

## Mature ovarian teratoma in a newborn: A case report

Imane ZIZI \*, Ilham ELOUARDIGHI, Najat AMALIK, Lamiae ELIAZIJ, Houria KENOUNI and Amina BARKAT

*Department of neonatology, Children's hospital of Rabat, Morocco. Faculty of medicine and pharmacy, University Mohammed V, Rabat.*

World Journal of Biology Pharmacy and Health Sciences, 2023, 14(01), 162–164

Publication history: Received on 08 February 2023; revised on 13 April 2023; accepted on 15 April 2023

Article DOI: <https://doi.org/10.30574/wjbphs.2023.14.1.0173>

### Abstract

Mature cystic ovarian teratomas, also called dermoid cysts, are one of the most frequent ovarian tumors and are suggested when a fat-containing cystic tumor is identified on imaging. Knowledge of the imaging features of these tumors allows for a confident diagnosis to be made in most cases. Treatment is usually based on surgical resection, which is preferably carried out by laparoscopic way.

**Keywords:** Ovary; Tumor; Cyst; Child

### 1. Introduction

Ovarian teratomas are the most frequent germ cell tumors and are among the most common ovarian tumors encountered in practice. These tumors are composed of tissues of ectodermal (skin, nervous tissue), mesodermal (muscle, adipose tissue) or endodermal (digestive tract, bronchus) origin. They are differentiated by the nature and maturity of the tissues grouped within the tumor. Mature cystic teratoma, commonly called dermoid cyst, is by far the most frequent ovarian teratoma, representing 50% of ovarian tumors in children. The diagnosis is usually evoked by ultrasound and confirmed by CT or MRI when an ovarian mass containing fat is present.

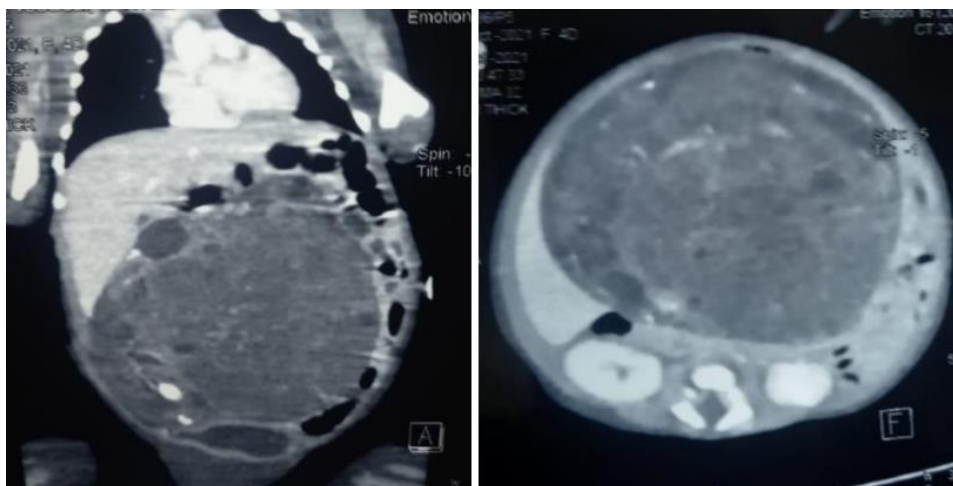
We report the case of an ovarian teratoma discovered in a newborn female at 8 days of life.

### 2. Case presentation

Female newborn at term on day 8 of life, delivery by high route on hydramnios, apgar 10/10, birth weight 2600g, 35-year-old mother with history of early spontaneous abortion, gestational diabetes on diet admitted for abdominal mass and respiratory distress at 2/10. the examination on admission found a pink hypotonic newborn with archaic reflexes present and respiratory distress at 2/10 hemodynamically stable distended abdomen sensitive palpable mass of 6 cm large diameter umbilical perimeter at 32cm the course of action was to put the girl under an O2 scope GDS was correct lung x-ray normal abdominal ultrasound objectified a voluminous bilateral median and paramedian abdominal mass suggesting first a neuroblastoma biological workup showed a CRP at 77, pro calcitonin at 13 and lumbar puncture negative, patient was treated by ceftriaxone and gentamicin. Thoraco-abdominal CT-scan showed a large, heterogeneous, right-sided abdominopelvic mass with a triple component of tissue, fat, calcifications and bone formations, measuring 89x65x88 mm, suggesting an ovarian teratoma. (Figure)

A laparotomy was performed showing a cystic formation on the right ovary with fatty content containing calcifications, complicated by a torsion of the right ovary. The contralateral ovary was normal. The histological study concluded to a mature dermoid cyst of the ovary.

