



Case Report

A Displaced Mass in the Abdomen, Torsioned Ovary Cyst

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Abstract

Ovarian cysts are one of the most common pathologies in the infancy period. Approximately 15% of intraabdominal masses seen in this period are genital originated and one-third of these masses are ovarian cysts. The incidence of ovarian cysts has been reported as 1 in 2500 live births. The most common complications in ovarian cysts are torsion and bleeding. Fetal ovarian cysts usually regress spontaneously in complicated cysts; laparoscopic or open surgery can be applied. A female infant with a diagnosis of intraabdominal cystic mass, suspicion of duodenal atresia, and mesenteric cyst made based on a prenatal ultrasonographic imaging was hospitalized in the neonatal intensive care unit for examination and treatment. The abdominal ultrasonography revealed a cystic lesion in the lower left quadrant. The patient was evaluated with abdominal CT for detailed evaluation 1 day later and revealed a cystic lesion in the right upper quadrant. The displacement of the cystic mass conducted the differential diagnosis in favor of mesenteric cyst and ovarian torsion. Laparoscopic surgery was performed for examination and treatment. It was observed that the left ovary was torsioned and displaced. Ovarian cysts are the most frequently observed masses among prenatal cystic masses in female fetuses. It should be kept in mind that cystic masses detected in the prenatal period may often be ovarian cysts and that these cysts can be displaced in the abdomen while torsion, and a treatment plan should be determined according to the clinical findings of the patient.

Keywords: Fetal ovarian cyst, neonatology, newborn, torsioned ovary cyst

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Ovarian cysts are one of the most common pathologies in the newborn and infancy period.^[1] Approximately 15% of intraabdominal masses seen in the neonatal period are of genital origin and one-third of these masses are ovarian cysts. The incidence of ovarian cysts has been reported as 1 in 2500 live births.^[2] Although ovarian cysts seen in the neonatal period primarily originate from the follicular origin, these cysts are thought to be based on due to a disorder observed in folliculogenesis.^[3,4] The most common complications in ovarian cysts are torsion and bleeding.

Studies have shown that the rate of torsion in macrocysts is up to 40%.^[5] Although cyst torsion is more common in large cysts, torsioned micro cysts have also been shown in studies. Although these cases are often asymptomatic, fever, pain, abdominal distension, peritonitis, vomiting, and leukocytosis may accompany the clinic. Bleeding often occurs due to torsion and infarction in the cyst.^[6,7] Fetal ovarian cysts usually regress spontaneously in the postnatal period and do not usually require surgical intervention.^[8] In complicated cysts, laparoscopic or open surgery can be

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applied. If the cyst has affected the entire ovary, surgical oophorectomy can be applied in the treatment.^[5]

With the increase in routine ultrasonography follow-ups in the prenatal period, it has become easier to diagnose intraabdominal masses in the early period. In this report, a case diagnosed as a torsioned hemorrhagic ovarian cyst, which was observed as a displaced cystic mass in the abdomen while being examined for an intraabdominal mass in prenatal ultrasonography, is presented.

Case Report

A female infant was born by cesarean section in the 37th gestational week to a healthy 39-year-old father and a 41-year-old healthy mother, who were unrelated (G3P1). The birth weight was 3730 g (90th–97th percentile), the birth length was 46 cm (10th–50th percentile), and the head circumference was 35 cm (90th–97th percentile). Due to a diagnosis of intraabdominal cystic mass, suspicion of duodenal atresia, and mesenteric cyst made based on a prenatal ultrasonographic imaging, she was hospitalized in the neonatal intensive care unit for examination and treatment. In the physical examination, the vital signs were stable and no additional pathology was found, except soft palpable mass in the left lower quadrant of the abdomen. Besides the abdomen was considered to be naturally curved, and there was no distension. Laboratory examination revealed that hematological and biochemical parameters were among normal limits. The abdominal ultrasonography revealed a thick-walled cystic lesion, approximately 6×4 cm in size

