

## A GIANT THECA LUTEIN CYST IN A NEWBORN: HOW TO APPROACH?

### YENİDOĞANDA DEV BİR TEKA LUTEİN KİSTİ: NASIL YAKLAŞILMALI?

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#### ÖZET

**Giriş:** Over kistleri perinatal dönemde saptanan abdominal kistlerin önemli bir bölümünü oluşturmaktadır. Burada antenatal takibi yapılmayan 35+4 gebelik haftasında doğan kız yenidoğanda saptanan dev over kisti olgusu sunulmaktadır.

**Olgu Sunumu:** 35+4 gebelik haftasında doğan prematüre kız bebeğin yapılan ilk muayenesinde, sol karında ele gelen kitleye bağlı distansiyon saptandı. Çekilen ultrasonografide, karın sol tarafta 73x85 mm boyutlarında kistik bir kitle saptandı. Manyetik rezonans görüntüleme, bu lezyonun sol overden kaynaklandığı ve diğer abdominal yapılarla ilişkisinin olmadığı ortaya konuldu. Postnatal yedinci günde, karın şişliğine sekonder solunum sıkıntısı gelişmesi üzerine yapılan laparatomide, sol overden kaynaklanan dev kistik lezyon total olarak eksize edildi. Histopatolojik inceleme sonucu, benign teka lutein kisti olarak geldi. Hasta postoperatif 10. günde sorunsuz olarak taburcu edildi.

**Sonuç:** Perinatal dönemde abdominal kistik kitlelerin ayırıcı tanısında over kistleri her zaman akılda tutulmalıdır. Tedavi, konservatif yaklaşımlardan agresif cerrahiye kadar geniş bir yelpazeyi içerir. Karın şişliği, bağırsak tıkanıklığı, solunum sıkıntısı gibi ciddi komplikasyonların önlenmesi için zamanında cerrahi müdahale büyük önem taşımaktadır.

**Anahtar Kelimeler:** Yumurtalık kisti, yenidoğan, teka lutein kisti

#### ABSTRACT

**Introduction:** Ovarian cysts constitute an important proportion of abdominal cysts detected in the perinatal period. Here, a case of giant ovarian cyst detected in a female neonate born at 35+4 gestational weeks without antenatal follow-up was presented.

**Case Presentation:** A premature female baby was born with gestational week of 35+4. Her physical examination revealed a distension due to a palpable mass on the left abdomen. Ultrasonography revealed a 73x85 mm cystic mass while magnetic resonance imagination demonstrated that this lesion originated from the left ovary and was not associated with other abdominal structures. A respiratory distress secondary to abdominal distension developed on the postnatal seventh day. In surgery, a giant cystic lesion originating from the left ovary was totally excised by preserving the ovary. Histopathology revealed a benign theca lutein cyst. The patient was uneventfully discharged on the 10th postoperative day.

**Conclusion:** Ovarian cysts should be always kept in mind in the differential diagnosis of abdominal cystic masses in the perinatal period. Treatment includes a wide spectrum from conservative approaches to aggressive surgery. A timely surgical intervention is of great importance for the prevention of serious complications, such as abdominal distension, intestinal obstruction, and respiratory distress.

**Keywords:** Ovarian cyst, neonate, theca lutein cyst

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**Submission date:** 15.05.2023 **Accepted date:** 07.07.2023

**Cite as:** Baykara AZ, Erdoğan B. Title: A giant theca lutein cyst in a newborn: How to approach? Eskisehir Med J. 2023; 4(supp): 255-257. doi: 10.48176/esmj.2023.144.

## INTRODUCTION

Most of the abdominal masses detected within the neonatal period are benign, of which 15% originate from the genital tract (1). Among those, neonatal ovarian cysts are usually unilateral small lesions, and occur in approximately 1 in 2500 live births (2). Although the exact etiology is still unknown, hormonal hyperstimulation is the most accepted theory for the occurrence of these masses (2, 3). In addition, it was reported that complicated pregnancies involving diabetes, preeclampsia and Rh isoimmunization, abnormal development due to impaired vascularization in the primitive gonad, hypothyroidism, congenital adrenal hyperplasia, and G protein  $\alpha$ -subunit mutation contribute to the development of the neonatal ovarian cysts (3, 4). It is thought that these cysts regress with the gradual decrease in fetal gonadotropin, maternal estrogen and placental human chorionic gonadotropin hormone levels after delivery (3). The treatment of neonatal ovarian cysts includes various approaches ranging from conservative to advanced surgical interventions.

