital infection) or fetal and placental tumors or cutaneous arteriovenous malformations (such as sacrococcygeal teratoma, placental chorioangioma), twin-to twin transfusion syndrome.

**Diagnosis:**

The diagnosis of polyhydramnios is usually made subjectively. Quantitatively, polyhydramnios is defined an amniotic fluid index (the sum of the vertical measurements of the largest pockets of amniotic fluid in the four quadrants of the uterus) of 20 cm or more. Alternatively, the vertical measurement of the largest single pocket of amniotic fluid free of fetal parts is used to classify polyhydramnios into mild (8-11 cm), moderate (12-15 cm) and severe (16 cm or more). Although 80% of cases with mild polyhydramnios are considered to be idiopathic, in the majority of cases with moderate or severe polyhydramnios there are maternal or fetal disorders. In most cases polyhydramnios develops late in the second or in the third trimester of pregnancy. Acute polyhydramnios at 18-24 weeks is mainly seen in association with twin-twin transfusion syndrome. Testing for maternal diabetes, detailed sonographic examination for anomalies, and fetal karyotyping should constitute the cornerstones of the diagnostic protocol in the investigation of these cases.

**Prenatal therapy:**

The aim is to reduce the risk of very premature delivery and the maternal discomfort that often accompanies severe polyhydramnios. Treatment will obviously depend on the diagnosis, and will include better glycemic control of maternal diabetes mellitus, antiarrhythmic medication for fetal hydrops due to dysrrhythmias,

thoraco-amniotic shunting for fetal pulmonary cysts or pleural effusions. For the other cases, polyhydramnios may be treated by repeated amniocenteses every few days and drainage of large volumes of amniotic fluid. However, the procedure itself may precipitate premature labour. An alternative and effective method of treatment is maternal administration of indomethacin; however, this drug may cause fetal ductal constriction and close monitoring by serial fetal echocardiographic studies is necessary. In twin-twin transfusion syndrome, presenting with acute polyhydramnios at 18-22 weeks of gestation endocopic laser occlusion of placental anastomoses or serial amniodrainage may be carried out.

**Prognosis:**

This depends on the cause of polyhydramnios.

**II. Tests and Assignments for Self-Testing**

**TESTS**

1.A 24-year-old presents at 30 weeks with a fundal height of 50 cm. Which of the following statements concerning polyhydramnios is true?

**A. сomplications include placental abruption, uterine dysfunction, and postpartum hemorrhage**

B. acute polyhydramnios rarely leads to labor prior to 28 weeks

C. the incidence of associated malformations is approximately 3%

D. maternal edema, especially of the lower extremities and vulva, is rare

E. esophageal atresia is accompanied by polyhydramnios in nearly 10% of cases

2.A 34-year-old woman with 10-week pregnancy (the second pregnancy) has consulted gynaecologist to make a record in patient chart. There was a hydramnion previous pregnancy, the birth weight of a child was 4086 g. What tests are necessary first of all?

**A. the test for tolerance to glucose**

B. determination of the contents of $\alpha$ fetoprotein

C. bacteriological test of discharge from the vagina

D. fetus cardiophonography

E. ultrasound of the fetus

3.Umbilical cord prolapse is associated with all the following, EXCEPT :

**A. anencephaly**

B. post maturity

C. cephalo-pelvic disproportion

D. multiparity

E. footing breech presentation

4.Multiple pregnancy increases

**A. with advancing maternal age**

B. in white people more than black

C. with Bromocriptine use for infertility treatment

D. if first pregnancy

E. after ovarian diathermy for polycystic ovary syndrome

5.In twin deliveries: Which is true?

**A. there is in crease drisk of post partum hemorrhage**

B. the first twin is at greater risk than the second

C. they usually go post date

D. epidural analgesia is best avoided

E. commonest presentation is cephalic and second breach

6.The most common cause of uterine size-date disproportion:

**A. in a curate last menstrual period date**

B. fetal macrosomia

C. polyhydramnios

D. multiple pregnancy

E. molar pregnancy

7.Which of the following is known to be the commonest presentation in twins?

**A. cephalic, cephalic**

B. breech, cephalic

C. cephalic, breech

D. breech, breech

E. cephalic, transverse

8.The risk of postpartum uterine atony is associated with:

**A. twin-pregnancy**

B. hypotension

C. epidural anesthesia

D. median episiotomy

E. labor associated with an active rate of change of 2.3 cm per hour

9.The major cause of the increased risk of morbidity & mortality among twin gestation is:

**A. preterm delivery**

B. gestational diabetes

C. placenta previa

D. malpresentation

E. congenital anomalies

10.Multiple gestations should be suspected in all of the following condition EXCEPT:

**A. maternal perception of fetal movement occurs earlier than expected in gestation**

B. maternal weight gain is greater than expected

C. the uterus is larger than expected

D. maternal AFP is elevated

E. pregnancy has occurred after induction with gonadotropins

**SITUATIONAL TASKS**

1.A 38-year-old G4P3 at 33 weeks gestation is noted to have a fundal height of 29 cm on routine obstetrical visit. An ultrasound is performed by the maternal-fetal medicine specialist. The estimated fetal weight is determined to be in the fifth percentile for the estimated gestational age. The biparietal diameter and abdominal circumference are concordant in size. Which is associated with symmetric growth restriction?

2.A 37-year-old G4P2 presents to your office for new OB visit at 8 weeks. In a prior pregnancy, the fetus had multiple congenital anomalies consistent with trisomy 18, and the baby died shortly after birth. The mother is worried that the current pregnancy will end the same way, and she wants testing performed to see whether this baby is affected. Which method of diagnostic can be used for chromosome analysis of the fetus?

3.A 26-year-old G1 at 37 weeks presents to the hospital in active labor. She has no medical problems and has a normal prenatal course except for fetal growth restriction. She undergoes an uncomplicated vaginal delivery of a female infant weighing 1950 g. The infant is at risk for which complications?

4.A 24-year-old primigravida with twins presents for routine ultrasonography at 20 weeks gestation. Based on the ultrasound findings, the patient is diagnosed with dizygotic twins. Which kinds of characteristics of the membranes and placentas are exist for dizygotic twins?

5.Which infant is called to be giant?

**Students must know:**

1. Signs of multiple gestation.

2. Peculiarities of pregnancy duration in multiple gestation.

3. Management of labor in multiple gestation.

4. Differential diagnosis of monochorionic and dichorionic twins.

5. Diagnosis of polyhydramnios.

6. Peculiarities of pregnancy and labor duration in polyhydramnios.

7. Which fetuses are called as "large" and "giant"'.

8. Diagnosis of pregnancy with macrosomic fetus.

9. Complications in labor with macrosomic fetus.

10. Management of labor with macrosomic fetus.

**Students should be able:**

1. To diagnose polyhydramnios, to prescribe treatment and to make a plan of labor in polyhydramnios.

2. To differentiate monochorionic and dichorionic twins.

3. To diagnose multifetal pregnancy, to make a plan of labor.

4. To determine the probable fetal weight and to diagnose "large" fetus.

5. To make a plan of labor in the case of "large" fetus.