

Ascitic Endometrioma Associated with CA125 and CA19-9 Elevation: A Case Report

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Abstract

Endometriosis with ascites is a rare clinical presentation. We describe a case of a 39-year-old nulliparous woman who presented with hypogastric pain. Laboratory analysis showed an elevation of CA-125 and CA19-9 serum concentrations. Pelvic ultrasound revealed an ovarian mass and free peritoneal fluid confirmed by computed tomography. The patient underwent exploratory laparotomy which revealed a large amount of chocolate-like liquid material in the peritoneal cavity. In the right ovary resected an encapsulated mass. Histologic examination confirmed endometrioma diagnosis. Endometriosis should be considered in the differential diagnosis in women of childbearing age presenting with ascites.

Keywords: Endometrioma; Ascites; CA125; CA19-9

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Introduction

Endometriosis is the abnormal location of the endometrial and stromal glands. It occurs in 6-10% of women of reproductive age [1,2]. This number increases to approximately 40% in infertile women and near 75% with chronic pelvic pain [3]. The pathophysiology of endometriosis is controversial. One theory postulates that it can be caused by retrograde menstruation of hormonal sensitive endometrial cells and tissues, implanting in the peritoneum, and causing inflammatory responses [4]. Classic symptoms associated with endometriosis are dysmenorrhea and pelvic pain, nonetheless, the painless presentation with infertility problems or an incidental ovarian mass in image studies is not infrequent [5]. Seldom endometriosis presents with hemorrhagic ascites, and since it was first described in 1954 by Dr. Brews, less than 100 cases have been described [6]. We present a case of a 39-year-old woman with an endometrioma associated with hemorrhagic ascites.

Case Report

A 39-year-old woman with a history of type II diabetes mellitus and systemic arterial hypertension presented hypogastric pain, early satiety, and increased abdominal circumference in the prior nine months. The patient reported a regular menstrual cycle coursing her fourth day of menstruation. On physical examination, the patient presented decreased bowel sounds and a palpable mass in the hypogastrium.

The laboratory showed normal kidney, liver, and urine tests.

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Elevated white blood cells count up to 19,510/mm³ with 64.6% polymorphonuclear neutrophils. The CA125 and CA19-9 serum concentrations were 473.6 U/ml (normal, <35 U/ml) and 172.2 U/ml (normal, 34 U/ml), respectively.

Pelvic ultrasound showed plenty of peritoneal fluid (**Figure 1**). The uterus was normal in shape. We observed a right heterogeneous ovarian mass predominantly hypoechoic, without flow on color and power Doppler interrogation, measuring 10 x 9.7 x 8.5 cm and 428 cm³ of volume (**Figures 2 and 3**). We performed a CT abdomen with contrast showing hyperattenuating peritoneal fluid that suggested hemorrhagic ascites (**Figure 4**).

The patient underwent exploratory laparotomy finding 800 mL of chocolate-like liquid material in the peritoneal cavity. In the right ovary, they resected an encapsulated mass measuring 15 x 10 cm. Pathology confirmed the diagnosis of endometrioma (**Figure 5**).

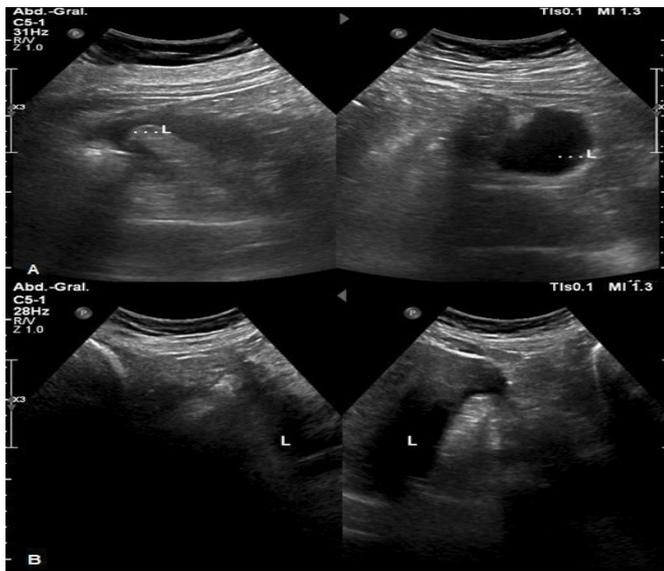


Figure 1 B-mode abdominal ultrasound. View of paracolic gutters (A) and iliac fossas (B) demonstrating free peritoneal fluid (L).

