



# Large Volume Hemorrhagic Ascites Due to Endometriosis: A Diagnostic Anomaly



Monica Justo, Yazan Abboud MD, Alexandra Gangi MD

David Geffen School of Medicine at UCLA; Dept. of Gastroenterology, Cedars Sinai Medical Center; Dept. of Surgical Oncology, Cedars Sinai Medical Center

## Learning Objectives

- Endometriosis is a common disease with a prevalence of approximately 6%-10% in women of reproductive age. It can have different presentations depending on its location; recurrent hemorrhagic ascites being a rare one.
- Since hemorrhagic ascites usually develops due to peritoneal tuberculosis, carcinomatosis or pancreatic ascites, it can be misdiagnosed when the cause is endometriosis.
- Delayed diagnosis of endometriosis impedes management and can lead to long-term complicated sequelae for women, including infertility and chronic pain.

## Case Description

- A previously healthy 25-year-old nulliparous African American woman with well-controlled asthma presented to the Emergency Department (ED) with recurrent ascites of unknown etiology, orthopnea, and poor oral intolerance.
- One year ago, she presented to another hospital for increasing abdominal girth. At that time, approximately 5L was drained via paracentesis. The patient was asymptomatic until 6 months ago when she noticed gradual resurgence of “bloating.” Her menstrual cycles were regular, but she endorsed history of menorrhagia and consistent nausea and vomiting associated with each menstrual period.
- Complete blood count showed anemia with a hemoglobin of 8.3g/dl. Otherwise, basic metabolic panel and hepatic function panel were all within normal limits.
- CT scan of the abdomen and pelvis with IV contrast showed large volume ascites, but otherwise were unremarkable without evidence of pleural effusion. She subsequently underwent paracentesis in which 12.8 L of dark, brown fluid was drained. Ascitic fluid analysis revealed elevated RBCs (168,750) and adenosine deaminase (62.1 U/L).
- Investigations via pelvic exam, pelvic ultrasound, CT scan, and cytology of the peritoneal fluid were inconclusive. Diagnostic laparoscopy confirmed the diagnosis of endometriosis. The patient was referred to gynecology for outpatient management



Figure 1: Chocolate-covered cysts covering peritoneal surface of uterus



Figure 2: Diffuse chocolate-covered cysts lining lateral peritoneal surfaces



Figure 3: Hemorrhagic peritoneal fluid drained via paracentesis

## Discussion

- Ascites is the accumulation of fluid in the peritoneal cavity which usually results from liver disease<sup>3</sup>. Endometriosis-related ascites is rare; the first reported case being in 1954<sup>4</sup>. Since then approximately only 63 cases were reported<sup>5</sup>, 63% of them were African American and 82% were nulliparous, similar to the current case, but by contrast, 38.1% presented with pleural effusion.
- Endometriosis is a mysterious disease with a poorly understood pathophysiology. Some theories to explain its etiology include peritoneal irritation from ruptured endometrial implants, subdiaphragmatic lymphatic obstruction, and retrograde menstruation<sup>6-8</sup>. Some studies assumed a common pathophysiology between endometriosis-related ascites and pleural effusion due to the similarity in clinical symptoms in women with endometriosis-related ascites and women with endometriosis-related ascites and pleural effusion<sup>4,5,9</sup>.
- Endometriosis most common presentations are adnexal masses, infertility, and dysmenorrhea<sup>10</sup>. It rarely presents as recurrent hemorrhagic ascites<sup>11</sup>, resulting in a challenging diagnosis.
- Hemorrhagic ascites differential diagnosis include malignancy, tuberculosis, ectopic pregnancy, rupture of ovarian hemorrhagic cysts, Meigs syndrome, spontaneous splenic rupture and acute pancreatitis. It is usually misdiagnosed as ovarian malignancy, especially when there is an elevation in tumor marker (CA-125) that raise this suspicion in addition to symptoms like poor appetite and weight loss<sup>12</sup>.
- The ascitic fluid was also remarkable for elevated adenosine deaminase, which has been found in similar case reports report endometriosis-related ascites and endometriosis-related pleural effusions.
- The diagnosis of endometriosis-related ascites is established via operative procedures after excluding the more common clinical entities such as liver disease, cardiac failure, nephrotic syndrome, pancreatic disease and tuberculosis<sup>13,14</sup>. This diagnosis may be missed even after laparoscopy if it was limited only to visualization of the viscera without taking any biopsies for histological examination.
- A multi-center study illustrated an average of 6.7 years diagnostic delay between onset of symptoms and surgical diagnosis of endometriosis<sup>15</sup>. This delay in diagnosing endometriosis is not only affecting healthcare costs but also have severe, long-lasting impacts on comorbidities and overall decrease in quality of life<sup>16</sup>.

## Implications

- In conclusion, clinicians should keep in mind the possibility of endometriosis in a young woman presenting with recurrent hemorrhagic ascites without any previous chronic conditions. This can save time and avoid overwhelming the patient and the healthcare system as well with unnecessary tests and procedures. Establishing early diagnosis of endometriosis is essential to control the disease before long-term consequences such as infertility and chronic pain occur. Endometriosis also increases risk of developing severe, debilitating comorbidities including irritable bowel syndrome, pelvic inflammatory disorder, and endometrial and ovarian cancers<sup>19</sup>. Highlighting this case may help clinicians in considering endometriosis more often in their differentials. Earlier diagnosis and therefore management of endometriosis may prevent these long-term consequences of chronic pain, infertility, and malignancy.