

Recurrent Haemorrhagic Ascites - A Rare Presentation of Endometriosis

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Abstract Background: Endometriosis is defined as the presence of endometrial glands and stroma outside the uterus. Recurrent hemorrhagic ascites as a clinical manifestation of endometriosis is rare. On the other hand endometriosis as a cause of ascites is not considered in current practice. We report the case of a 25 year old woman who presents recurrent hemorrhagic ascites with endometriosis. **Case summary:** A 25 year old para nil Bangladeshi woman suddenly developed huge ascites with abdominal pain. Ascitic fluid was reddish in color with plenty of RBC. The Initial diagnosis was considered as TB. But as symptom did not subside after administration of anti-TB drug further investigations was carried out including laparoscopy. The diagnosis was established by histology proven endometriosis, exclusion of other causes and treatment response. **Conclusion:** This case requires long-term follow-up with continuing medical management at least until the patient's family is complete when a surgical option as bilateral salpingo-oophorectomy with or without hysterectomy can be discussed.

Keywords: endometriosis, recurrent, hemorrhagic, ascites

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1. Introduction

The prevalence of endometriosis is mostly in reproductive age and the incidence is 6-10% in female. [1] Endometriosis is a benign estrogen dependent gynaecological disease where functioning endometrium is found in extra uterine sites of the body, usually in the ovaries, uterus, fallopian tubes, ovarian ligaments, pouch of Douglas, bowel, rectum, urinary tract, chest cavity, skin, surgical scars etc. [2,3] The usual manifestation includes dysmenorrhea, menstrual disturbance, infertility, pelvic pain, gastrointestinal symptoms, urogenital symptoms, migraine, fibromyalgia etc. [1]

Ultrasound or CT imaging may show uniformly low ecogenic cystic adenexal mass with fine reticulation. Pelvis is common location of endometrioma. The gold standard investigation is laparoscopy. Black, dark brown or bluish puckered lesions, nodules or hemorrhagic cyst with variable extent of adhesion and fibrosis is seen in the ovaries, serosal surface and peritoneum. [4] The diagnosis of endometriosis is confirmed by histopathology. [5] Treatment is ablation of ovarian function by either surgery or endocrine therapy. [4]

Ascites describes the condition of the pathologic fluid collection within the peritoneal cavity. Normally the

peritoneal fluid collection is around 20 ml during ovulation. Common causes of ascites are liver disease, congestive cardiac failure, or nephrotic syndrome. Certain gynecological diseases, such as ovarian tumors, pelvic or peritoneal tuberculosis, ovarian hyperstimulation syndrome, and Meigs syndrome can cause ascites as well. [6].

Endometriosis as a cause of ascites is rarely encountered. It needs high clinical suspicion. We presented a case of recurrent hemorrhagic ascites as a clinical presentation of endometriosis.

2. Case Report

A 25 year nullipara regular menstruating women has dysmenorrhea since menarche. Her menarche was at 13 years. Menstrual flow was average. The pain started the day prior menstruation starts, peak at mid cycle and subsided a few days after the flow stops. Her regular activities were compromised at that time. The patient stated that her mother had a similar experience of dysmenorrhea. Suddenly she developed fever, cough, weight loss and right sided chest pain for 3-4 days. On physical examination her vitals were within normal limit. On per abdominal exam there was no organomegaly. Pelvic examination showed uterus was tender, normal size

with restricted mobility and a fixed 1 cm tender bluish nodule in posterior fornix. Chest x-ray showed pleural effusion on the right side. CT scans of chest revealed sub pulmonary effusion in right side, sub segmental/band atelectasis in right lower zone and moderate ascites. In USG of whole abdomen there was no abnormality except ascites. Aspiration of pleural fluid was done. Cytological examination of pleural aspirates reported exudative fluid reddish in colour with plenty of lymphocytes (90%), no granuloma, malignant cell or AFB or bacteria was seen. Pleural fluid was ADA- 32 U/L. She was treated with Anti-TB chemotherapy for 9 months on an empirical basis considering the clinical scenario. But her condition did not improve.

