v. 2, n. 47, 2022

International Journal of Health Science

CASE REPORT: CONGENITAL OVARIAN CYST SURGICALLY APPROACHED IN THE NEONATAL PERIOD WITH FAVORABLE EVOLUTION

Ana Carolina Betto Castro
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0002-5895-454X

Danielle Cristina Penedo
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0003-0876-1966

Déborah Carvalho Cavalcanti
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0001-9669-9722

Helena Varago Assis
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0002-2751-5296

Juliana Rodrigues Dias
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0003-2701-6515

Luciano Barboza Sampaio
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
http://lattes.cnpq.br/6772465764163248

Nyara Lysia Barbosa Mendonça
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0002-4469-3617

Wallan de Deus Caixeta Matos
Santa Casa de São Carlos – São Carlos – SP –Brazil. Department of Pediatrics
ORCID: 0000-0003-4534-6729

Abstract: Introduction: Fetal ovarian cysts are the second most common type of abdominal mass, after the urinary tract mass. In most cases, they are small, unilateral, benign, asymptomatic, diagnosed in the third trimester and regress spontaneously. **Case report:** A.G.B, born weighing 4280g, daughter of a morbidly obese and chronically hypertensive mother, with an ultrasound diagnosis of a maternal cyst during pregnancy. After birth, significant abdominal distension was observed, with visceromegaly and hepatosplenomegaly, with collateral circulation and congestion. During preoperative examinations, distention of the intestinal loops to the left and a voluminous intra-abdominal cystic image were observed, which had a mass effect, displacing adjacent structures, without exact location. At 6 days of age, she underwent oophoroplasty, which showed the presence of a congenital ovarian cyst, and the cyst was evacuated and removed, measuring 13.0x11.5x4.0 cm, and anatomopathological evidence showing the benignity of the condition. **Discussion:** Pregnancy presented several maternal risk factors for the presence of congenital ovarian cysts that, although they regress spontaneously during pregnancy or in the first months, surgical approach was necessary due to the mass effect exerted, with possible ovarian preservation. The importance of early recognition of this possible diagnosis as well as the possible consequences is highlighted.
Keywords: Ovarian cysts; Newborn diseases; Operative surgical procedures; Diagnosis;

INTRODUCTION

Fetal ovarian cysts (FOC) are the second most common type of abdominal mass, after urinary tract mass, with an incidence of 1 in 2,500 live births, being more common in female newborns (NB).[1,2,3,4,5,6,7] In most cases, OFCs are small, unilateral, benign, asymptomatic, diagnosed in the third

trimester, and spontaneously regress during pregnancy or during the first months of life, a fact attributed to predicted changes in postnatal hormone. The incidence is higher in pregnancies complicated by Rhesus factor incompatibility, preeclampsia, obesity and diabetes mellitus. [1,5,6]

The first neonatal ovarian cyst was reported in 1889 as an autopsy finding in a stillbirth, but the first ultrasound (USG) diagnosis of OFC was made in 1975. Since then, the improvement of USG techniques and the systematic examination of fetal anatomy based on protocols have led to an increase in the number of FOC cases detected.[3,5]

The prenatal detection and prenatal and postnatal follow-up of OFC are mainly based on USG. Diagnostic criteria include: confirmation of female sex, presence of a cystic structure of regular shape and located outside the midline, size smaller than 20 mm in diameter, identification of normal urinary tract anatomy, and identification of normal gastrointestinal structures, with echogenicity being of the cyst is the main criterion to establish the prognosis of OFC [1,3,5,7]. On US, simple cysts are anechoic, round, unilocular, intrapelvic or, more often, intra-abdominal, uni or rarely bilateral, thin-walled, and more or less mobile with the mother's position. Complicated cysts, on the other hand, are heterogeneous and thick-walled, with hyperechogenic components. These contain free floating material with intracystic septa and are mobile after torsion, with no blood flow to the USG *doppler*.[1,4,5.]

