

Fetal Ovarian Cyst Rupture Resulting in Transient Fetal Ascites

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A 21-year-old gravida 1 para 0 woman was referred to our maternal-fetal medicine center due to a fetal intraabdominal cyst at 32 weeks of pregnancy. On the ultrasonography, lateral and superior to the bladder, there was a sharply circumscribed, thin walled anechoic cystic structure measuring 56x58 millimeter. Our presumed diagnosis was fetal ovarian cyst and we decided to aspirate the fluid and scheduled it on Monday. The family was informed about the situation and the procedure was postponed on Monday for family decision. However, on Monday, there was no cystic structure but surprisingly, severe spontaneous fetal ascites developed. On the follow-up, one week later, there was no intraabdominal fluid or cyst. At 38 weeks 2 days of pregnancy, the patient vaginally delivered a 3460 grams healthy female baby.

Although it is rare, ovarian cyst should be in the differential diagnosis of fetal ascites especially when it is recent and transient.

Keywords: Ovarian cyst, Ascites, Duplication cyst, Omental cyst

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Introduction

Ovarian cysts represent one of the most frequent intraabdominal masses in female fetuses.¹ The etiology is not clear however maternal estrogen and gonadotrophins are suspected.¹ They may be either septated hemorrhagic or simple, thin walled, anechoic cysts.² Omental cyst, gastrointestinal duplication cyst, mesenteric cyst and genitourinary system cysts constitute the differential diagnosis. They are usually asymptomatic but intracystic hemorrhage, torsion and ovarian loss and adhesions may be seen. Ascites is rare and unusual.³

Case Report

At the end of the work week, on Friday, a 21-year-old gravida 1 para 0 woman was referred to our maternal-fetal medicine center by her primary physician due to a fetal intraabdominal cyst at 32 weeks of pregnancy. There was 2nd degree consanguinity. Her medical history was unremarkable. First trimester screening revealed low risk and fetal anomaly screening at 20 gestational weeks reported no anomalies. Our ultrasonography revealed an appropriate-for-age female fetus with normal amniotic fluid. Urinary bladder was normal but lateral and superior to the bladder, there was a sharply circumscribed,

thin walled anechoic cystic structure measuring 56x48 millimeter (Figure 1A). There were no clumps of echogenic densities inside the cyst. Right and left renal pelvis diameters were 3.2 and 3.4 millimeters, respectively. Our presumed diagnosis was left ovarian cyst and as the size was greater than 50 millimeters, we decided to aspirate the cyst. Informed consent was taken from the parents and the procedure was scheduled on Monday. On Monday, there was no cystic structure but surprisingly, severe fetal ascites appeared on ultrasonography (Figure 1B). There was no pericardial or pleural fluid. One week later, there was no intraabdominal fluid or cyst on follow-up (Figure 1C). At 38 weeks 2 days of pregnancy, the patient vaginally delivered a 3460 grams healthy female baby with a 5 minute Apgar score of 9. The postnatal ultrasonographic evaluation revealed no anomalies; bilateral ovaries, intestines, kidneys and urinary bladder were normal.



Figure 1A: Fetal abdominal cyst measuring 56x48 mm in the lower left abdomen on Friday

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Figure 1B: Ascites in the fetal abdomen on Monday



Figure 1C: One week later, there were no ascites or cystic structure

Discussion

Abdominal cysts are observed relatively commonly during fetal ultrasonography. 3%-6% of all fetal intraabdominal tumors are fetal ovarian cysts.⁴ Nowadays, more ovarian cysts are diagnosed prenatally due to the improvements in technology of ultrasound. The etiology is not clear however maternal estrogen and gonadotrophins are suspected.¹ They may be either septated hemorrhagic or simple, thin walled, anechoic cysts² in the lower abdomen and differential diagnosis includes genitourinary cysts, mesenteric cyst, omental cyst and intestinal duplication cysts. Fetal ovarian cysts are usually asymptomatic but intracystic hemorrhage, torsion and ovarian loss and adhesions may be seen. Ascites is rare and unusual.³ In our case, genitourinary system ultrasonography was normal. There were no “gut-signature” or “muscular rim” signs typical for enteric duplication cysts. Mesenteric cysts are usually localized in the peritoneum on the posterior abdominal

wall and omental cysts are localized in the anterior part of the abdomen. Nevertheless, unless there is postnatal operative confirmation, the diagnosis may only be suspicion due to impossibility of exclusion of other differential diagnosis.¹ In our case, findings favoring the diagnosis of ovarian cyst include the female gender, localization of the cyst and absence of the cyst in the 20 gestational week anomaly scan.

