CASE REPORT

Fetal Ovarian Cyst: A case report

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ABSTRACT

Introduction: Fetal ovarian cysts are common intra-abdominal cystic masses diagnosed prenatally in female fetuses. The etiology of these cysts is still unknown but an increase in fetal gonadotropin levels is thought to be a possible mechanism.

Case Presentation: We present the case of a 31-year-old nulliparous woman who was diagnosed with a possible fetal ovarian cyst during the routine growth scan at 36+3 weeks of gestation. The scan revealed a unilocular, anechoic mass without a solid component, in the lower abdomen of a female fetus, measuring 60x50x44mm.

Conclusion: Careful evaluation of the fetal abdomen from the second trimester ultrasound and in every routine growth scan is essential for the timely and accurate diagnosis of abdominal cysts. Ultrasound is the gold standard imaging technique during the antenatal period. The prenatal detection of ovarian cysts allows close monitoring of the evolution of the cyst and proper postnatal management of possible complications.

KEY WORDS Fetal ovarian cyst; abdomen cyst; prenatal diagnosis

Introduction

Ovarian cysts are the most common intra-abdominal cystic masses diagnosed prenatally in female fetuses [1]; the etiology of these cysts is unknown but an increase in fetal gonadotropin levels usually related to placental hyperproduction in cases of diabetes mellitus, rhesus isoimmunization and fetal hypothyroidism is thought to be the possible mechanism [2]. They are usually diagnosed after 26 weeks of gestation and in the majority of cases they are unilateral and unilocular, while they may sometimes contain a "daughter cyst" [1]. Ovarian cysts usually disappear after birth, while during pregnancy, torsion and rupture of the ovarian cyst may occur, a challenging situation to manage without a definite treatment plan existing antenatally and postnatally. The main goal is to preserve ovarian function in the highest level possible [3]. In large ovarian cysts (>6cm in diameter) due to compression of the bowel, polyhydramnios may occur

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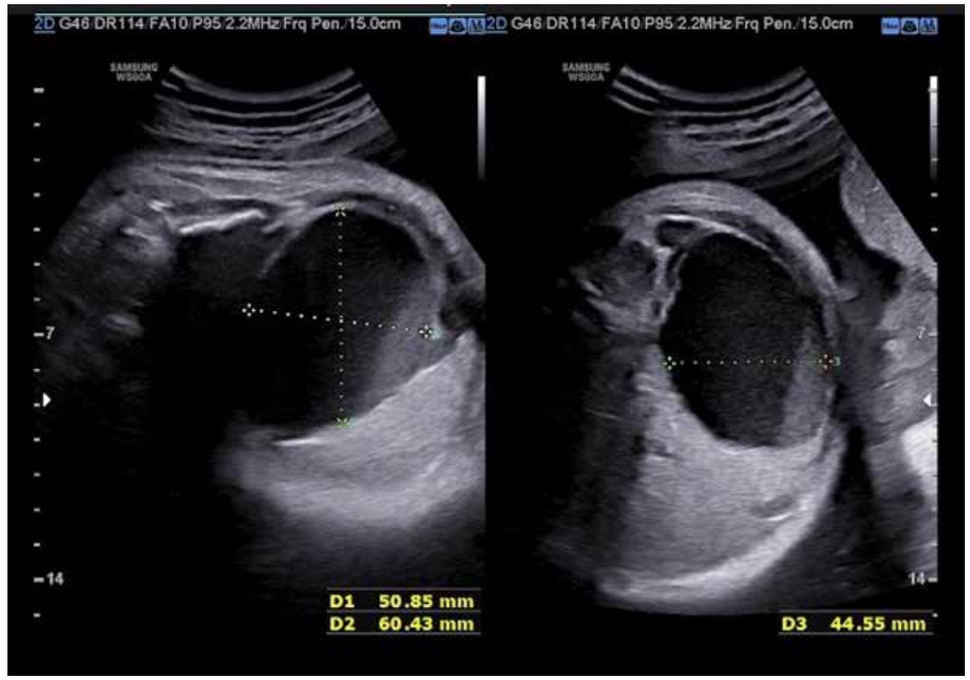

Figure 1. *Fetal ovarian cyst – transabdominal scan*

[4]. We repost a case of a fetal ovarian cyst that led to an uneventful outcome.

