Umbilical Cord Cyst in Second Trimester of Pregnancy

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ABSTRACT

The case presented here is a rare case of umbilical cord cyst detected in second trimester of pregnancy. Cystic masses of the umbilical cord are associated with fetal abdominal wall defects and chromosomal anomalies. 20% of umbilical cord cysts are associated with structural or chromosomal anomalies, especially trisomy 18 and 13. These are sometimes associated with increase risk of missed abortion. Their origin and significance must be considered for proper obstetric management.

KEY WORDS: anomaly scan, umbilical cord cyst, second trimester

INTRODUCTION:

The widespread use of high-resolution obstetric ultrasound has allowed accurate evaluation not only of the embryo and fetus, but also of the placenta and umbilical cord. Cysts of the umbilical cord have been identified using ultrasound at various stages of gestation. During the first trimester, the prevalence of umbilical cord cysts ranges from 0.4 to 3.4%. The prevalence of umbilical cord cysts in the second and third trimesters is unknown.[1] Umbilical cord cysts are usually classified as true cysts or pseudocysts. True cysts, derived from the embryological remnants of either the allantois or the omphalomesenteric duct, are located typically towards the fetal insertion of the cord and range from 4 to 60 mm in size.[2-4] Pseudocysts are more common than true cysts and can be located anywhere along the cord; they have no epithelial lining and represent localized edema and liquefaction of Wharton’s jelly.[4] It is rarely possible to differentiate between true cysts and pseudocysts on ultrasound imaging. We have recently diagnosed umbilical cord cyst in second trimester of live pregnancy.

CASE REPORT:

A 23 yr old primigravida with history of amenorrhoea three and half months presented in Department of Radio Diagnosis, People’s Medical College, Bhopal with complaint of pain in abdomen for 1 day and spotting P/V since 8 hours, along with passage of clots. Patient had history of coitus 3 days back.

She was an unbooked and uninvestigated patient. She had not undergone for any antenatal checkup and sonography. An emergency obstetric scan was done transabdominally. A single live intrauterine fetus of mean gestational age of 15 weeks 5 days (Figure 1), with variable presentation was seen. Placenta was fundoanterior in upper uterine segment with grade I maturity. Two well defined thin wall cystic lesion measured 1.8x1.5 cm and 1.6x1 cm were seen arising from umbilical cord (Figure 2).

Figure 1: Image showing intrauterine fetus of 15 wk 5 days revealing normal head and body.
evidence of any colour flow on Doppler study (Figure 3) reconfirm the nature of lesion being non vascular cystic lesion. Patient was advised for target scan and quadruple test to rule out any associated congenital anomaly because umbilical cord cyst is associated with aneuploidy 18. Fetal karyotyping is advised to rule out aneuploidy 18.

**DISCUSSION:**

The prevalence of umbilical cord cysts in the second and third trimesters of pregnancy is unknown. Details on affected pregnancies are based mainly on the findings of case reports, and thus the prognosis and outcome for fetus with this cord anomaly remain unclear. However, there are a few series reporting the outcome of pregnancies with umbilical cord cysts and these may shed some light on this issue. Umbilical cord cyst refers to any cystic lesion associated with the umbilical cord. Cord cysts can be defined as true or false cysts, and may occur on any location along the cord. These are located between the cord vessels and are irregular in shape. Cord cysts are found in 0.4% of pregnancies. True cysts are small remnants of the allantois (allantoid cysts) or the umbilical vesicle. Cysts have epithelial lining of flat or cuboidal uroepithelium and occur at the fetal or placental end of the cord. They grow up to several centimetres but more often range between 4 and 60 mm in size. True cysts can be associated with hydronephrosis, patent urachus, omphalolele and Meckel diverticulum. False cysts (pseudocysts) are more common. They come from liquefaction of Wharton jelly and may be as large as 6 cm. Compared with the true cysts, the pseudocysts do not have epithelial lining and are most commonly found at the fetal end of the cord. Pseudocysts may be associated with chromosomal anomalies, omphalole, hemangiomas and patent urachus. Regardless the type of the cord cysts, 20% of them are associated with structural or chromosomal anomalies, especially trisomies 18 and 13.

The cyst may be single (more common) or multiple. While single cysts in the first trimester are associated with favorable pregnancy outcome, the presence of multiple umbilical cord cysts, their persistence in the second and third trimester and their combination with other ultrasonographic abnormalities, is associated with increased risk of missed abortion. Prenatal diagnosis of the umbilical cord cysts is possible as early as in the first trimester, from 7th to 13th weeks of gestation. Color Doppler may be helpful in their differentiation from umbilical vessels. Differential diagnosis includes pseudocysts, omphalo-mesenteric duct cysts, vascular disorders, abdominal wall defects, bladder extrophy, and urachal anomalies. Prenatal ultrasonographic differentiation between the true cysts and pseudocysts is not possible. The cysts tend to resolve by the end of the first trimester. Those that persist beyond 12 weeks and on to the second and third trimester, and the ones that are near the placental or fetal insertion, are more likely associated with chromosomal anomalies. Thus when a cord cyst is encountered, a detailed sonographic survey of the fetus is advisable. Fetal karyotyping is indicated when other anomalies are found or when the cyst persists into the second trimester. If no other anomaly is found, the prognosis is excellent.
CONCLUSION:
To conclude, the apparent association with lethal chromosomal aneuploidy 18 and congenital anomalies, the finding of an isolated umbilical cord cystic mass should be further evaluated thoroughly in a tertiary fetal care centre. When either IUGR or other anomalies are found, karyotype testing should be recommended. When it remains an isolated finding, prognosis seems to be better. The risks and benefits of amniocentesis/cordocentesis, according to the findings and the week of gestation, should be considered carefully.

REFERENCES:


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