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Endometriosis Presenting as Massive Hemorrhagic Ascites

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Abstract

Massive hemorrhagic ascites secondary to endometriosis is a rare phenomenon that most practising gynaecologists will never encounter. We present the case of a 31 year-old woman who presented with progressive abdominal distension over a 5 month period. She had a past history of surgically diagnosed endometriosis. She had in fact been pain-free and otherwise asymptomatic for 5 years. She was found to have massive hemorrhagic ascites considered secondary to endometriosis. At laparoscopy 4.8 litres of fluid was drained and she had stage IV endometriosis with a frozen pelvis. Due to a lack of pain symptoms the patient declined surgical resection of the endometriosis. She was treated with a goserelin acetate implant. On ultrasound examination the ascites recurred, however remained a small stable volume over repeated scans. This case report is followed by a brief review of what is currently known of the epidemiology, clinical features, pathophysiology and management of this unusual condition.

Keywords

Endometriosis, hemorrhagic ascites

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I. Introduction

Endometriosis is a relatively common condition, affecting approximately 10% of women. Of those women diagnosed with endometriosis, many present with pelvic pain or fertility concerns, however many are asymptomatic. Hemorrhagic ascites as a clinical feature is rarely encountered. We herein present a case of recurrent endometriosis-related hemorrhagic ascites and provide a brief review of the literature.

II. Case Report

A 31 year-old nulliparous woman of African origin presented to her general practitioner with progressive abdominal distension, mild periumbilical discomfort and anorexia over a 5 month period. She did not have any other constitutional symptoms, pain or localising features. An ultrasound showed moderate ascites and a small supraumbilical hernia 2.4x4.0x0.5cm containing peritoneal fluid. A follow up CT chest/abdomen/pelvis demonstrated severe ascites with no masses or apparent cause (figure 1a and 1b). The patient was referred to her local emergency department and was admitted under the gastroenterology team.

On review of the patient's medical history, she had experienced dysmenorrhea in the past and had undergone two previous laparoscopies where she had been diagnosed with stage IV endometriosis. Her most recent laparoscopy was 5 years earlier and at that time a frozen pelvis was noted with significant adhesions between bowel and pelvic organs. Adhesiolysis and resection of endometriotic deposits was performed. Bowel endometriosis was left untreated due to lack of bowel symptoms. Since having a levonorgestrel-releasing intrauterine device inserted in 2014 she had been experiencing regular periods without significant dysmenorrhea and did not desire further surgery. She did experience cyclical bleeding from her umbilicus, which was thought to contain an endometriotic nodule. She was on the waiting list to see a surgeon for resection of this nodule.

On presentation to the emergency department, the patient was well looking with normal vital signs. Her cardiovascular and respiratory examinations were unremarkable. Her abdomen was distended with mild generalised periumbilical tenderness. Her investigations revealed microcytic hypochromic anemia with a hemoglobin of 84 g/L, and normal creatinine, urea, electrolytes, liver function tests, and lactate dehydrogenase and a negative beta hCG. An ultrasound guided ascitic tap revealed large volumes of haemoserous fluid. On laboratory analysis, the ascitic fluid was an exudate with benign cytology. There was no growth of organisms on culture, including mycobacterium tuberculosis.

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The patient was referred to the Royal Women's Hospital in Melbourne due to the suspicion that this presentation may be related to her endometriosis. She was noted to be on day 4 of her menstrual cycle. She was experiencing only mild abdominal discomfort. She looked well and her vital signs were normal. Her hemoglobin was 75 g/L (6hrs after the previous blood test) and she was given 2 units of packed red blood cells and commenced on tranexamic acid. A transabdominal ultrasound revealed a normal uterus and right ovary on limited views with massive presumed hemoperitoneum (figure 2).

A laparoscopy was undertaken and 4.8 L of brown haemoserous fluid was drained. There was complete obliteration of the pelvis with bowel adhered to the fundus of the uterus. The right fallopian tube was visualised and was immobile and distended, however neither the uterus, contralateral tube nor ovaries could be visualised. There was diaphragmatic endometriosis and endometriotic deposits in the old port sites (suprapubic and umbilical). There was no acute bleeding site seen. The patient recovered well and was discharged day 3 post-surgery with a goserelin acetate implant for ovarian suppression.