in the lower left quadrant and adjacent to the lower part of the stomach with partially anechoic, partially leveling, including echogenic dense content and approximately 20 mL of free abdominal fluid was observed. The patient thought to be gastric duplication cyst for preliminary diagnosis was evaluated with abdominal CT for detailed evaluation 1 day later and revealed a cystic lesion of 5.3×4 cm in the widest part of the abdomen extending toward the right upper quadrant (Fig. 1). The differential diagnosis of gastric duplication cyst was excluded because the oral contrast not spread and the cyst was seen in the abdomen. After abdominal CT, the patient was reevaluated with control ultrasound imaging and a thick-walled cystic lesion was detected on the right side of the abdomen. The lesion was adjacent to the liver and right kidney, separate from the right ovary, and adjacent to the right ovary and the bladder and was approximately 6×4 cm in size, partially anechoic, leveling and including echogenic dense content. The displacement of the cystic mass from the left abdomen to the upper right in 1 day conducted the differential diagnosis in favor of mesenteric cyst and ovarian torsion. Laparoscopic surgery was performed for examination and treatment on the postnatal 7th day of the patient. It was observed that the right ovary was normal and the left ovary was torsioned in 2 full turns and displaced. In the operation, the torsioned left ovary was excised (Fig. 2). Pathological examination revealed a congested, purple-colored cystic left ovarian surgical material with a diameter of 5 cm and 1.5×0.5×0.6 cm tissue compatible with the tuba. Furthermore, hemorrhag-