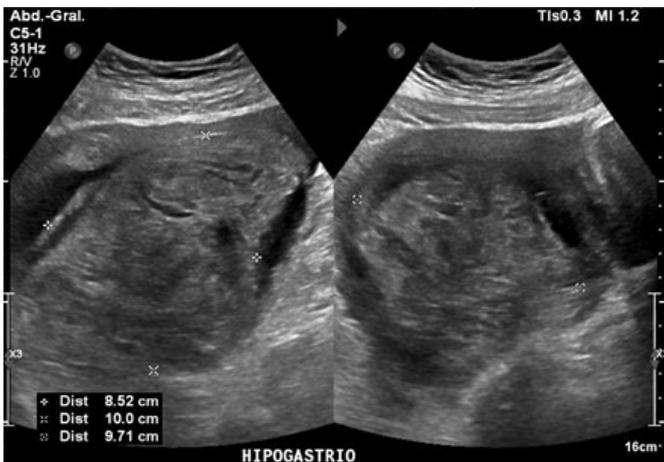


Figure 2 B-mode pelvic ultrasound. Shows a heterogeneous, predominant echogenic, well-defined mass in the hypogastrium.

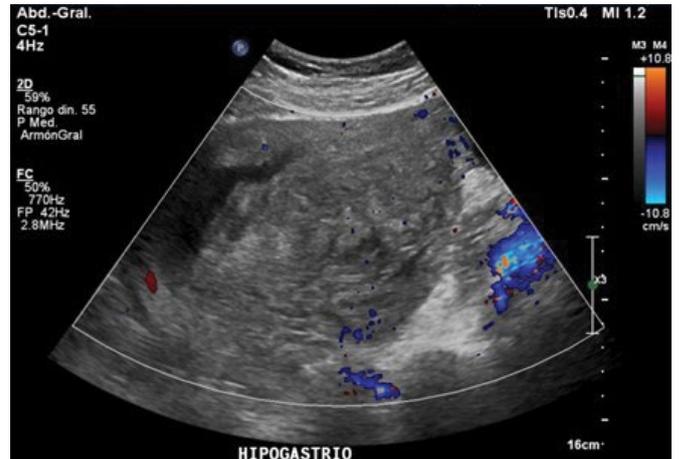


Figure 3 Color Doppler pelvic ultrasound: Shows no internal flow within the mass.

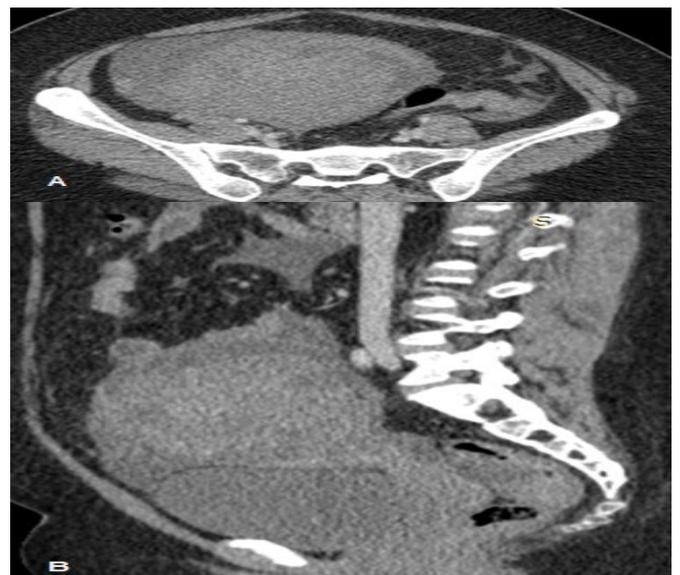


Figure 4 Contrast-enhanced abdominal computed tomography scan. Axial (A) and sagittal (B) venous phase CT-scan at pelvic level showing an ovoid, partially-defined margin, heterogeneous mass associated with ascites.