The patient was reviewed in the gynecology clinic every 4 weeks after surgery. She never experienced more than mild abdominal discomfort. Repeated ultrasounds revealed a mild reaccumulation of the hemoperitoneum with confirmation of deep infiltrating endometriosis involving 14cm of the sigmoid colon, severe adhesions with an obliterated pouch of Douglas and immobile ovaries. The patient was offered further surgery, however, due to her minimal symptoms she declined. She was not planning a pregnancy at the time but hoped to have children in the future. She continued management with a goserelin acetate implant with regular reviews in the gynecology clinic.

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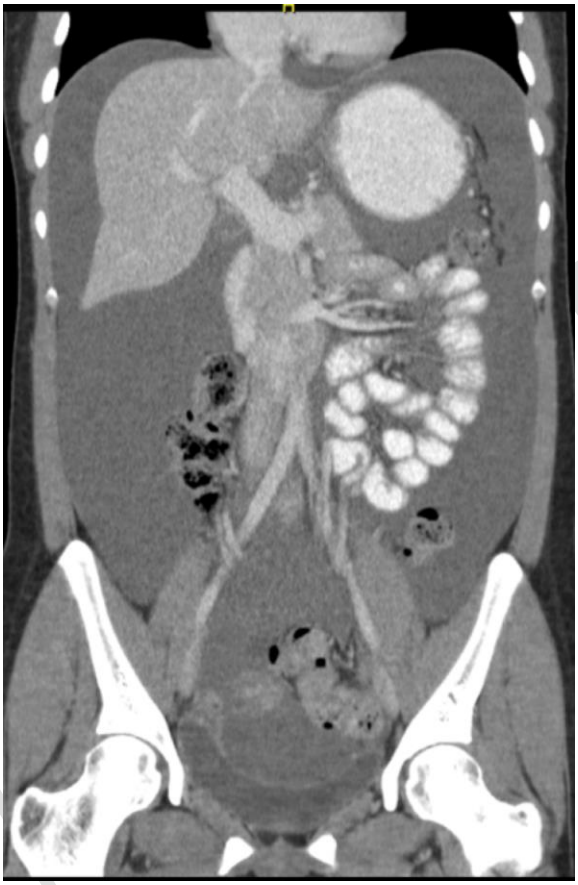

Figure 1a. Initial CT scan (coronal) demonstrating massive ascites

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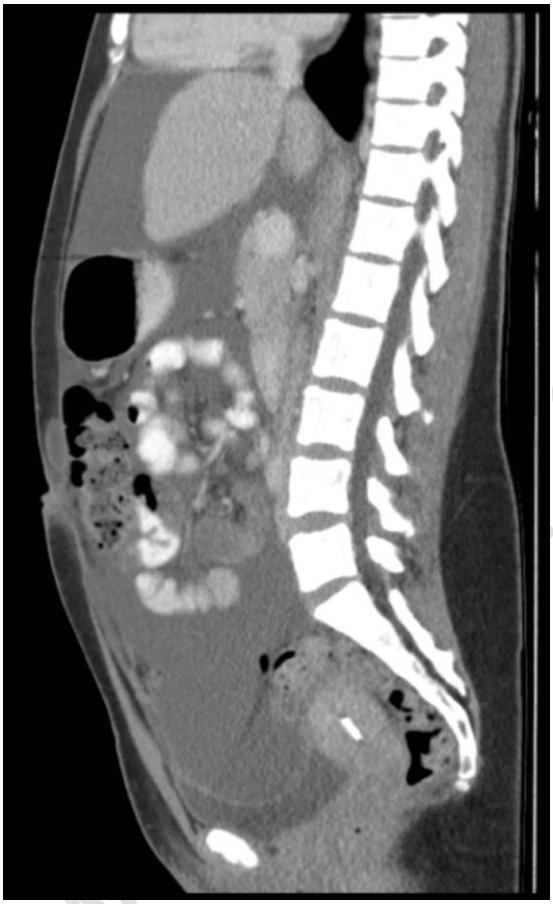

Figure 1b. Initial CT scan (sagittal), demonstrating rectum adhered to uterus and massive ascites