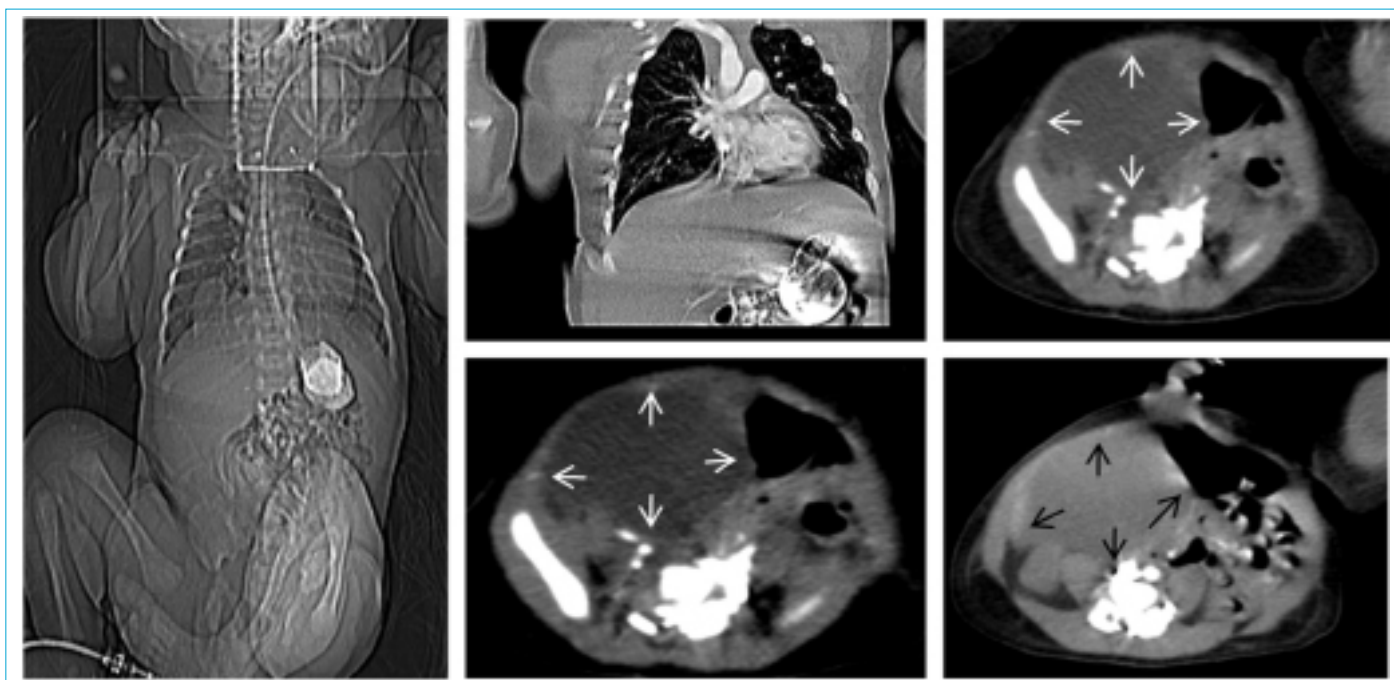


Figure 1. Contrast enhanced abdominal CT scans of the patient.

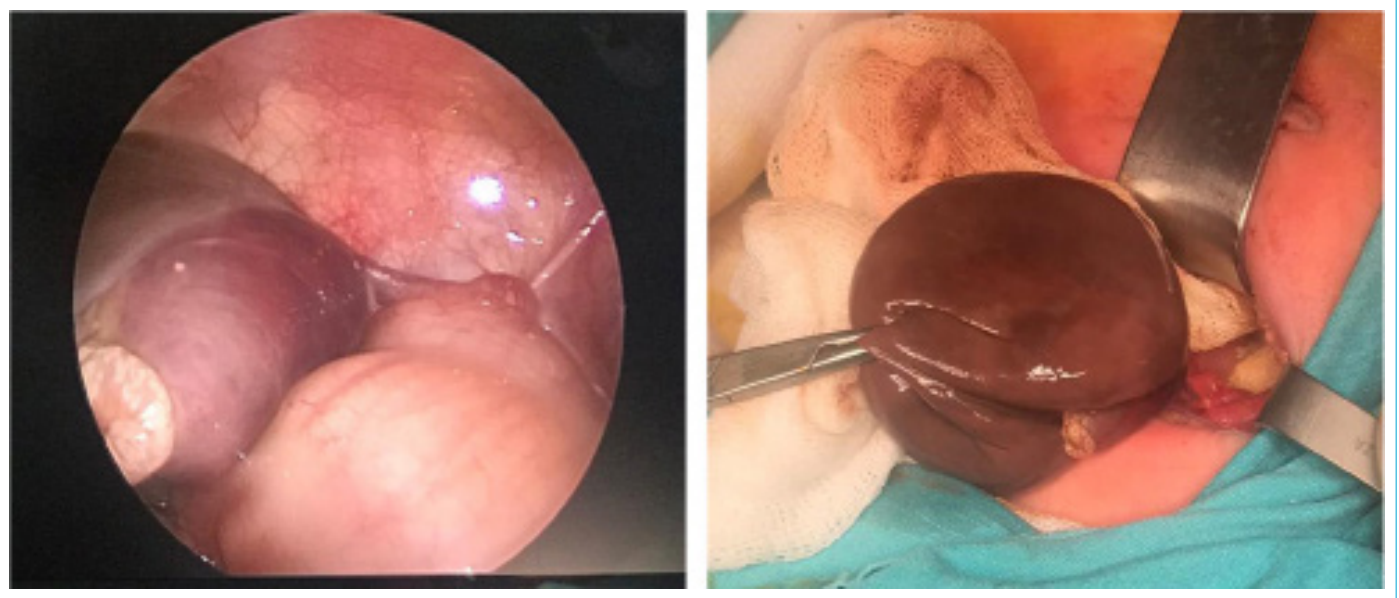


Figure 2. Image of cystic mass during laparoscopic and open surgery.

ic and necrotic ovarian tissue with calcification and calcified tubal tissue with ischemic infarction were detected.

No complications were observed in the postoperative follow-ups, and the baby was discharged on the postnatal 10th day, with good nutrition and good compatibility with the mother. No complications or problems were observed in the outpatient follow-ups. Informed consent was obtained from the patient's family for the presentation.

