Case Report

DOI: 10.6966/EDMJ.202503_12(1).0006

Suspected Fetal Ovarian Cyst: A Case Report

Yu-Feng Ting[1], Hui-Chi Chien[2,]*

Ultrasound and magnetic resonance imaging can be used to discover fetal ovarian cysts. Accurate prenatal diagnosis of such lesions enables more informed estimation of the optimal location and timing for delivery and the appropriate caregivers and experts to facilitate postnatal management. A 36-year-old expectant mother (gravida 1) received prenatal counseling and examinations at our outpatient department at the gestational age of 36 weeks; We noted a suspected fetal ovarian cyst. After a successful delivery, the patient refused operation on the infant's cyst. The infant was followed up by a pediatrician. Hygiene education was provided, and the patient was informed that medical attention would be necessary if the infant behaved unusually. The cyst had disappeared by the 6-month postnatal follow-up. No definitive guidelines exist for monitoring and treating fetal ovarian cysts. We provide our clinical experience with a breech-presenting fetus with a suspected ovarian cyst and a mother who refused operation on her child.

Key words: Suspected fetal ovarian cyst, Breech presentation, Ultrasound, Magnetic resonance imaging

Introduction

In 1975, Valent et al. used ultrasound for the first prenatal detection of ovarian cysts.[1] Fetal ovarian cysts are caused by exposure in utero to maternal and placental hormones; their symptoms include internal organ compression, cyst rupture, and bleeding.[2] The most common symptom is ovarian loss. Severe ovarian cysts can cause ovarian torsion, which may lead to abdominal adhesions and subsequent intestinal obstruction and perforation, urethral obstruction, or infant death.[2] Accurate prenatal diagnosis of these lesions enables the determination of the optimal location and timing for delivery and the appropriate caregivers and experts to facilitate postnatal management. No definitive guidelines exist for monitoring and treating fetal ovarian cysts. Perinatal management of a suspected fetal ovarian cyst includes determining the optimal timing and mode of delivery pediatric and surgical care. We provide our clinical experience with a breech-presenting fetus with a suspected ovarian cyst and a mother who refused operation on her child after labor.

Case Report

A 36-year-old expectant mother (gravida 1, para 0, abortus 0) received prenatal coun-

From the [1]Department of Obstetrics and Gynecology and [2]Department of Nursing, E-Da Hospital, I-Shou University, Kaohsiung, Taiwan.

Received: June 10, 2022 Accepted: November 17, 2022

* Address reprint request and correspondence to: Hui-Chi Chien, Department of Nursing, E-Da Hospital, No. 1, Yida Road, Jiaosu Village, Yanchao District, Kaohsiung City 824005, Taiwan
Tel: +886-7-615-0011 ext. 3009, E-mail: ed100065@edah.org.tw

seling and examination at the E-Da Hospital outpatient department at the gestational age of 36 weeks. A fetal intra-abdominal cystic lesion was noted during the examination. The woman's complete blood count/differential count and basic biochemical data are displayed in Table 1. An ultrasound-guided examination revealed a biparietal diameter of 9.1 cm, abdominal circumference of 35.3 cm, and femur length of 7.2 cm, and estimated weight of 3,300 g, with a single suspected left pelvic cyst, fetal heartbeat (+), and breech presentation (Fig. 1). Her liver was homogeneous and normally sized, with no space-occupying lesions, and the biliary system was free of cysts. Her spleen was also normally sized, and her pancreas was also free of cysts. We observed mildly dilated bowel loops in here stomach and intestines. Her kidneys and urinary bladder were free of cysts. We observed one hypoechoic cyst measuring 4.34 cm^2 × 3.63 cm^2 between the lower abdominal and subhepatic areas, and no ascites were present. Her uterus was 3.4 cm long with an anterior-posterior distance of 1.01 cm and exhibited leftward deviation and slight fluid accumulation.