In this paper, a rare case of neonatal giant ovarian cyst who was operated for postpartum abdominal distension and increasing respiratory distress and without antenatal follow-up was presented and discussed with the relevant literature.

## CASE REPORT

A 26-year-old, gravida 1, parity 0 pregnant woman without antenatal follow-up was admitted to the emergency department due to the development of preterm labor with premature rupture of the membrane. A premature female baby, 3380 g in weight, was born with gestational week of 35+4. There was no need for postnatal resuscitation since she had an Apgar score of 15. Initial physical examination revealed a palpable mass on the left side of the abdomen with distension.

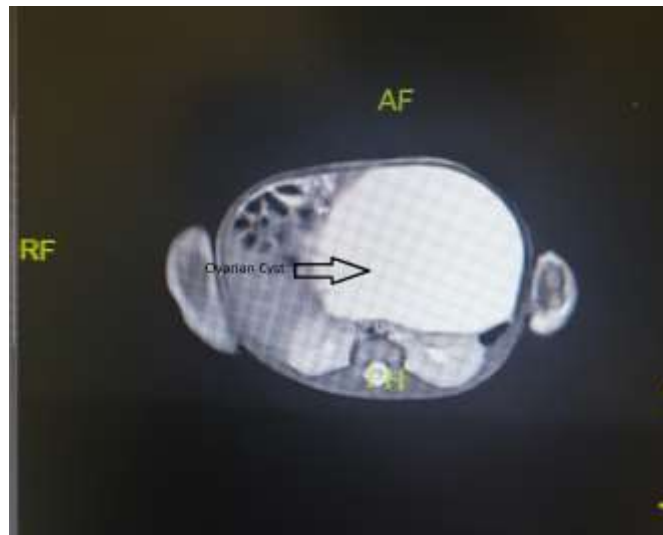
On abdominal X-ray, the gas shadows of the intestines were pushed to the right in the abdomen and there was no gas shadow on the left side of the abdomen. Abdominal ultrasonography (US) revealed a 73x85 mm cystic mass on the left abdomen. Magnetic resonance imagination (MRI) demonstrated that this lesion originated from the left ovary and was not associated with other abdominal structures (Figure 1).

A respiratory distress secondary to abdominal distension developed on the postnatal seventh day, and respiratory support with an oxygen hood was given to baby due to the decrease in oxygen saturation. Following the necessary preoperative preparations, laparotomy was performed on the eighth postnatal day. During the surgical procedure, a yellow giant cystic lesion originating from the left ovary was observed in the left lower quadrant. The pedicle was not bend and left ovary and adnexal structures were normal in appearance. The cyst was totally excised by preserving the ovary (Figure 2).

Histopathology revealed that the excised lesion filled with serous fluid was a theca lutein cyst (Figure 3). The

respiratory distress disappeared after the operation, and no complication developed during the postoperative period. The patient was uneventfully discharged on the 10th postoperative day. She was also followed up regularly with pelvic doppler US, and no problem was detected.

Patient consent was obtained for this presentation.