There is no consensus for optimal management of prenatally diagnosed fetal ovarian cysts. When the cyst is simple and the diameter is less than 40 millimeters, the risk of ovarian torsion is low and the cyst may be conservatively managed in prenatal and postnatal periods.⁵ However, when the diameter is greater than 40 millimeters, the risk of torsion and subsequent loss of ovarian tissue may be as high as 80%.⁶ Heling et al. reported no advantage of intrauterine ovarian cyst aspiration.¹ Studies in the literature including a recent one advocated ovarian cyst aspiration⁷ especially when the diameter is greater than 40 millimeters⁸ in order to prevent torsion, subsequent ovarian tissue loss and surgery in the neonatal period. However, reserving the aspiration of ovarian cysts only for the ones measuring greater than 50 millimeters may cause unintended loss of ovarian tissue⁹ hence assigning a safe diameter threshold is problematic.¹⁰ Along with the cyst diameter, presence of intracystic hemorrhage is highly influential on the prognosis.¹¹ In our case, the cyst did not contain hemorrhage, however, the cyst diameter was greater than 40 millimeter and we decided to aspirate the cyst but monitoring of the cyst is another option.^{1,12}

Fetal ovarian cyst and ascites association is a rare condition and there are a few reports in the literature.^{3,13} It may be due to the torsion or rupture of the cyst and peritoneal irritation may augment the amount of fluid in the abdominal cavity. Although it is rare, ovarian cyst should be in the differential diagnosis of fetal ascites especially when it is recent and transient. Postnatal evaluation may be required to detect ovarian functions.

Geçici Fetal Asite Yol Açan Fetal Over Kist Rüptürü

Yirmibir yaşında ilk gebeliği olan hasta, hastanemiz maternal-fetal tıp kliniğine başvuran dış merkezde yapılan takiplerinde karın içi kistik yapı saptanan hasta gebeliğinin 32. haftasındaydı. Bölümümüzde yapılan ultrasonografide mesanenin üst lateralinde, 56x58 milimetre, düzgün sınırlı, ince duvarlı anekoik kistik yapı tespit edildi. Fetüsün cinsiyetinin kız olması ve ultrasonografik bulgular hastada fetal over kistini düşündürdü. Kist çapının 50 milimetrenin üstünde olması nedeniyle kist aspirasyonu kararı alındı. Hasta ve eşinin karar vermesi için işlem ertelendi. İşlem yapılacak günkü ultrasonografide ilginç olarak kist izlenmezken batında asit geliştiği görüldü. Hastanın

takibinde 1 hafta sonra yapılan ultrasonografide asitin ortadan kaybolduğu görüldü. Hasta yakın olarak takip edildi ve 38 hafta 2 günlük iken normal spontan vajinal yol ile 3480 gram sağlıklı kız bebek dünyaya getirdi.

Nadir olsa da özellikle geçici ve yeni ortaya çıkan asit varlığında ayırıcı tanıda over kisti düşünülmalıdır.

Anahtar Kelimeler: Over kisti, Asit, Duplikasyon kisti, Omental kist

References

1. Heling KS, Chaoui R, Kirchmair F, Stadie S, Bollmann R. Fetal ovarian cysts: prenatal diagnosis, management and postnatal outcome. *Ultrasound Obstet Gynecol* 2002;20(1):47-50.
2. Nussbaum AR, Sanders RC, Hartman DS, Dudgeon DL, Parmley TH. Neonatal ovarian cysts: sonographic-pathologic correlation. *Radiology* 1988;168(3):817-21.
3. Abraham RJ, Squire R. Management of fetal ovarian cysts. *J Obstet Gynaecol* 2011;31(5):449-50.
4. Eleftheriades M, Iavazzo C, Hassiakos D, Aravantinos L, Botsis D. Seven cases of fetal ovarian cysts. *Int J Gynaecol Obstet* 2010;111(3):267-8.
5. Giorlandino C, Bilancioni E, Bagolan P, Muzii L, Rivosecchi M, Nahom A. Antenatal ultrasonographic diagnosis and management of fetal ovarian cysts. *Int J Gynaecol Obstet* 1994;44(1):27-31.
6. Bower R, Dehner LP, Ternberg JL. Bilateral ovarian cysts in the newborn: a triad of neonatal abdominal masses, polyhydramnios, and maternal diabetes mellitus. *Am J Dis Child* 1974;128(5):731-3.
7. Luzzatto C, Midrio P, Toffolutti T, Suma V. Neonatal ovarian cysts: management and follow-up. *Pediatr Surg Int* 2000;16(1-2):56-9.
8. Noia G, Riccardi M, Visconti D, Pellegrino M, Quattrocchi T, Tintoni M, Manzoni C, Pintus C, Masini L, Caruso A. Invasive fetal therapies: approach and results in treating fetal ovarian cysts. *J Matern Fetal Neonatal Med* 2012;25(3):299-303.
9. Bagolan P, Giorlandino C, Nahom A, Bilancioni E, Trucchi A, Gatti C, Aleandri V, Spina V. The management of fetal ovarian cysts. *J Pediatr Surg* 2002;37(1):25-30.
10. Foley PT, Ford WD, McEwing R, Furness M. Is conservative management of prenatal and neonatal ovarian cysts justifiable? *Fetal Diagn Ther* 2005;20(5):454-8.
11. Galinier P, Carfagna L, Juricic M, Lemasson F, Moscovici J, Guitard J, Baunin C, Menendez M, Cartault A, Pienkowski C and others. Fetal ovarian cysts management and ovarian prognosis: a report of 82 cases. *J Pediatr Surg* 2008;43(11):2004-9.
12. Godinho AB, Cardoso E, Melo MA, Gonçalves M, Da Graca LM. Ultrasonographic diagnosis of fetal ovarian cysts: five cases in five years. *J Matern Fetal Neonatal Med* 2008;21(12):875-9.
13. Degani S, Lewinsky RM. Transient ascites associated with a fetal ovarian cyst. Case report. *Fetal Diagn Ther* 1995;10(3):200-3.