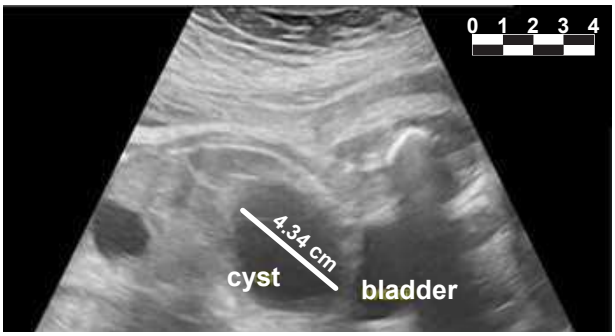

Fig. 1 Suspected fetal ovarian cyst (ultrasound). Measuring 4.34 cm^2 × 3.63 cm^2 was observed.

Magnetic resonance imaging (MRI) was arranged, and the suspected left pelvic cyst measuring 5.8 cm^2 × 4.2 cm^2 was observed, and the new impression was a fetal ovarian cyst (Fig. 2). Because of the breech presentation, a cesarean section was performed at the gestational age of 37 + 5 weeks, and a 3,540 g female infant was delivered.

After the successful delivery, the patient

Table 1. Complete blood count/differential count and basic biochemical data.

Item	Value	Range of values	Unit
Glutamic Oxaloacetic Transaminase	16	8 – 38	U/L
Glutamic Pyruvic Transaminase	11	4 – 44	U/L
Blood urea nitrogen	10.6	6 – 20	mg/dL
Creatinine	0.56	0.55 – 1.02	mg/dL
Glucose (before meals)	103*	70 – 100	mg/dL
Sodium	139	136 – 145	mEq/L
Potassium	3.9	3.5 – 5.1	mEq/L
epidermal growth factor receptor	131		
white blood cell	6.41	3.5 – 11	10^3/uL
Red Blood Cells	4.2	4.0 – 5.2	10^6/uL
Hemoglobin	9.4*	12.0 – 16.0	g/dL
Hematocrit	31.6*	36 – 46	%
Mean corpuscular volume	75.2*	80 – 100	fL
Lymphocyte	11.6*	20 – 56	%
Band	0.8	0 – 5	%
Moncyte	6.6	4 – 10	%
Eosinophil	0.8*	1 – 5	%
Basophil	0	0 – 1	%
Neutrophil	80.2*	42 – 74	%

* symbol indicates abnormal values.