**Figure 1.** The diffusion weighted magnetic resonance imaging finding of ovarian cyst with a diameter of 73X85 mm.



**Figure 2.** Intraoperative appearance of cyst.

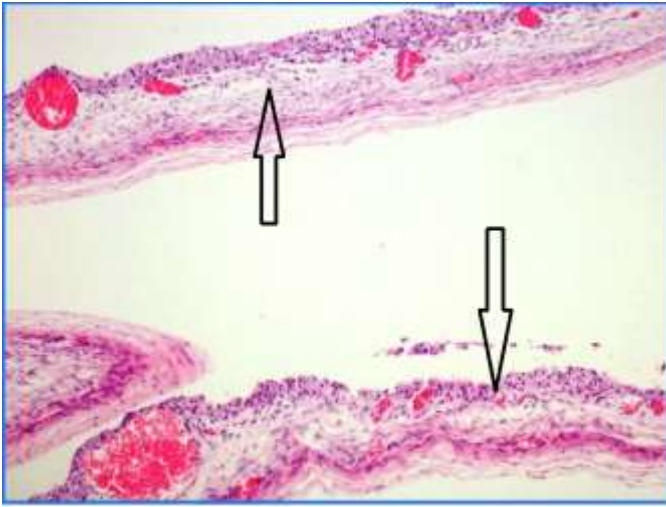
## DISCUSSION

Neonatal ovarian cysts constitute a significant portion of abdominal cystic masses. The increasing use of routine US led to more detection rate of ovarian cysts in the prenatal period (5). In our case, the mother did not attend prenatal pregnancy follow-up, and an intraabdominal cystic mass was detected on postnatal US.

Neonatal ovarian cysts can be confused with many lesions. Differential diagnosis include urachal and mesenteric cysts,

enteric duplication cysts, duodenal atresia, and dilated bowel (3,5). Malignant ovarian tumors and teratomas are extremely rare under two years old (2).

Neonatal ovarian cysts can be divided into two groups as simple and complicated according to sonographic criteria (6). The majority of neonatal ovarian cysts are small and disappear in the first few months of life (2,5). Therefore, simple ovarian cysts up to 5 cm in diameter can be managed conservatively (7). Nevertheless, the treatment of large simple and complicated cysts is controversial and surgical intervention may be required (6,8). Our patient had a complicated giant cyst, approximately 9 cm in size and causing increasing respiratory distress.



**Figure 3.** H&E stain 10x10, histological section of ovarian cyst in a newborn baby. Thin-walled follicular cyst lined with luteinizing theca interna and a thin layer of granulosa cells is observed.

Various complications such as torsion, rupture, bleeding, intraabdominal acid, and compression of other internal organs may occur associated with neonatal ovarian cysts (1,3). Torsion and bleeding of these cysts can cause ovarian loss (4). Torsion can also cause the ovaries to attach to the intestines or other pelvic organs. There are positive correlation between the size of the cyst or the length of the ovarian pedicle and the risk of intracystic hemorrhage or torsion (4,5). In our case, there was no complication regarding the cyst except to compression of other organs. The recommended threshold size for prenatal aspiration of simple cysts ranges from 3 to 5 cm in the previous reports (2-4). However, various complications such as increased risk of preterm labor, chorioamnionitis, fetal injury, and intracystic bleeding were reported with the prenatal intervention (2,3,8). As a general approach, preserving the ovarian parenchyma is considered the main goal in the perinatal management of neonatal ovarian cysts (2,3,5,8). Ovarian torsion, persistent cyst, suspected neoplasia, and clinical symptoms such as abdominal distention, intestinal obstruction, and dyspnea require surgical intervention (4,5,8). In our case, there was abdominal distention and respiratory distress due to a large

ovarian cyst compressing the other visceral organs. Therefore, cyst excision with preserving the ovary was performed.

Neonatal ovarian cysts are usually benign lesions. In most cases, the origin is follicular epithelium; however, these lesions can also occur as theca lutein or corpus luteum cysts (3). In the literature, up to 90% of fetal ovarian masses were reported to be cystic with follicular or luteinic origin while the remaining ones were solid such as carcinoma, teratoma, or cystadenomas (3). In the present case, histopathology revealed benign serous theca lutein cyst.

Although rare, ovarian cysts should be always kept in mind in the differential diagnosis of abdominal cystic masses in the perinatal period. Treatment includes a wide spectrum from conservative approaches to aggressive surgery. A timely surgical intervention is of great importance for the prevention of serious complications, such as abdominal distention, intestinal obstruction, and respiratory distress.

**Informed Consent:** Authors declared taking informed written consent for the publication of clinical photographs/material, from the legal guardian of the patient with an understanding that every effort will be made to conceal the identity of the patient, however it cannot be guaranteed.

**Author Contribution:** The authors declare that they have all participated in the design, execution, and analysis of the paper, and that he has approved the final version.

**Disclosure:** The authors report no proprietary or commercial interest in any product mentioned or concept discussed in this article. This article did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Financial Disclosure:** The authors declare that they have no relevant financial.

## KAYNAKLAR

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4.0 Uluslararası Lisansı ile lisanslanmıřtır.