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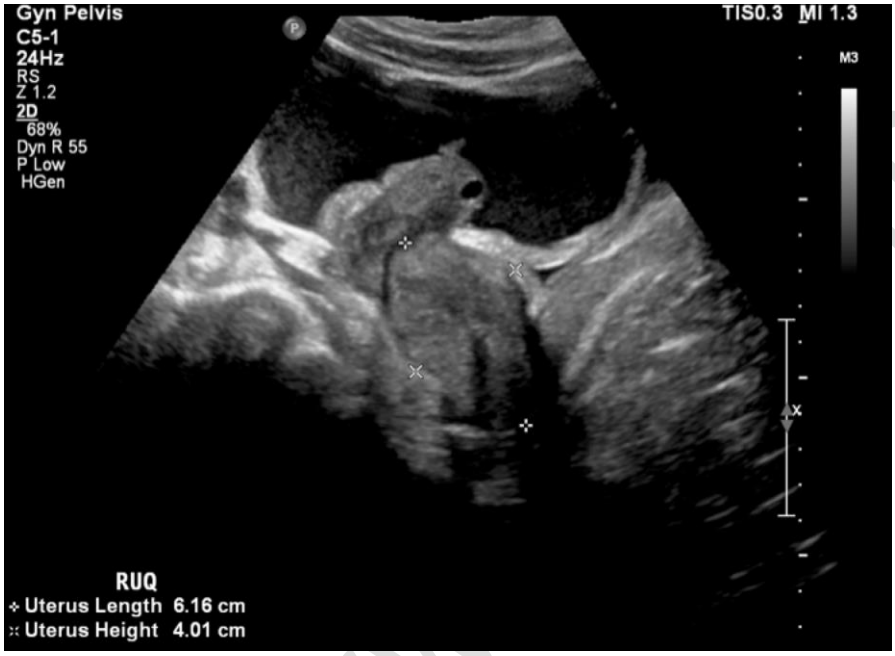

Figure 2. Ultrasound showing ovary adhered to uterus and a large amount of free fluid

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III. Discussion

Endometriosis is a disease with a variable presentation. It most often presents with pain or infertility, however can also be asymptomatic. Of those women with surgically confirmed endometriosis, it has been reported that approximately 69% present with pelvic pain, 26% present with infertility and 20% with an ovarian mass [1]. The prevalence of endometriosis in asymptomatic women is more difficult to quantify and has been reported as between 1 and 8 percent [1,2,3,4]. In some cases, there are significant complications including bladder and bowel dysfunction, intestinal endometriosis, bowel obstruction, rupture of an endometrioma and tubo-ovarian abscess [5]. There have been rare case reports of massive acute hemoperitoneum secondary to rupture of vessels by erosion from endometriosis [6,7].

Chronic hemorrhagic ascites as a clinical feature of endometriosis is rare and as such should prompt the clinician to rule out other causes of hemorrhagic ascites including malignancy (e.g hepatic, pancreatic, ovarian), carcinomatosis and peritoneal tuberculosis (8). When considering gynecological causes of ascites, the differential diagnosis should include ovarian tumours, pelvic tuberculosis and Meigs syndrome [9].

The first case of endometriosis-related ascites was described in 1954 [10]. A systematic review by Gungor et al. in 2011 found reports of 63 women affected by this condition. The condition was found to affect primarily non-Caucasian women, with approximately 63% of women being of African origin. The cases were aged between 19 and 51 years of age and 82% were nulliparous. The most common symptoms were non-specific including abdominal distension, anorexia, abdominal pain and menometrorrhagia. In the cases reviewed by Gungor et al., the patients usually had advanced disease involving fallopian tubes, ovaries, appendix, sigmoid colon and omentum, and had a high risk of recurrence of ascites. Considering the severity of the disease in these patients, it was interesting that Gungor et al. found the typical symptom of dysmenorrhea present in only 34% of cases; it was not a prominent complaint and was only revealed after careful questioning. In 38% of the cases, endometriosis-related pleural effusions were also present. Gungor et al. also note the difficulty with a cytologic diagnosis of endometriosis-related ascites because the ascitic fluid is typically an exudate with

hemosiderin-laden macrophages and no specific features. This further highlights the need for exclusion of other diagnoses.

There have been multiple theories postulated on the pathophysiology of endometriosis-related ascites, however it remains poorly understood. In 1961, Bernstein et al. proposed that free blood from endometrial deposits act as an irritant to peritoneal surfaces resulting in ascites [11]. Ussia et al. have hypothesised that ascites may be a consequence of excessive ovarian transudation, similar to Meig's syndrome [12]. There has been report of a case of massive hemorrhagic ascites in conjunction with hypovolemic shock and fresh bleeding from an endometriosis implantation site at laparoscopy. The analysis of the ascitic fluid taken from our patient was shown to be an exudate and there was no fresh bleeding seen at laparoscopy. The patient was on day 4 of her menstrual cycle and may have been having cyclical bleeding from pelvic and abdominal endometrial deposits that subsequently led to peritoneal irritation and progressive accumulation of ascites over months.