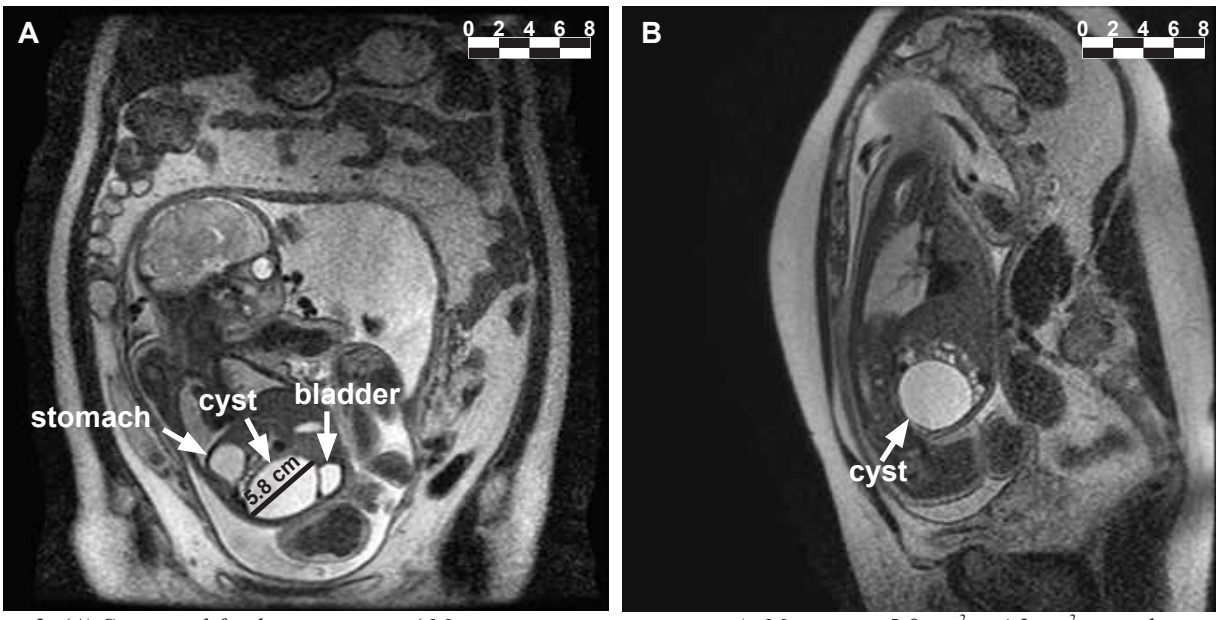

Fig. 2 (A) Suspected fetal ovarian cyst (Magnetic resonance imaging). Measuring 5.8 cm^2 × 4.2 cm^2 was observed. (B) The fetus is in a breech position, with the ovarian cyst in the lower abdomen appearing as a region of higher white density.

refused operation on the infant's cyst; therefore, a follow-up examination was performed by a pediatrician. However, the patient's residence was too remote for weekly appointments to be feasible. The pediatrician provided hygiene education to the mother and informed her that the infant would need medical assistance if any symptoms arose. In similar cases, follow-up observation is recommended, including abdominal computed tomography be on the infant. The suspected cyst had disappeared by a 6-month follow-up.

Discussion

The patient was screened using ultrasonography during pregnancy. Fetal MRI enhances the accuracy of abdominal tumor and cyst diagnoses. We reviewed contemporary diagnoses of abdominal neoplasms and cystic lesions in fetuses. Fetal teratomas, mesoblastic nephroma, nephroblastoma, neuroblastoma, and hepatoblastoma have been reported; in addition, abdominal lesions, including choledochal, intestinal duplication, mesenteric, and simple hepatic cysts and meconium pseudocysts, have been reported in fetuses.[3] However, the infant in our case did not undergo surgery or pathological examination. Therefore, the ovarian cyst could not be diagnosed and was only a suspected case.

After delivery, the mother refused operation on the infant's cyst. Therefore, we reviewed reports of fetal ovarian cyst cases to estimate the risk of ovarian torsion on the basis of the size of the cyst. Many fetal ovarian cysts have been diagnosed at the gestational age of 8 months. These cases mostly ended in spontaneous resolution, which is the anticipated outcome of fetal ovarian cysts. However, cysts larger than 40 mm are significantly less likely to resolve spontaneously, and the risk of torsion appears unrelated to cyst size.[4] A long-term follow-up analysis of adolescent patients with a history of fetal ovarian cysts discovered that the chances of the ovarian tissue surviving were unaffected by conservative treatment.[5]

Conclusions

Some experts have advocated for de-

compression for cysts ≥ 40 mm in diameter to minimize the risk of torsion. However, the optimal management of fetal ovarian cysts remains uncertain. When a fetus with breech presentation has a suspected ovarian cyst, a cesarean section may be necessary to reduce the risks to the fetus during labor. When a mother refuses operation on the infant after delivery, the infant should be followed up with ultrasound monitoring until the cyst disappears spontaneously.

Author Contributions

Conceptualization, Data collection, writing original draft, writing review and editing, Yu-Feng Ting; Clinical management, Data analysis, writing review and editing, Supervision, Hui-Chi Chien.

Funding

This research received no external funding.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

References

1. Valenti C, Kassner EG, Yermakov V, et al: Antenatal diagnosis of a fetal ovarian cyst. Am J Obstet Gynecol 1975;123:216-9. doi: 10.1016/0002-9378(75)90534-7.
2. Saeed H, Hong L, Smith N, et al: Ovarian torsion in utero diagnosed at 37 weeks of pregnancy: A case report. Case Rep Womens Health 2020;27:e00232. doi: 10.1016/j.crwh.2020.e00232.
3. Cass DL: Fetal abdominal tumors and cysts. Transl Pediatr 2021;10:1530-41. doi: 10.21037/tp-20-440.
4. Cheng Y: Ovarian cysts. Am J Obstet Gynecol 2021;225:B23-b5. doi: 10.1016/j.ajog.2021.06.042.
5. Cesca E, Midrio P, Boscolo-Berto R, et al: Conservative treatment for complex neonatal ovarian cysts: a long-term follow-up analysis. J Pediatr Surg 2013;48:510-5. doi: 10.1016/j.jpedsurg.2012.07.067.