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Retroperitoneal Teratoma in Pregnancy

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Abstract

Introduction: *Ovarian germ cells tumors derive from primordial germ cells, with mature teratoma being the most frequent type of germ cell tumor. They are congenital and usually asymptomatic, being mostly found in women of childbearing age. They are categorized as extragonadal if there is no primary tumor in the ovaries, the retroperitoneal site being uncommon.*

Case Presentation: *It is reported the case of a 23-year-old patient, 23 weeks and 5 days pregnant, that sought care due to an obstetric complaint. Physical examination showed a mass bulging the posterior vaginal wall and posterior cul-de-sac. The patient was submitted to a radiological investigation showing a cystic expansile lesion, predominantly extraperitoneal, with approximate volume of 1680 ml, presenting liquid, hemorrhagic, fatty and calcified foci components. The patient progressed with obstetric intercurrence, with a surgical approach for cesarean section and subsequent revision of the abdominal cavity, with identification of a retroperitoneal cystic mass. Exeresis of the teratoma was difficult, especially since it was located in a very low portion of the pelvic cavity. Further histological analysis confirmed mature cystic teratoma. The patient progressed without postoperative complications, asymptomatic.*

Conclusion: *Retroperitoneal location of teratoma is rare, and diagnosis may require tests other than ultrasonography. Treatment is surgical and leads to technical difficulties due to the more difficult access, especially in our case, where the teratoma was located in a very low portion of the pelvic cavity.*

Keywords: *Teratoma, pregnancy, retroperitoneal tumor*

Abbreviations:

CA 125: cancerantigen 125

CA 15.3: cancerantigen 15.3

CA 19.9: cancerantigen 19.9

hCG: human chorionic gonadotropin

1. Introduction

Ovarian germ cell tumors are derived from primordial germ cells and can be benign or malignant. They comprise approximately 20 to 25% of ovarian neoplasms in general, but represent only about 5% of all malignant ovarian neoplasms.

They are mainly found in young women between 10 and 30 years of age, representing 70% of ovarian neoplasms in this age group [1]. Teratomas can be divided into: mature (cystic or solid, benign), immature (malignant), malignant due to a component of another somatic malignant neoplasm, or monodermal (highly specialized) [2].

Mature teratoma is the most common type of germ cell tumor. A teratoma with an exclusively abdominal or retroperitoneal site is uncommon, representing less than 5% of all extragonadal germ cell tumors [3].

The diagnosis is made through histopathological analysis, but the surgical approach can be strongly suggested previously by the evaluation of imaging exams, and for mature cystic

teratomas, pelvic ultrasonography presents reasonable confidence [4].

Ovarian mature cystic teratomas are the most common tumors in pregnant women during pregnancy, and it can be an independent risk factor for the premature rupture of membranes [5]. Pregnancy does not appear to increase the incidence of teratoma malignancy, but may be a risk factor for spontaneous rupture of the dermoid cyst [6].Treatment comprises surgical excision, depending on the clinical situation and site of presentation. Mature cystic teratomas do not recur if completely surgically resected [7].

2. Case Report

A 23-year-old pregnant woman, with a gestational age of 23 weeks and 5 days, with no previous comorbidities, arrived at the emergency room with a report of transvaginal fluid loss. She was clinically stable, with no reports of intercurrences during prenatal follow-up, but without previous imaging tests. The initial physical examination showed bulging of the posterior vaginal wall occupying the entire vaginal canal and posterior cul-de-sac. Premature rupture of ovular membranes was confirmed.

She was admitted for diagnostic investigation, with an ultrasound showing a predominantly cystic expansive lesion with a hypoechoic area without flow located posteriorly to the vagina and anteriorly to the rectum, measuring 10x12x14 cm, with an approximate volume of 1045 ml. Computed tomography of the pelvis showed a predominantly extraperitoneal complex cystic mass in the pelvic cavity on the left, with defined and lobulated contours, extending to the subcutaneous tissue in the intergluteal region between the gluteus maximus muscle belly and the coccygeal parts, displacing the rectum and vagina anterolaterally to the right and left bladder and uterus anteriorly and cranially. The mass measured approximately 21.5x13.4x11.7 cm and had an approximate volume of 1680 ml, with liquid, hemorrhagic, fatty components and calcified foci, with a suspicious appearance for germ cell neoplasia as a mature teratoma. Tumor marker values were: β-hCG 3,039.27 mIU/ml, CA 125 63.76 U/ml, CA 19.9 32.51 U/ml, CA 15.3 19.87 U/ml.