Occasionally, ovarian cysts can lead to various complications such as hemorrhage, rupture, torsion, intestinal obstruction, necrosis, urinary tract compression, compression of the vena cava, polyhydramnios and even cyst entrapment, but ovarian torsion is the most common and most common complication. serious of the COF [2,5,6]. Data suggesting an increased risk of torsion are based primarily on studies reporting ovarian size and appearance during antenatal US and the finding of torsion at the time of surgery. [4]

Management is controversial with several options described in the literature, including watchful waiting management, aspiration of simple cysts to prevent ovarian torsion and loss, and finally observation or resection of all complex cysts in the neonatal period. Intrauterine aspiration of simple OFC can be considered in simple ovarian cysts larger than 4-5 cm. In the postnatal period, many authors have advocated the conservative management of asymptomatic OFC based on the limited risks of this approach compared to the complications of a surgical procedure and general anesthesia. However, when neonatal ovarian cysts cause pain, vomiting, fever, irritability, and abdominal distension, the surgical procedure is clearly justified. On the other hand, minimally invasive approaches such as laparoscopic and microendoscopic procedures are recommended as they allow aspiration, cystectomy, ovarian decapsulation and, if necessary, oophorectomy. The benefits of surgical management must be aimed at removing the cyst for optimal ovarian preservation, histological confirmation and division of any adhesions between the ovary and adjacent organs. [1,2,4,5,6,7]

CASE REPORT

A.G.B, born in the maternity hospital of a philanthropic hospital, at term, by cesarean section due to an arrest in the progression of labor, weighing 4280g (>97th percentile). Daughter of a secundigested mother, morbidly obese with a body mass index of 56.9, chronic hypertension diagnosed during pregnancy using methyldopa, with a report of a gestational USG demonstrating a maternal cyst. During delivery, there was a moderate amount of meconium fluid, which required

aspiration of the upper airways. In addition, in the initial physical examination, significant abdominal distension was noticeable, with visceromegaly in the abdomen, which was globular, significant hepatosplenomegaly, presence of visible collateral circulation, congestion and edema of the labia majora in the genitalia. Thus, it was necessary to introduce a nasogastric tube for drainage.

Therefore, laboratory tests were requested, showing thrombocytopenia, decreased fibrinogen, increased activated partial thromboplastin time, leukocytosis, increased transaminases, total and indirect bilirubin. In addition, antibiotic therapy, evaluation by a pediatric surgeon and bed in a neonatal intensive care unit (ICU) were prescribed in the same service.

In the preoperative period, an X-ray of the total abdomen was performed, showing a globular abdomen, with distension of the intestinal loops to the left due to the cyst in the abdomen, as shown in image 1. In addition, an abdominal ultrasound was requested, which showed a voluminous intra-abdominal cystic image. abdominal, which had a mass effect, displacing adjacent structures, which extended from the epigastric to the hypogastric measuring approximately 11.2 cm, with no flow on the Doppler study, but it was not possible to characterize the exact location of its origin. An abdominal magnetic resonance imaging was then requested, which showed a large cystic lesion in the peritoneal cavity of an etiology to be clarified, raising the hypothesis that it was a peritoneal cyst or a cyst located in the ovary, as shown in Image 1.

Due to the fact that the patient had a clotting disorder (APTT with a value of 48.5 seconds), thrombocytopenia of 32,000, and leukocytosis of 20,200, vitamin K 2mg, platelet transfusion and ampicillin 100 mg/kg every 12 hours were administered, associated with gentamicin 4 mcg/kg once daily for 7 days. As a result, the patient evolved with resolution of the condition, laboratory and clinical improvement, with post-treatment exams within normal parameters, APTT of 28.8 seconds, platelet count of 130,000 and leukocytes of 9,800.

Thus, after clinical stabilization, at 6 days of life she underwent an exploratory laparotomy. During anesthesia, the patient

