

What is the function of the placenta and umbilical cord?

The placenta (“afterbirth”) enables an interchange of nutrients and oxygen between the maternal and fetal compartments. The umbilical cord is the “fetal lifeline”, attaching the fetus to the placenta.

How the placenta and umbilical cord is evaluated in first trimester?

The placenta and umbilical cord should be evaluated in first trimester ultrasound, between 11 and 13 + 6 weeks. The examiner should assess the texture of the placenta, which should be free of masses or cysts, and the position of the placenta. In cases of multiple pregnancy, it is possible to identify the number of placentas and amniotic sacs and determine the type of twin pregnancy that is present. . Assessment of the umbilical cord consists of visualizing the number of fetal vessels running through the cord, identifying the site of insertion of the cord into the fetus at the umbilicus and into the placenta, and documenting the presence or absence of cord cysts.

What is the function of the amniotic fluid?

Amniotic fluid permits symmetric external growth of the fetus, acts as a barrier to infection, permits normal fetal lung development, protects fetus against impact injuries, controls the fetal body temperature and enables the fetus to move freely, contributing to its muscular development.

How much amniotic fluid is in the amniotic sac?

The volume of amniotic fluid normally increases slowly, reaching approximately 30 ml at 10 weeks, 350 ml at 20 weeks, and 700 to 1000 ml by 37 weeks. With ultrasound the relative volume of amniotic fluid surrounding the fetus can be assessed. Oligohydramnios means that the amniotic fluid surrounding the fetus is at too low a level for gestational age (how far along the pregnancy is). It can be associated with fetal anomalies or fetal growth restriction. Polyhydramnios is the opposite, meaning amniotic fluid levels are high. This can also be associated with fetal anomalies and gestational diabetes mellitus.

An early diagnosis of oligo- or polyhydramnios is important to investigate the cause and better monitor the pregnancy.

What other questions should I ask?

- *How much is the amount of amniotic fluid?*
- *Should I repeat the ultrasound scan, and, if so, how often?*
- *Does this look like a severe form of oligohydramnios/polyhydramnios? When did it present itself? What is the most likely cause? Are there other anomalies visible?*
- *Is invasive testing recommended?*
- *Is there any recognizable abnormality in the placenta or with the umbilical cord?*
- *Should I have more tests done?*

© ISUOG 2015