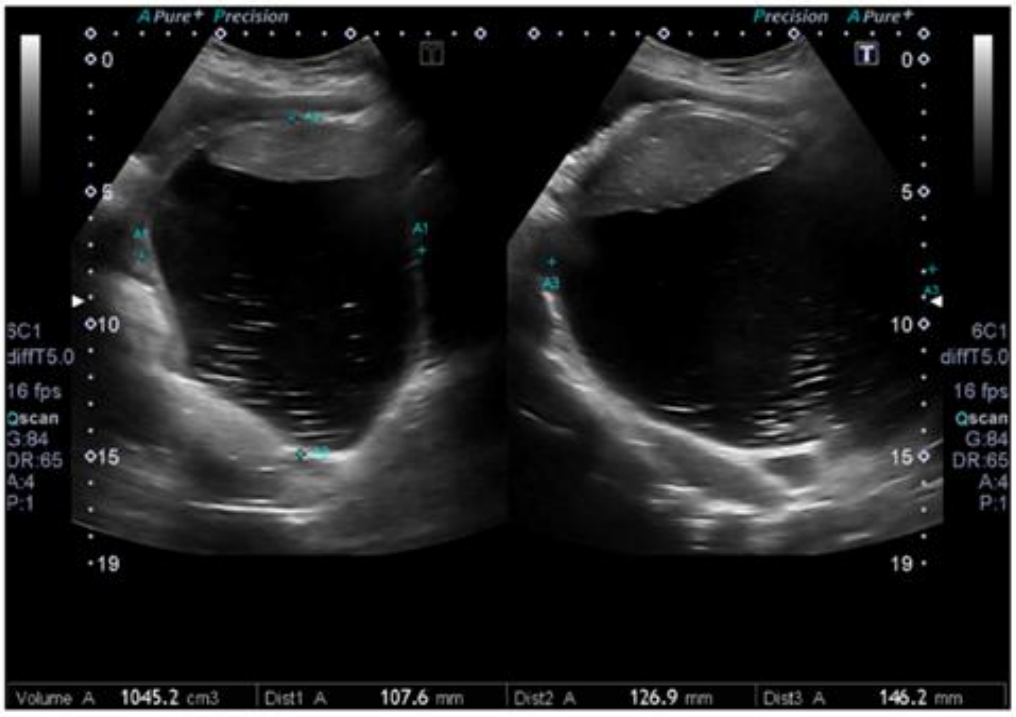

Figure 1. *Ultrasonography of the abdomen showing a predominantly cystic lesion with a hypoechoic area measuring 10x12x14 cm, with an approximate volume of 1045 ml.*

Two days after hospitalization, the patient developed massive transvaginal bleeding and underwent surgery. At first, a cesarean section was performed, with hysterotomy followed by the exit of a large amount of intrauterine clots and placenta with detachment of about 50%, with extraction of a stillborn fetus. Secondly, revision of the abdominal cavity was performed, without evidence of nodulations and abdominal implants, normal right and left ovaries. A retroperitoneal cystic mass measuring 15 cm in diameter was found, in close contact with the vagina in the lower third. The mass was removed with uterine preservation. Exeresis of

the teratoma was difficult, especially since it was located in a very low portion of the pelvic cavity. Histological analysis confirmed mature cystic teratoma with chronic xanthogranulomatous inflammatory reaction in the wall. The patient had a good postoperative evolution, with no intercurrences.

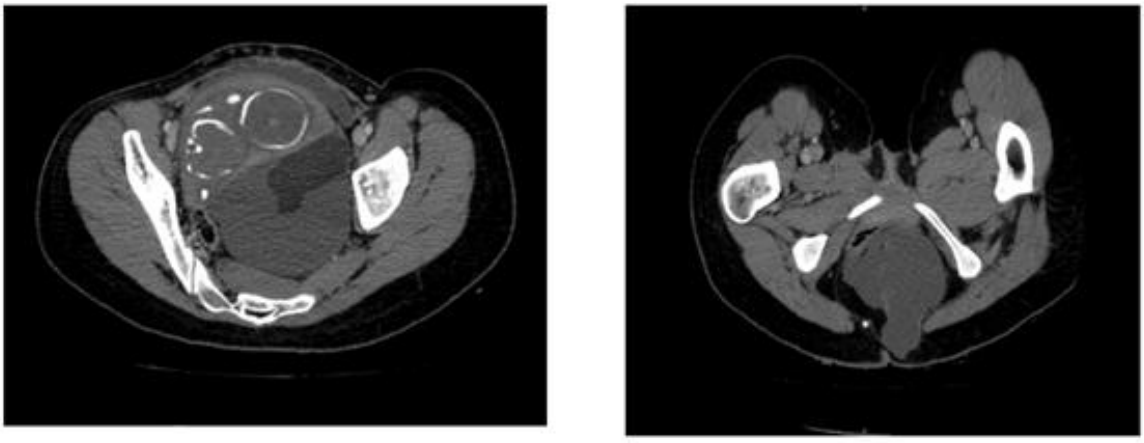

Figure 2. *Computed tomography of the pelvis. The first image shows a predominantly extraperitoneal complex cystic mass in the pelvic cavity on the left, with defined and lobulated contours, displacing the uterus anteriorly. The intrauterine fetus can be visualized. The second image shows extension of the mass to the subcutaneous tissue in the intergluteal region between the gluteus maximus muscle belly and the coccygeal parts.*