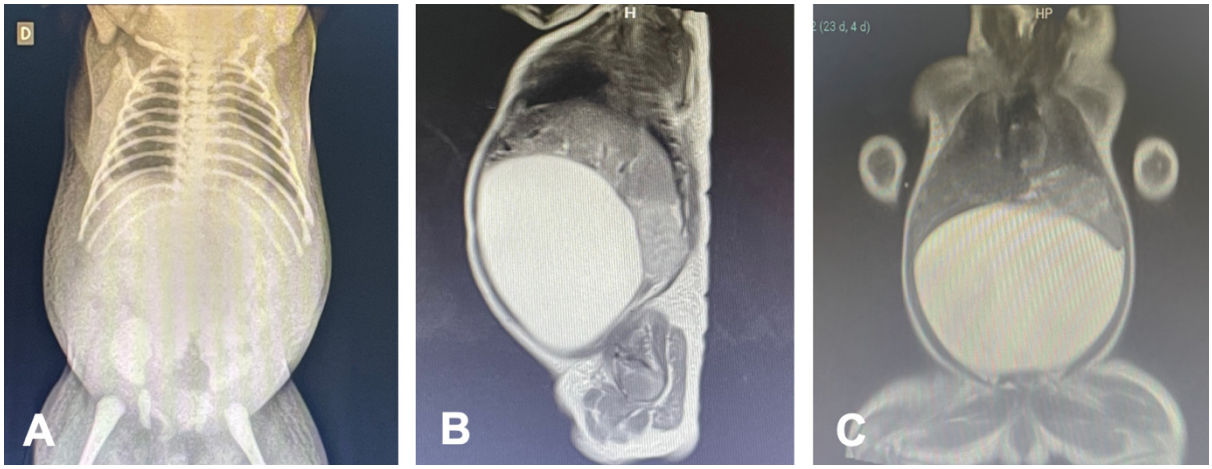

Image 1: A – X-ray of the abdomen showing a globular abdomen, with distention of the intestinal loops to the left; B – sagittal section magnetic resonance imaging with a large cystic lesion in the peritoneal cavity; C- Coronal magnetic resonance imaging, showing a large cystic lesion.

develops a cardiorespiratory arrest, requiring resuscitation measures, with resolution of the intercurrence after three cycles of adrenaline and return to spontaneous circulation. After stabilization, the oophoroplasty procedure was performed, which showed the presence of a congenital ovarian cyst, followed by emptying and removal of the cyst, as shown in image 2. In an anatomopathological report of the piece, a cystic tumor compatible with a cyst was observed. congenital ovarian, measuring 13.0x11.5x4.0cm, with a brownish external surface, with diffusely distributed congested vessels, and a brownish, smooth internal surface, without excrescence, with citrine yellow liquid content, dismissing microscopic examination due to the benign nature of the condition. In the postoperative period, the patient evolved with good recovery, without the need for mechanical ventilation and vasoactive drugs. Due to the good evolution of the condition, 7 days after the surgical approach, the patient was discharged from the ICU and transferred to the pediatric ward.

Thus, neonatal screening tests were performed, which showed no changes, in addition to vaccination against hepatitis B and BCG. Breast milk was introduced on demand, with good acceptance and evolution. As a result, after 17 days of hospitalization, with complete resolution of the condition, he is discharged with general guidelines and outpatient follow-up with a pediatrician and a pediatric surgeon.

DISCUSSION

In comparison with the literature, it was possible to observe that pregnancy presented risks of OFCs, due to the presence of significant maternal morbid obesity with a body mass index of 56.9. On the other hand, no Rhesus factor incompatibility, preeclampsia and maternal diabetes mellitus were reported. Despite the fact that COFs, in most cases are small, unilateral, benign, asymptomatic, diagnosed in the third trimester, and that spontaneously regress during pregnancy or during the first months of life, in the case reported here, the cyst was voluminous, to the point of distorting adjacent abdominal structures as stated in official imaging examination reports and cause symptoms,