\* Corresponding author: I.ZIZI



**Figure 1** CT-scan (left frontal and right axial view) showing a large abdominal mass over the right ovary suggesting an ovarian teratoma

---

### 3. Discussion

Mature cystic teratomas or dermoid cysts represent 20% of adult ovarian tumors and 50% of pediatric ovarian tumors. Bilaterality is common (8-15%) [1]. The discovery of these cystic masses is usually fortuitous during a routine abdominopelvic ultrasound examination [2] or following palpation of an abdominopelvic mass and or in front of pelvic pain as reported in this work. This lesion may be complicated by torsion in 16% of cases, malignant degeneration in 2% of cases, rupture in 1.2 to 3.8% of cases or infection in 1% of cases [3,4].

Imaging plays a considerable role in the positive diagnosis of these tumors. The appearance on ultrasound is variable: the most characteristic appearance is that of a cyst with a more or less echogenic parietal nodule, attenuating the ultrasound beam in a variable manner, called a Rokitansky nodule or protuberance, or a cyst containing multiple linear echoes corresponding to hairs floating in the cyst lumen. In addition to these forms, the appearance may be that of a common cyst (serous content), or even of a cyst with a liquid level (sloping serous liquid and supernatant sebum) [5,6].

In our case, the abdominal ultrasound was inconclusive and was in favor of a neuroblastoma, which is a frequent pathology to be evoked in front of an abdominal mass in a newborn. CT-scan is the best diagnostic tool since it allows visualization of the different fluid, fat, tissue, and calcium components. Magnetic resonance imaging can also make the diagnosis by showing a fat content in hypersignal on T1 sequences that disappears after saturation of the fat, a liquid level, floating debris, and parietal nodules [7].

The treatment is surgical, different techniques can be performed (cystectomy, lumpectomy, adnexectomy). [8] Anatomopathological examination is an important element in the prognosis and evaluation of ovarian tumors, as each histological form has its own evolution. In a mature teratoma consisting of well-differentiated tissue, teeth in 31% of cases, bone or calcifications may be found. Teeth and bone are grouped in the Rokitansky nodule [9].

---

### 4. Conclusion

The dermoid cyst is one of the most frequent organic tumors of the ovary. In its classic form, it does not generally pose any diagnostic problem: cystic ovarian tumor with fatty content containing teeth or calcifications.

---

### Compliance with ethical standards

#### *Acknowledgments*

We are thankful to Prof. Amina Brakat Aggregate professor of higher education and Chief of the Department of Neonatology at Children's hospital of Rabat, Morocco for making his facilities available for the study and his technical assistance.

*Disclosure of conflict of interest*

The authors declare no conflict of interest.

*Funding*

This research received no external funding.

*Statement of informed consent*

Written informed consent from the patient's parents was obtained.

---

**References**

- [1] Caruso PA, Marsh MR, Minkowitz S, Karten G. An intense clinicopathologic study of 305 teratomas of the ovary. *Cancer* 1971;27:343–8.
- [2] Todd F, Fibus. Intraperitoneal rupture of a benign cystic ovarian teratoma: findings at CT and MR imaging. *AJR Am J Roentgenol* 2000;1974:261–2.
- [3] Bazot M, Nassar-Slaba J, Thomassin-Naggara I, Cortez A, Darai E. *Pathologie organique de l'ovaire. EMC Radiodiagnostic - Urologie-Gyne'cologie*, Paris: Elsevier SAS; 2006 [34-600-B-10].
- [4] Rha SE, Byun JV, Jung SE, et al. CT and MR imaging features of adnexal torsion. *Radiographics* 2002;22:283–94.
- [5] Smorgick N, Maymon R. Assessment of adnexal masses using ultrasound: a practical review. *Int J Womens Health*. 2014;6:857–863. doi: 10.2147/IJWH.S47075.
- [6] A. Bounsir \*, H. jalal, B. Boutakioute, A. Hassi, A. Mrani Zentar, S. Alj, M. Ouali Idrissi, N. Cherif Idrissi, E.L. Guanouni .Presentation of rare ovarian cystic teratoma ; Service de radiologie, CHU Mohammed VI, Marrakech, Maroc Elsevier Masson SAS ;2015.
- [7] B Damarey (1), MO Farine (2), D Vinatier (3), P Collinet (3), JP Lucot (3), O Kerdraon (2) et E Poncelet (1) Mature and immature ovarian teratomas: US, CT and MR imaging features. *J Radiol* 2010;91:27-36
- [8] R. Khemakhema,\*, Y. Ben Ahmeda, W. Ben Ftinaa, F. Nouraa, A. Charieg a, S. Ghorbel a, S. Jlidia, F. Chennoufia, S. Barsaoui b, W. Douirac, I. Bellaghac, B. Chaouachi. Ovarian cysts and tumors in Tunisian children. Diagnosis and therapeutic management. *Journal de pédiatrie et de puériculture* (2012) 25, 8—13
- [9] Donnadiou AC, Deffieux X, Le Ray C, Mordefroid M, Frydman R, Fernandez H. Unusual fast-growing ovarian cystic teratoma during pregnancy presenting with intracystic fat “floating balls” appearance. *Fertil Steril* 2006;1758–9.