Management of symptoms centres around eliminating ovarian function and must be balanced with patient factors such as desire for fertility. In some cases, treatment for this condition may be essential due to life-threatening severe anemia and shock [13]. Surgical pelvic clearance including hysterectomy and bilateral oophorectomy can significantly reduce, and according to some studies, eliminate the risk of recurrence [10]. Ovarian suppression with a gonadotropin releasing hormone (GnRH) agonist can be used in the treatment of endometriosis and thus may also assist in this condition [10]. Dienogest has also been suggested for treatment of recurrent ascites associated with endometriosis when surgical therapy is undesirable [14]. Thus the treatment of patients with severe endometriosis, who seek fertility, particularly with rare and potentially life threatening conditions, remains a challenge for clinicians.

In summary, hemorrhagic ascites is a rare clinical feature of endometriosis and many gynecologists may never encounter this clinical entity. This condition can be life threatening and should prompt immediate treatment and close follow up. Our case is unique in its severity and in the fact that the patient was pain-free. A review of the literature has revealed an association with nulliparous women and women of African descent. There is usually advanced disease and a high recurrence risk. The diagnosis should be considered after careful exclusion of other

causes, and treatment must be based on individual factors. This case report brings to light a rare presentation of endometriosis and highlights the ongoing difficulties faced in the diagnosis and management of a variable and elusive disease.

AUTHOR DISCLOSURE STATEMENT

The authors declare that they have no conflicts of interest and nothing to disclose.

The Royal Women's Hospital Human Research Ethics Committee ruled that approval was not required for this article.

IV. References

[1] Sinaii N., Plumb K., Cotton L., Lambert A., et al. (2010) Differences in characteristics among 1,000 women with endometriosis based on extent of disease. Fertil Steril, 89(3), 538-545.
[2] Mowers E., Lim C., Skinner B., et al. (2016) Prevalence of endometriosis during abdominal or laparoscopic hysterectomy for chronic pelvic pain. Obstet Gynecol, 127, 1045-1053.
[3] Strathy J., Molgaard C., Coulam C., Melton L. (1982) Endometriosis and infertility: a laparoscopic study of endometriosis among fertile and infertile women. Fertil Steril, 38(6), 667.
[4] Mahmood T., Templeton A. (1991) Prevalence and genesis of endometriosis. Hum Reprod, 6(4), 544.
[5] Togami S., Kobayashi H., Haruyama M., Orita Y., Kamio M., Douchi T. (2015) A very rare case of endometriosis presenting with massive hemoperitoneum. J Minim Invasive Gynecol, 22(4), 691-693.
[6] Janicki T., David L., Skaf R. (2002) Massive and acute hemoperitoneum due to rupture of the uterine artery by erosion from an endometriotic lesion. Fertil Steril, 78(4), 879-881.
[7] Fiadjoe P., Thomas-Phillips A., Reddy K. (2008) Massive hemoperitoneum due to uterine artery erosion by endometriosis and a review of the literature. Gynecol Surg, 5, 133-135.

[8] Park B.J., Kim T.E., Kim Y.W. (2009) Massive peritoneal fluid and markedly elevated serum CA125 and CA19.9 levels associated with an ovarian endometrioma. J Obstet Gynaecol Res, 35(5), 935-939.

[9] Cheng M., Yen M., Chao K., Sheu B., Wang P. (2008) Differential diagnosis of gynecologic organ-related diseases in women presenting with ascites. Taiwan J Obstet Gynecol, 47(4), 384-390.

[10] Gungor T., Kanat-Pektas M., Ozat M., Karaca M. (2011) A systematic review: endometriosis presenting with ascites. Arch Gynecol Obstet, 283, 513-518.

[11] Bernstein J., Perlow V., Brenner J. (1961) Massive ascites due to endometriosis. Am J Dig Dis, 6, 1-7.

[12] Ussia A., Betsas G., Corona R., De Cicco C., Koninckx P. (2008) Pathophysiology of cyclic hemorrhagic ascites and endometriosis. J Minim Invasive Gynecol, 15(6), 677-681.

[13] Morgan T.L., Tomich E.B., Heiner J.D. (2013) Endometriosis presenting with hemorrhagic ascites, severe anaemia, and shock. Am J Emerg Med, 31(1), 272.

[14] Asano R., Nakazawa T., Hirahara F., Sakakibara H. (2014) Dienogest was effective in treating hemorrhagic ascites caused by endometriosis: a case report. J Minim Invasive Gynecol, 21(6), 1110-1112.

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