Conclusion

Ovarian cysts are usually unilateral and are the most common abdominal masses in female fetuses^[1], but they can be confused with other intra-abdominal cystic masses in the differential diagnosis. In our case, the cystic mass observed in the prenatal and postnatal ultrasound imaging was thought to be an ovarian cyst, mesenteric cyst, and duplication cyst, and the patient was referred to laparoscopic evaluation. Although follicular ovarian cysts are common in female fetuses, advanced maternal age, fetal ovarian stimulation by placental and maternal hormones, the presence of gestational diabetes, and preeclampsia increase the incidence of ovarian cysts.^[4] Although our patient's mother was 41 years old, she had no additional disease. It has been reported in the literature that neonatal hypothyroidism cases may also be accompanied by ovarian cysts.^[1] However, thyroid function tests were found to be normal in our case.

The frequency of torsion is seen in one-third of the soils with a size of >5 cm.^[9]In our case, the lesion was measured >5 cm in size and was evaluated as a bleeding cystic mass after torsion. Fetal ovarian cysts usually regress spontaneously in the postnatal period and do not usually require

surgical intervention.^[8] In complicated cysts, laparoscopic or open surgery can be applied. If the cyst has affected the entire ovary, surgical oophorectomy can also be applied in the treatment.^[5] In our case, laparoscopic surgery was performed without aspiration due to the displacement of the cyst from left to right in the ultrasound controls performed 1 day apart and on abdominal tomography, and considering the diagnosis of ovarian cyst, duplication cyst and enteric cyst in the differential diagnosis of the cyst. Due to the detection of a bleeding, torsioned ovarian cyst during surgery and the development of adhesions around the cyst, the operation was converted to open surgery and oophorectomy was performed on the patient.

Ovarian cysts are the most frequently observed masses among prenatal cystic masses in female fetuses. It should be kept in mind that cystic masses detected in the prenatal period may often be ovarian cysts and that these cysts can be displaced in the abdomen while torsion, and a treatment plan should be determined according to the clinical findings of the patient.

Disclosures

Informed Consent: Written, informed consent was obtained from the patient's family for the publication of this case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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References

1. Schmahmann S, Haller JO. Neonatal ovarian cysts: pathogenesis, diagnosis and management. *Pediatr Radiol* 1997;27:101-5. [\[CrossRef\]](#)
2. Sakala EP, Leon ZA, Rouse GA. Management of antenatally diagnosed fetal ovarian cysts. *Obstet Gynecol Surv* 1991;46:407-14. [\[CrossRef\]](#)
3. Montag TW, Auletta FJ, Gibson M. Neonatal ovarian cyst: prenatal diagnosis and analysis of the cyst fluid. *Obstet Gynecol* 1983;61 Suppl 3:38s-41.
4. deSa DJ. Follicular ovarian cysts in stillbirths and neonates. *Arch Dis Child* 1975;50:45-50. [\[CrossRef\]](#)
5. Luzzatto C, Midrio P, Toffolutti T, Suma V. Neonatal ovarian cysts: management and follow-up. *Pediatr Surg Int* 2000;16:56-9. [\[CrossRef\]](#)
6. Nussbaum AR, Sanders RC, Hartman DS, Dudgeon DL, Parmley TH. Neonatal ovarian cysts: sonographic-pathologic correlation. *Radiology* 1988;168:817-21. [\[CrossRef\]](#)
7. Müller-Leisse C, Bick U, Paulussen K, Tröger J, Zachariou Z, Holzgreve W, et al. Ovarian cysts in the fetus and neonate--changes in sonographic pattern in the follow-up and their management. *Pediatr Radiol* 1992;22:395-400. [\[CrossRef\]](#)
8. Özdilek B, Nalbantoğlu B, Donma MM, Çelik C, Paketçi C, Karasu E, et al. Ovarian Cyst in a Newborn. *J Child [Article in Turkish]* 2013;13:36-9. [\[CrossRef\]](#)
9. Bagolan P, Giorlandino C, Nahom A, Bilancioni E, Trucchi A, Gatti C, et al. The management of fetal ovarian cysts. *J Pediatr Surg* 2002;37:25-30. [\[CrossRef\]](#)