# Ultrasonographic pattern of spontaneous resolving fetal ovarian cyst: a case report

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**Summary**

Fetal ovarian cyst is diagnosed at the rate of one per 2,500 live births and its behaviour in utero may range from spontaneous resolution with no further consequences to torsion, necrosis, and to the necessity of surgical treatment in the postnatal stage. Ovarian cyst torsion in a fetus results in the loss of its reproductive function in adult life. The authors present a case of spontaneous resolving fetal ovarian cyst. The lesion was diagnosed during an ultrasound scan in 30th week of pregnancy. An ultrasound scan performed two weeks later revealed symptoms of cyst torsion; the lesion was 5.7 cm in diameter, heterogeneous, and had a normoechogenic inside. A subsequent ultrasound exam showed a lesion with a diameter of 2.16 cm. An ultrasound exam of the newborn's abdominal cavity performed on the second day showed that the cyst was six mm in diameter. However, the cyst did not show on an ultrasound scan made on the fourth day.

*Key words:* Ultrasonography; Fetus; Ovarian cyst.

## Introduction

Fetal ovarian cyst is diagnosed at the rate of one per 2,500 live births and its behaviour in utero may range from spontaneous resolution with no further consequences to torsion, necrosis, and to the necessity of surgical treatment in the postnatal stage. The larger an ovarian cyst, the greater the risk of its torsion. Ovarian cyst torsion in a fetus results in the loss of its reproductive function in adult life.

Although there is no conclusion as to the developmental origin of fetal ovarian cysts, it is believed that one of the reasons they develop is the malfunction of the hypothalamic-pituitary-ovarian axis and such factors as maternal diabetes as well as fetal Rh-immunization or toxemia. All these cases may entail an increase of the gonadotropin level, which in turn increases the likelihood of an ovarian cyst developing in a fetus [1, 2].

There is no clear management approach to these cases in utero. The only described approaches include the monitoring of the lesion, as well as the puncture and decompression of a cyst in order to reduce the risk of its torsion [3].

## Case Report

A 35-year-old woman (grav II partus I) turned up for an ultrasound scan in the 30th week of pregnancy. The patient's history showed no current disorders and the course of pregnancy so far was regular. Ultrasound scans performed in the first and second trimester showed no abnormalities.

An ultrasound scan revealed an eutrophic female fetus with an anechoic lesion located in the left adnexal region. The mass showed no peripheral vascularisation, no internal echoes, and smooth internal outlines. The diameter was 2.1 cm.

An ultrasound scan performed two weeks later revealed symptoms of cyst torsion; the lesion was 5.7 cm in diameter, heterogeneous, and had a normoechogenic inside. A subsequent ultrasound exam showed a lesion with a diameter of 2.16 cm, a normoechogenic halo, and a trace of inner fluid.

Labour took place at the 40th week of pregnancy due to the threat of intrauterine asphyxia. The female neonate weighed 3,240 g, its first-minute Apgar score was 9, and its five-minute Apgar score was 10. The newborn was released from hospital on the fourth day. An ultrasound exam of the newborn's abdominal cavity performed on the second day showed that the cyst was 0.6 cm in diameter. However, the cyst did not show on an ultrasound scan taken on the fourth day. The changing sonographic appearance of the ovarian cyst is shown in Figure 1.

## Discussion

Cystic lesions in fetal abdominal cavity are usually diagnosed during an ultrasound exam in the second and third trimesters of pregnancy and it is of great importance for further diagnostics and treatment of a fetus and a newborn. The most frequently diagnosed lesions are simple cysts of different shapes and sizes [4]. Differential diagnosis should take into account ovarian, digestive tract, urinary system, liver, umbilical cord, as well as other abdominal masses. The incidence rate of ovarian cysts in female fetuses is one per 2,500 live births [5].