Case presentation

A 31-year-old nulliparous woman with spontaneous conception, normal BMI (23kg/m^2), with unremarkable medical history, non-smoker and uncomplicated pregnancy, underwent a routine growth scan at 36^{+3} weeks of gestation. The scan revealed a 60x50x44mm cyst in the lower abdomen of the female fetus. The cyst was unilocular, anechoic with no solid component (Figure 1). Further examination showed no fetal abnormalities, pleural effusion or ascites.

The differential diagnosis included ovarian cyst, duplicated intestinal tract, hydroureter, megacystis, liver and splenic cyst. The kidneys and the bladder appeared normal during the scan, with an ovarian cyst appearing as the most probable diagnosis as the cystic mass appeared on the left side of the upper fetal pelvis and the previous antenatal scans did not show any abnormality. A follow-up appointment in two weeks was arranged.

At 38^{+5} weeks of gestation, the pregnant woman was admitted to the labor ward with preterm rupture of membranes and she delivered vaginally a female neonate weighing 3,340g and an Apgar score of 8 and 9 at the 1st and 5th minute, respectively. The neonatologists performed an ultrasound scan and the diagnosis of ovarian cyst was confirmed. After appropriate counselling to the parents, they decided not to intervene immediately and proceed with another scan in six weeks. In the follow-up scan revealed the ovarian cyst had resolved spontaneously.

Discussion

We described a case of a fetal ovarian cyst with spontaneous resolution during the first six weeks of life. The incidence of fetal ovarian cysts is estimated at 1 in 2,000-3,000 pregnancies [5]. These cysts are usually detected in the third trimester of pregnancy, with the earliest described at 19 weeks of gestation [6]. Most ovarian cysts are less than 5cm and disappear within the first few months of life.

Ultrasound is the gold standard imaging method in the perinatal period, while magnetic resonance imaging may provide supplemental findings like tissue contrast [7]. The "daughter cyst sign", a sonographic clue for the diagnosis of ovarian cysts, is a single, round, anechoic structure attached to the cystic wall, with a sensitivity and specificity of 82% and 100% respectively [8].

Fetal ovarian cysts are classified into two groups. The first group, includes unilocular, ulilateral, anechoic, round, <5cm in diameter, thin-walled cysts while the second "complex" group, includes thick-walled masses with hyperechogenic components and intra-cystic septations [7]. During the prenatal period, ultrasonographic examination to detect any structural changes in size, appearance and complications, is useful in establishing the prognosis.

Most fetal ovarian cysts are small and have no complications; complications that may occur include torsion, rupture, hemorrhage, pleural effusion, ascites and polyhydramnios [4, 9, 10]. Hemorrhage and torsion may cause damage to the ovary. The most serious complication is torsion, seen in 38-55% of cases antenatally and 50-78% during the neonatal period [11]. Possible signs of torsion are fetal tachycardia related to peritoneal irritation, while hemorrhage within the cyst is usually found in association with torsion. Finally, pleural effusion, ascites and polyhydramnios are the result of intestinal obstruction due to large ovarian cysts [4].

There is insufficient data to guide the clinician on the optimal perinatal management of ovarian cysts. Prenatal or postnatal aspiration, ultrasonographic monitoring and neonatal surgery have been proposed, as the main objective is to preserve the ovarian parenchyma [12-14]. The Fetal Medicine Foundation states that if the cyst diameter is more than 6 cm, aspiration of the cyst should be considered, in order to prevent compilations such as distension of the fetal abdomen and disruption of the fetal heart function [1]. Regarding the mode of delivery, unless an obstetric indication is present, vaginal delivery is recommended [1, 15]. Postnatally, the majority of cysts resolve spontaneously, however, surgery may be necessary in cases with torsion, suspicion of neoplastic tumor or abdominal distension due to large cysts.

In conclusion, fetal ovarian cysts represent a non-life-threatening condition, they are usually small in size, uncomplicated and resolve spontaneously. Large cysts can be associated with complications and thus ultrasound scans every 4 weeks to monitor the evolution of the cyst may be advisable [1]. ■

Conflict of interest

The authors declare no conflict of interest.

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