

## Case Reports

# Serous cystadenoma with omental caking and ovarian torsion: an unusual case presentation

P. Brezina<sup>1</sup>, M.D., MBA; J. Woelk<sup>1</sup>, M.D.; D. Brezina<sup>2</sup>, BA, MS II; J. Devente<sup>1</sup>, M.D., Ph.D.

<sup>1</sup>Department of Obstetrics and Gynecology, <sup>2</sup>Brody School of Medicine at East Carolina University, Greenville, NC (USA)

## Summary

**Background:** This case evaluates a patient with abdominal pain who presented with a pelvic mass and imaging studies suspicious for malignancy. **Case:** A 21-year-old, gravida 0, para 0, was admitted after presenting to the outpatient with abdominal pain. Ultrasound revealed a large 17 x 20 cm pelvic mass with solid and cystic components. CT scan revealed worrisome findings including the finding of “omental caking” and nodal enlargement. CA 125 was elevated at 85 U/ml. Final pathology after surgical removal of the mass showed evidence of serous cystadenoma with ovarian torsion without signs of malignancy. The patient had an unremarkable postoperative course and was discharged in stable condition. **Conclusion:** Although uncommon, pelvic masses that are benign may mimic malignant masses with extradnexal inflammation.

**Key words:** Serous cystadenoma; Omental caking; Torsion”.

## Introduction

Evaluation of pelvic masses is a constant challenge. A broad differential is key to the development of an accurate clinical impression and design of an appropriate clinical plan. The case below provides an example of a large torsed ovary which presented in a manner suspicious for malignancy or other pathology.

## Case Report

A 21-year-old, gravida 0, para 0, Hispanic female presented at the outpatient clinic with the complaint of mild but increasing abdominal pain, a feeling of “fullness” that had been persistent for one to two weeks, and increasing difficulty moving her bowels. Her past medical history included childhood asthma and remote removal of a tibial lesion. She was taking over-the-counter ibuprofen and laxatives for her symptoms and denied use of tobacco, alcohol, or illicit drugs. Her menses were reported to be regular without metrorrhagia and her last cycle had ended one week before.

Physical exam revealed a slightly distended abdomen with pain on deep palpation, greater in the lower quadrants bilaterally, but no guarding or rebound. Bimanual exam was difficult due to lack of abdominal relaxation. Rectal exam was negative for occult blood. Bowel sounds were normal. Other aspects of the physical exam were unremarkable. Vital signs were normal. CA 125 was elevated at 85 U/ml. AFP and LDH levels were normal at 1 ng/ml and 184, respectively. The patient was anemic with a hematocrit of 27.8 with other laboratory values unremarkable.

Ultrasound (US) revealed the presence of large pelvic masses containing solid and cystic components noting an area of several masses abutting each other measuring 17 x 19 x 6 cm (Figure 1). A separate cystic mass measuring 7 x 7 x 6 cm was

identified on the left ovary, which demonstrated no abnormal vascular flow. The right ovary could not be identified in the scan. Computed tomography (CT) revealed prominent intraperitoneal lymph nodes and minimal omental caking “suggesting intraperitoneal metastatic disease” (Figure 2).

At surgery, an approximately 20 x 10 cm apparently torsed right ovary and cyst were appreciated and right salpingo-oophorectomy was performed (Figure 3). Laparoscopy was not undertaken as the mass felt, under anesthesia, to be incorporated into the anterior abdominal wall. “Untwisting” the ovary was not considered as the visible ovarian tissue was dusky and appeared necrotic. Frozen pathologic analysis confirmed serous cystadenoma. A 7 cm left ovarian mass was also noted and cystectomy with ovarian preservation was performed.

Final pathology confirmed serous cystadenoma of both ovaries with evidence of ovarian torsion on the right. No malignancy was seen. Omental biopsy showed evidence of fibrosis only and peritoneal washings were negative for malignancy. The patient was discharged on post operative day 2 without complications.

## Discussion

A medline search with Ovid and Pubmed from 1950 to March, 2008 using the keywords “serous cystadenoma” and “torsion” did not produce any literature documenting extra-adnexal inflammation with such radiological markers as omental caking or nodal adenopathy associated with ovarian serous cystadenoma. While rare, large ovarian serous cystadenomas with massive ovarian edema and with cystic and solid components have been previously reported [1].

Omental caking occurs when the native omentum is invaded by surrounding tumor [2]. These thick and solid omental masses indicate advanced disease is present [2]. Omental caking is seen in many tumors including the ovary, colon, uterus, breast, testes, muscle and pancreas [2].