The presence of an ovarian cyst entails a risk of torsion, hemorrhagic changes within, and finally the loss of the reproductive function of the gonad in adult life. There are no clear guidelines as to the management of these cases. One of them is the expectant management during pregnancy, with possible surgical treatment after birth [6]. There are also reports on the efficacy of punctures and decompression of fetal cysts of more than four cm in diameter in order to reduce the probability of torsion [3, 7]. Galier *et al.* even proposed preterm delivery, following lung maturity stimulation in the case of bilateral ovarian

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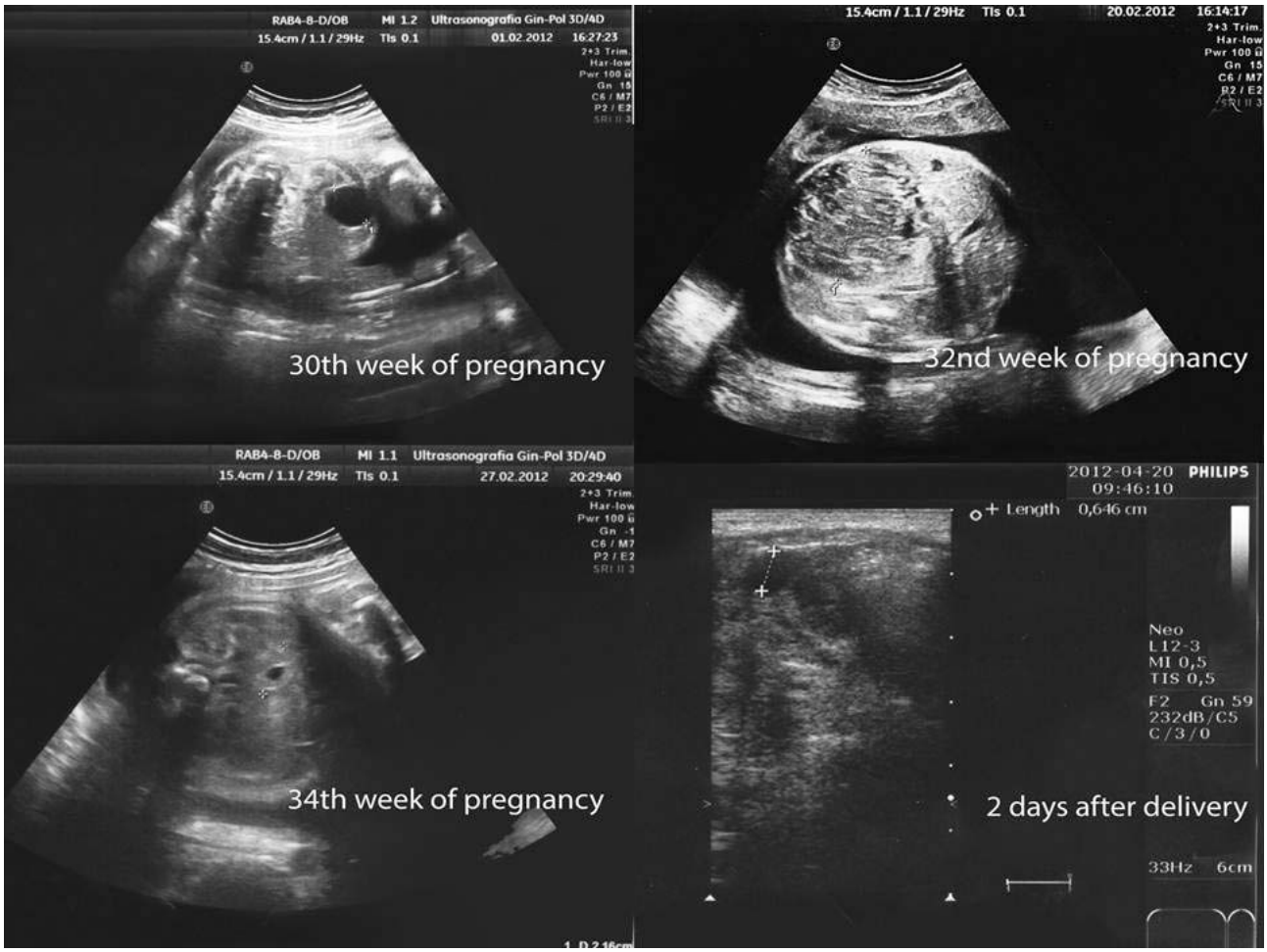


Figure 1. — Ultrasonographic pattern of spontaneous resolving fetal ovarian cyst.

cysts in order to prevent the risk of torsion [8]. Although there is no definitive management approach, there is an agreement regarding the necessity of the prenatal monitoring of the lesions, as their image changes during pregnancy and may influence the management method [8, 9]. The monitoring of an abdominal cyst allows for a prenatal differential diagnosis and for the establishment of the postnatal management method.

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