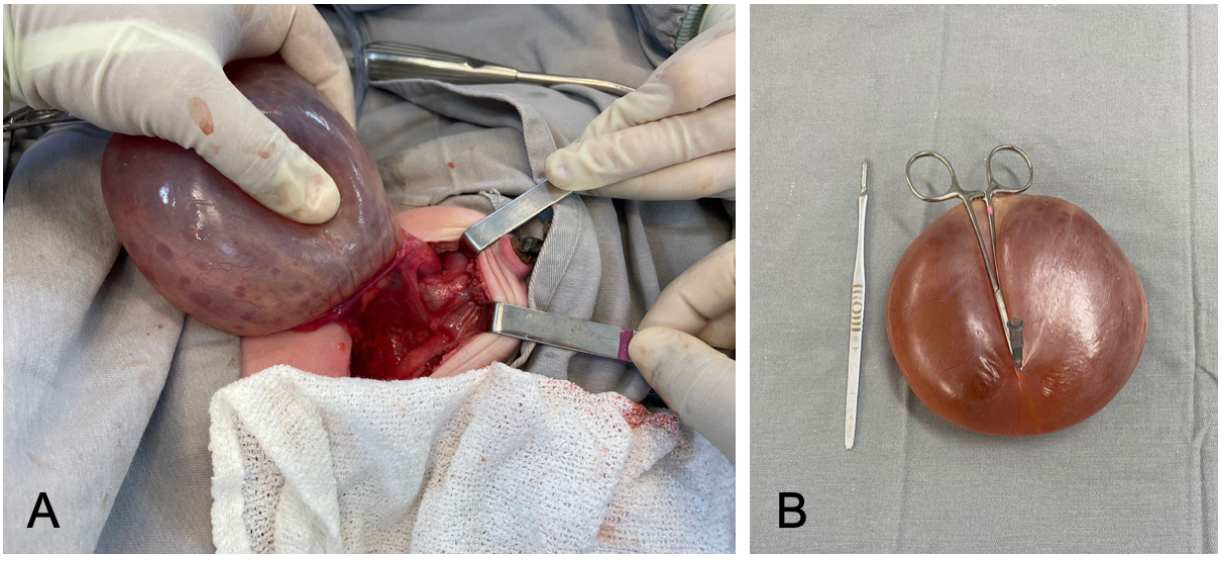

Image 2: A - direct visualization of the intraoperative ovarian cyst. B – excision of the ovarian cyst, sent for anatomopathological examination.

requiring surgery in the neonatal period. The possible complications mentioned in the literature were not observed. In agreement with the authors, the cyst presented unilaterally and had a benign character, as shown in the anatomopathological examination described above. [1,2,5,6,]

Regarding prenatal detection and follow-up, it was not possible to state whether the moment of diagnosis was made in the prenatal or postnatal period only, since no gestational USG was found to identify the cyst. In the examination, the family reported the presence of a maternal ovarian cyst, diagnosed by the gestational USG, with no possibility of comparison with the reported diagnostic criteria, only the confirmation of the female sex. [1,3,5,7] However, since the echogenicity of the cyst is the main criterion for establishing a prognosis, we can mention that the microscopic examination was dispensed with due to the macroscopic and benign evaluation of the specimen, not being possible to compare it to determine the prognosis. [1,4,5]

Regarding the treatment performed, although still controversial, surgical management was chosen in view of the important repercussions presented, presence of visible collateral circulation, congestion and edema of the labia majora in the genitalia, in agreement with the recommended given the symptoms. Regarding the benefit of surgical management in removing the cyst for ovarian preservation, we can mention that this was performed as recommended in the literature.[1,2,4,5,6,7]

Finally, it is worth emphasizing the importance of disseminating knowledge about the possibility of ovarian cysts in the neonatal period in order to facilitate clinical suspicion, diagnosis and early treatment, for a better outcome for the child.

REFERENCES

1. HARA, Takeya et al. Diagnosis, Management, and Therapy of Fetal Ovarian Cysts Detected by Prenatal Ultrasonography: A Report of 36 Cases and Literature Review. **Diagnostics**, v. 11, n. 12, p. 2224, 2021.

2. MANJIRI, S.; PADMALATHA, S. K.; SHETTY, J. Management of complex ovarian cysts in newborns–Our experience. **Journal of neonatal surgery**, v. 6, n. 1, 2017.

3. MOTA, Stefania Pinto et al. Massa abdominal cística gigante em recém-nascido–diagnóstico e tratamento. **Revista Ciência e Estudos Acadêmicos de Medicina**, n. 07, 2017.

4. PAPIC, Jonathan C. et al. Management of neonatal ovarian cysts and its effect on ovarian preservation. **Journal of pediatric surgery**, v. 49, n. 6, p. 990-994, 2014.

5. PÉREZ, R., et al. Congenital Ovarian Cyst: Diagnosis and Perinatal Management. Journal of Gynecology and Neonatal Biology, v. 1, n.1 p. 1-5, 2015.

6. PAPIC, Jonathan C. et al. Management of neonatal ovarian cysts and its effect on ovarian preservation. **Journal of pediatric surgery**, v. 49, n. 6, p. 990-994, 2014.

7. ZAMPIERI, Nicola et al. Foetal and neonatal ovarian cysts: a 5-year experience. **Archives of gynecology and obstetrics**, v. 277, n. 4, p. 303-306, 2008.