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Fig. 1

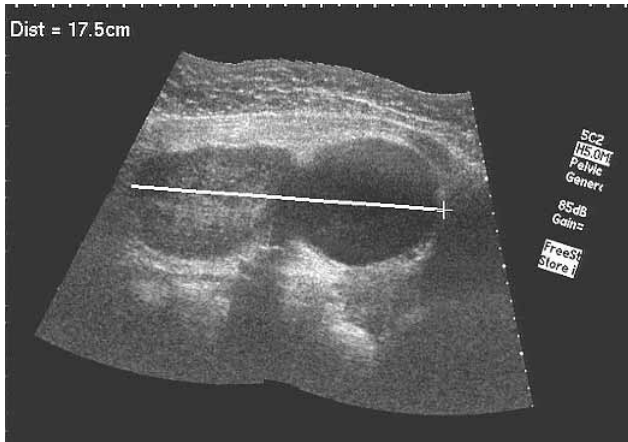


Fig. 3

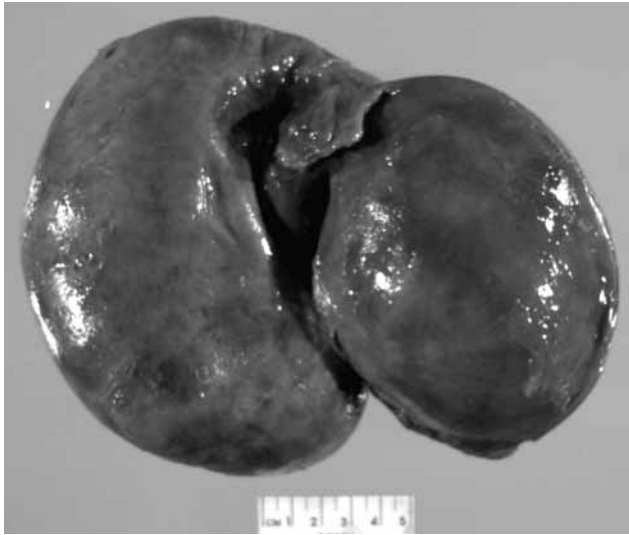


Fig. 2



Figure 1. — Ultrasound of mass.

Figure 2. — CT scan (arrow = area of omental caking)

Figure 3. — Gross pathology of right mass and ovary.

Serous cystadenomas are relatively common benign tumors [3]. Bennington *et al.* evaluated 225 serous cystadenomas and found that 141 of these tumors occurred in patients between the ages of 20 and 44. The same study showed that approximately 14% of these tumors were bilateral at the time of surgery [3].

Adnexal torsion is most commonly caused by an ovarian mass between 8 and 12 cm in size, however a torsed ovary can occur with an ovary of any size [4]. Adnexal torsion is most commonly associated with a benign process and typically occurs in individuals under 50 years of age [5]. The condition classically presents with acute and severe unilateral abdominal and back pain [4].

Progressive torsion is associated with venous and lymphatic obstruction and occurs prior to arterial compromise, causing cyanosis and edema within adnexal tissue often with fever and leukocytosis [4]. While conservative management is appropriate in many situations, when severe vascular compromise is evident, salpingo-oophorectomy is appropriate [4]. Laparoscopy has been shown to be a safe in removing large gynecologic tumors and has been associated with a reduced hospital stay [6].

The most frequent US finding associated with ovarian torsion is enlargement of the ovary with consistent phys-

ical exam findings including abdominal pain [7]. While the absence of ovarian Doppler flow is suggestive of torsion, the presence of ovarian Doppler flow can not rule out torsed ovary when an ovarian mass is present [7]. In this case, the right ovary could not be discerned due to the significant size of the associated mass. Of note, the 7 cm cystadenoma on the left would have placed that ovary at elevated risk for torsion if the cystectomy had not been performed.

The initial presentation of pelvic masses can often differ from the final pathology. This final diagnosis of bilateral serous cystadenoma with unilateral torsion of the right ovary differed significantly from imaging interpretations suggesting a more ominous process prior to surgery. The importance of maintaining a wide differential is vital to providing the highest level of care.

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Address reprint requests to:  
P. BREZINA, M.D., MBA  
Department of Obstetrics and Gynecology  
Brody School of Medicine at East Carolina  
University School of Medicine  
600 Moye Blvd  
Greenville, NC 27858 (USA)  
e-mail: brezinap@ecu.edu