



A case of a growing fetal hepatic cyst

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Objective

Fetal cystic masses of the abdomen are common but hepatic cysts are rare. Its frequency is four times higher in females than males. Hepatic cysts are most commonly detected at the 2nd trimester but can be found in the first or in the third trimesters. Hepatic cysts can be unilocular or multilocular. Approximately 10% of them are multilocular and they can be as large as 20 cm. Here, we report a case of fetal hepatic cyst detected at second trimester.

Methods

A 24-year-old women, gravida 1 was referred at 28 weeks of gestation due to a cystic mass in the fetal abdomen. Her medical history was uneventful and first trimester screening test was in the low risk area. Ultrasound examination revealed a female fetus with an intraabdominal multilocular cyst measuring 37x25 mm (Figure 1). Fetal biometric measurements were appropriate for gestational age, the amniotic fluid index was within normal range and no additional abnormality such as hydrops or organ displacement was observed in the detailed ultrasound examination. The parents denied an invasive prenatal test. Prenatal magnetic resonance imaging (MRI) revealed a multilocular cystic mass of the fetal liver measuring 4.5 cm with hyperintense T2-weighted signal and hypointense T1-weighted signal. The patient was followed up with ultrasound examinations every two weeks to document size and mass effect on adjacent organs. The size of the cystic mass gradually increased till the 38th weeks, measuring 10 cm (Figure 2). Then, the patient was delivered by an elective cesarean section. A female infant was born weighing 2915 g, with Apgar scores of 9 and 10 at the 1st and 5th-minutes, respectively. On the first day of life abdominal ultrasound scan revealed a multilocular cystic mass in the fetal liver measuring 11x6 cm and the gallbladder appeared unremarkable, with no intra- or extra-hepatic biliary duct dilatation. On MRI, a multilocular 11x8.5 cm cystic mass arising from the liver and filling the whole abdominal cavity was observed. After two weeks following delivery, laparotomy was performed by Pediatric surgery. At laparotomy, a cystic lesion arising from the inferior portion of the right hepatic lobe was detected and excised completely. Histopathology revealed benign hepatic cyst. The infant was discharged on the 5th day with an eventful postoperative period.

Results

A 24-year-old women, gravida 1 was referred at 28 weeks of gestation due to a cystic mass in the fetal abdomen. Her medical history was uneventful and first trimester screening test was in the low risk area. Ultrasound examination revealed a female fetus with an intraabdominal multilocular cyst measuring 37x25 mm (Figure 1). Fetal biometric measurements were appropriate for gestational age, the amniotic fluid index was within normal range and no additional abnormality such as hydrops or organ displacement was observed in the detailed ultrasound examination. The parents denied an invasive prenatal test. Prenatal magnetic resonance imaging (MRI) revealed a multilocular cystic mass of the fetal liver measuring 4.5 cm with hyperintense T2-weighted signal and hypointense T1-weighted signal. The patient was followed up with ultrasound examinations every two weeks to document size and mass effect on adjacent organs. The size of the cystic mass gradually increased till the 38th weeks, measuring 10 cm (Figure 2). Then, the patient was delivered by an elective cesarean section. A female infant was born weighing 2915 g, with Apgar scores of 9 and 10 at the 1st and 5th-minutes, respectively. On the first day of life abdominal ultrasound scan revealed a multilocular cystic mass in the fetal liver measuring 11x6 cm and the gallbladder appeared unremarkable, with no intra- or extra-hepatic biliary duct dilatation. On MRI, a multilocular 11x8.5 cm cystic mass arising from the liver and filling the whole abdominal cavity was observed. After two weeks following delivery, laparotomy was performed by Pediatric surgery. At laparotomy, a cystic lesion arising from the inferior portion of the right hepatic lobe was detected and excised completely. Histopathology revealed benign hepatic cyst. The infant was discharged on the 5th day with an eventful postoperative period.

Conclusion

Fetal hepatic cysts should be followed with serial ultrasound examination to document the size and the mass effect on adjacent organs. Fetal MRI can be added to identify the organ of origin, which can play an important role in making differential diagnosis. Most of hepatic cyst are benign and can resolve spontaneously, but surgery is needed in symptomatic fetuses or if the diagnosis is uncertain.



Figure 1. Prenatal ultrasound showing a multilocular fetal hepatic cyst at 28 weeks of gestation