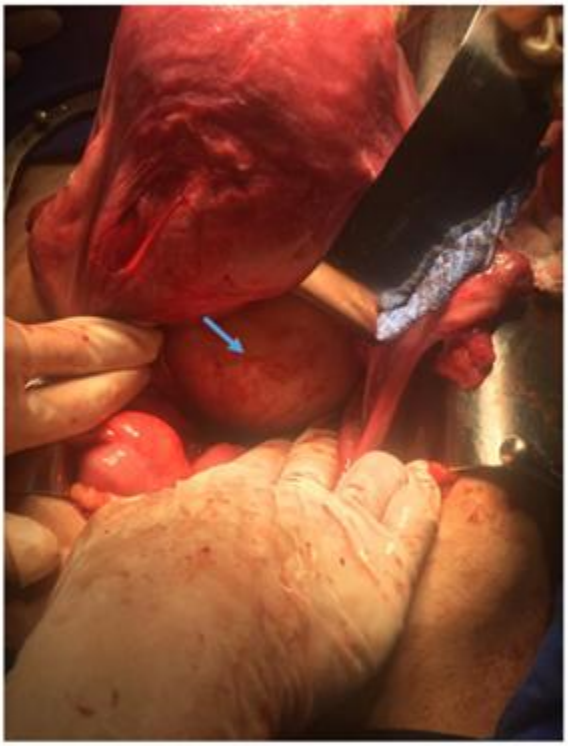

Figure 3. *Teratoma identified in the retroperitoneal region (arrow)*

3. DISCUSSION

Mature teratoma is the most common type of germ cell tumor. It is a benign tumor, covered by epidermis and skin appendages. They are congenital and generally asymptomatic, being routinely found in women during childbearing age, due to slow growth. Approximately 1% undergo malignant transformation, with the prediction of malignancy being linked to tumor size and tumor marker levels [8].

Germ cell tumors are classified as extragonadal if there is no evidence of a primary tumor in the ovaries. They usually appear in midline locations, varying according to age. An abdominal or retroperitoneal teratoma represents less than 5% of extragonadal germ cell tumors, with the sacrococcygeal region being the most common extragonad allocation [9]. Retroperitoneal teratomas represent only 1-11% of primary retroperitoneal tumors. The incidence is

bimodal, with peaks in the first six months of life and early adulthood. Due to their location, they are usually identified only after growth to large proportions [10]. The patient studied presented findings compatible with the previous literature in relation to epidemiology, with teratoma being an asymptomatic finding, diagnosed at childbearing age, in early adult life.

However, its retroperitoneal location is a rare finding, and diagnosis during pregnancy is also less common.

The pathogenesis of extragonadal germ cell tumors is not well defined, with some hypotheses: the first is that they are derived from primordial germ cells that fail to complete normal migration along the urogenital ridge to the gonadal ridges during embryonic development; the second is that the germ cells transformed in the gonads undergo reverse migration or are metastatic tumors that originated from primary ovarian tumors that involuted, this evidence being stronger for retroperitoneal cases [11].

Ultrasound is the initial diagnostic method of choice, with magnetic resonance imaging or abdominal tomography contributing to the differential diagnosis. The definitive diagnosis is performed by histology after surgical excision (Camargo et al., 2007). Ultrasonography was unable to define the diagnosis of teratoma in our patient, making it necessary to add pelvic tomography to aid in the diagnosis.

The increased use of obstetric ultrasound and cesarean sections have made the incidental detection of masses during pregnancy more common. Most cases are asymptomatic, but signs and symptoms may include abdominal swelling and pain, constipation and urinary symptoms, symptoms that are almost universally present during pregnancy. Some patients may have additional suspicious findings, such as a palpable adnexal mass, or posterior cul-de-sac mass or nodularity, which can be identified during a routine antenatal physical examination and subsequently evaluated by imaging [12].

In the reported case, the propaedeutic was based on the methods presented in the literature, initially with identification of the asymptomatic mass on physical examination, with subsequent performance of complementary imaging exams, in addition to the measurement of tumor serum markers that showed its elevation. Retroperitoneal location of teratoma is rare, and diagnosis may require tests other than ultrasonography. Treatment is surgical and leads to technical difficulties due to the more difficult access, especially in our case, where the teratoma was located in a very low portion of the pelvic cavity.

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CONSENT

Consent was obtained from the patient. The study was approved by the Research Ethics Committee (protocol number 67464023.1.00 00.5154).

CONFLICT OF INTERESTS

The authors declare no conflicts of interest.

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