

Ovarian cyst as a pelvic mass in an infant

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Summary

Ovarian cysts in the neonate vary in size. Most of the cysts are asymptomatic but complications occur such as torsion, autoamputation or rupture [1, 2]. We report a case of a 3-month-old infant with an autoamputation ovarian cyst detected on a prenatal ultrasound scan (USS). Postnatal USS confirmed the presence of the cyst which failed to resolve after a period of conservative management and therefore surgical removal was performed.

Key words: Ovarian cyst; Autoamputation; Ultrasound.

Introduction

The diagnosis of ovarian cysts has increased with the routine use of maternal USS [3]. These cysts are among the commonest pelvic masses in female infants. Unless there are complications, many of these can be followed up without surgery. Autoamputation of ovarian cysts sometimes demands surgical excision to prevent the potential of peritonitis, rupture or adhesions [4].

Case Report

A pelvic cyst measuring 3 cm in diameter was detected in a 27-week gestational fetus through prenatal USS. A scan performed at 31 weeks' gestation showed no change in appearance. The baby was born normally at 38 weeks of gestation, weighing 3.2 kg. Postnatal USS confirmed the diagnosis of a thin walled cyst containing a fluid/debris level at the site of the right ovary. The baby was well, so it was decided to delay surgery and monitor the cyst with serial USS.

The child grew well and the appearance of the cyst remained unchanged, however the diameter became greater on a later USS and at three months the diameter was 5 cm. Because there was no sign of resolution at three months it was decided to surgically remove the cyst. A laparotomy was performed which showed a missing right ovary with a blind ending right fallopian tube. The left ovary and the left fallopian tube were normal. At the site of the right ovary there was an untached cyst which was removed.

The resected specimen was a nondense thin-walled cyst filled with reddish-brown fluid that measured 5 cm in diameter. Histological examination of the removed cyst showed ovarian tissue in the wall of the cyst which revealed advanced necrosis. The cyst contained a mural nodule that consisted of necrotic, hemorrhagic, unidentifiable tissue with foci of dystrophic calcification, evidence of acute and chronic hemorrhage (Figure 1).

Discussion

Neonatal ovarian cysts are believed to result from fetal exposure to an increased amount of circulating hormones

such as placental chorionic gonadotrophins and fetal gonadotrophins. This would explain the more common occurrence of cysts in infants of mothers with diabetes, toxemia or rhesus isoimmunization all of which have a larger placenta and greater release of placental chorionic gonadotrophins.

Small simple cysts, less than 1 cm, occur in up to 34% of normal neonates and are asymptomatic. Small cysts have also been noticed in premature infants who have a common finding of ovarian hyperstimulation caused by markedly elevated follicle-stimulating hormone (FSH) and luteinizing-hormone (LH) levels due to an immature negative-feedback system. Most of these cysts involute within the first four months of life and are of no clinical consequence [5].

Occasionally, however, large ovarian cysts occur, presenting as abdominal masses in the newborn period. These cysts may be as large as 19 cm - enough to cause respiratory distress and possible torsion on the long fallopian pedicles.

Torsion is the most common complication of ovarian cysts and the incidence has been reported to be as high as 50% to 78%. Gastrointestinal obstruction or perforation, urinary tract obstruction, rupture and autoamputation of the cyst have also been reported [6].

It is generally agreed that postnatal cysts of less than 4 cm in diameter that are uncomplicated in appearance on USS (i.e., without solid components, septa retracted clot or debris) can be managed conservatively in the hope that they will resolve after cessation of the hormonal stimulation of fetal ovaries after birth. Surgical removal should be performed if the cysts increase in size, develop complications or fail to resolve. Ovarian cysts with diameters larger than 4 cm should be surgically removed even they are asymptomatic because of the high frequency of complications [7].

In our case, debris was seen in a thin-walled cyst that increased in size over a period of time and therefore was removed. Autoamputation was not suspected preoperatively because the cyst position was unchanged. In retrospect, the debris noted in the first postnatal USS is

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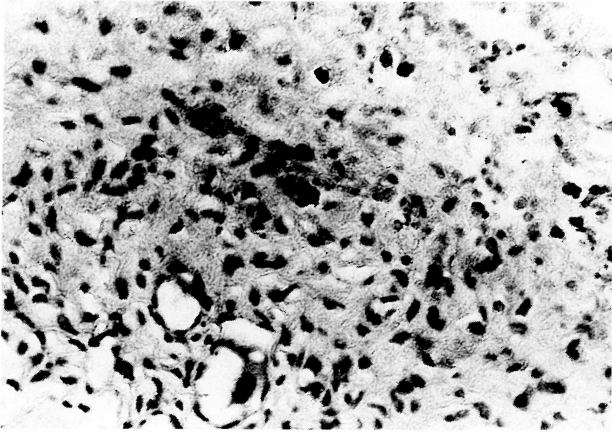


Figure 1. — Ovarian tissue with necrosis and foci of calcification (H-E x 400).

believed to indicate that torsion had occurred early in postnatal life or even prenatally because the clinical condition of the infant showed no evidence of torsion subsequently. A diagnosis of prenatal torsion with necrosis of the pedicle is the most tenable.

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