Discussion

Simultaneous occurrence of ascites and endometriosis is rare, with less than 100 cases reported in the literature. Endometriosis is a challenging condition in a reproductive age woman. The disease spectrum varies from asymptomatic to complete weakness, requiring aggressive medical and surgical intervention. As mentioned above, the most common presentation of symptoms is dysmenorrhea and pelvic pain. Our endometriosis associated with hemorrhagic ascites case represents a seldom complication of endometriosis. The patients with hemorrhagic ascites typically debut with abdominal circumference increment pain in weeks to months, anorexia/weight loss, and dysmenorrhea [7,8]. This

presentation frequently results in an approach to malignancy due to ovarian cancer as the first suspicion diagnosis in more than half of patients presenting with hemorrhagic ascites [9].

The reason massive ascites can occur in association with endometriosis is unknown. Bernstein suggested that blood and endometrial cells are spread to the peritoneal cavity, irritating and stimulating the peritoneum, therefore, resulting in ascites [10]. Other authors have reported that endometrial cysts rupture with subsequent peritoneal irritation and reactive exudated production can explain [11].

Endometriosis associated with peritoneal fluid is commonly confused with ascites due to pelvic neoplasm. Weight loss,

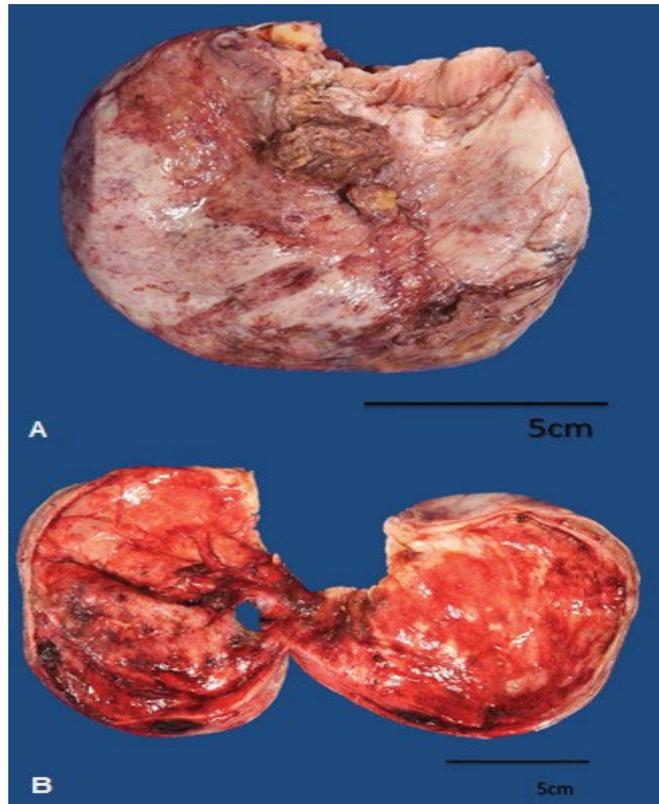


Figure 5 Macroscopic photograph of endometriosis cyst. Macroscopic specimen of endometriosis cyst (A) with light brown-pink capsule and congestive vessels. At the section (B) chocolate-brown and a soft internal surface.

poor appetite, and a pelvic mass contribute to this dilemma. Moreover, the elevation of serum CA125 can be a confounding finding compatible with malignancy [12-15].

Conclusion

The mechanisms related to the elevation of serum CA125 and CA19-9 are not well established. Kurata suggested that the

spread of the molecules from a ruptured endometrioma to the peritoneal cavity and then into the circulation may explain the rapid increment of CA125 and CA19-9 concentrations. Another hypothesis by Takemori suggests that chronic inflammation in the peritoneum causes damage in the cyst epithelium resulting in CA19-9 leakage to circulation resulting in the abnormal serum levels of tumoral markers.

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