Two months later she again presented with severe abdominal pain and distension. Investigations included complete hemogram, USG of whole abdomen, CT chest and abdomen, tumour marker, screening of autoimmune disease, doppler study of portal vein and hepatic vein, endoscopy of upper GIT, colonoscopy, liver function test, renal function test and cardiac evaluation. All lab reports were within normal limit. CA125 was mildly raised (70.30). Ascitic fluid aspiration was done and it was hemorrhagic with plenty RBC but no AFB or any organism was found. Ascitic fluid ADA was raised-48 U/L. Cytology was also negative for malignancy. In imaging studies, abdomino-pelvic organs were normal except ascites and in left ovary there was a small cyst (32 mmx26 mm), no septations or internal echoes which were commented as physiological cyst. USG guided FNAC from left ovarian cysts revealed many hemosiderin laden histocytes and few lymphocytes in a background of blood mixed proteinaceous material. She started Dienogest 2 mg for 3 months. Ascites subsided during treatment. She was amenorrheic by this time and had no pain or abdominal distension. Four months later her menstruation started and she again developed ascites with abdominal pain. She was hospitalized and aforementioned investigations were once more completed. 1.5 liter hemorrhagic ascites was drawn with USG guidance. Laboratory and cytology finding was same as before. CA125 was raised 228.5 U/ml. CT scan of whole abdomen showed both ovaries with complex cystic areas having septation, right ovary- 3.0 cm x2.9 cm, and left ovary-3.8 x 2.8 cm and moderate fluid collection in pelvic cavity. As diagnosis remains undefined laparoscopy was performed. Laparoscopic finding was dense adhesion among uterus, ovaries, colon, omentum and all were matted together. There were bilateral chocolate cysts measuring around 2.9 cm x 2.5 cm in right side and in left 3.5 cm x 2.5 cm. Laparoscopic bilateral ovarian cystectomy was done and while doing cystectomy cyst ruptured and chocolate colored fluid came out. Cyst wall has been sent for histopathology. Biopsy confirmed endometriotic cyst. She also did PET CT and no evidence of any metabolically active focal abnormality was noted elsewhere in the survey. She took injection leuprolide-3.75 mg a synthetic gonadotropin hormone. Menstruation ceased and ascites relieved. Again menstrual period started 6 months later and she backed with the same presentation. She is currently on oral contraceptive pill continuous regimen.



Figure 1. Axial view of CT scan of whole abdomen



Figure 2. Coronal view of CT scan of whole abdomen

3. Discussion

The association of endometriosis and massive ascites is an extremely unusual condition. It was first related in 1958 and has been described in about 60 women up to date. [5] The usual onset of endometriosis is 3rd-4th decade of life. Patients have an average delay of 6.7 years to be diagnosed. [6] But this case is 25 years women having delay of 12 years of diagnosis. Chance of occurrence increased six times in individuals if first degrees relative is affected. [7] Our case has also a positive family history of dysmenorrhea as her mother being affected.

Ascites, as the presenting feature of pelvic and abdominal endometriosis are uncommon and seldom thought of in the differential diagnosis of ascites. The main challenge is here to rule out malignancy and other factors and establish endometriosis as a cause of ascites. In this case our patient, a regular menstruating woman with dysmenorrhea and average flow suddenly presented with ascites and abdominal pain. All the differentials were excluded after extensive investigation including CT scan of abdomen, colonoscopy, laparoscopy and finally PET-CT scan. She has taken on full course anti TB treatment but had little significant clinical improvement which ruled out TB. The rarity of such case has made the identification difficult. Ascitic fluid was reddish in color with plenty of RBC and lymphocytes. Hemorrhagic

ascitic fluid was reported in similar case study. [4] The increasing vascular permeability, extremely high estrogen concentration, presence of angiogenic factors as prostaglandin, histamine, cytokines may contribute the formation of massive ascites in endometriosis. [8] The correlation between ascites and endometriosis was explained by Bernsten et al. cited by [9] and he recommended rupture of chocolate cysts release blood and endometrial cells into the peritoneal cavity. Irritation on serosal surfaces of peritonium caused by free blood results development of ascites and dense adhesions. Irritation of peritoneum is also responsible for abdominal pain of the patient. [9]

The objective of treatment of endometriosis is relief of pain, prevention of recurrence and correction of infertility. There are two types of intervention, medical and surgical. Among hormonal treatment combined oral contraceptive pill, progesterone, danazol, GnRh modulator, aromatase inhibitors are used. [3] Conservative surgical options are laparoscopic excision with ablation of the lesions, adhesiolysis, laparoscopic cystectomy and is preferred in young women and radical approach as hysterectomy with or without bilateral oophorectomy is adopted if family complete. [7] Endocrine therapy is chosen over castration in young patient. [5] Our case has tried with progesterones, GnRh modulator and laparoscopic cystectomy. But the patient condition gets improved temporarily as long as menstruation remains ceased. Ascites reappears when her period starts. Endometriosis recurrence following conservative surgery is estimated 21.5% at 2 years and 40-50% at 5 years. [7] This patient is currently on oral contraceptive pill continuous regimen and symptom free now. The cessation of menstruation cycle following treatment has led to the improvement of her condition, resolved ascites and confirmed the role of endometriosis. The concern arises regarding her future fertility. Will the symptoms persist and whether she will be able to be conceived? Unfortunately, ascites with endometriosis has been described in limited evidences especially case reports [4,5,6] and there is no study regarding this issue as far as our knowledge. Asadzadeh et al. [10] reported fertilization treatment such as surgery and artificial reproductive technique may not affect endometriosis recurrence. We can hope the same outcome in our case also as well as higher chance of fertility when she wishes so. Further research is undoubtedly needed to address this area.

4. Conclusion

Ascites complicating endometriosis is a diagnostic dilemma and has made the management challenging. It is

clear that this entity does exist. Most clinicians may never experience a single case. But it should keep in mind as a causative agent when evaluating a young patient with recurrent hemorrhagic ascites and dysmenorrhea.

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Conflict of Interest

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