

## Retroperitoneal Endometriotic Cyst Mimicking a Tumor

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### Abstract

Ectopic endometrial tissues are rarely observed on the serosal surfaces of bowel and laparotomy incisions, in the lungs, bones and in the urinary tract. Recto-sigmoid junction is the most common site of extra-genital endometriosis, with less frequent sites being the rectovaginal septum, small intestine, cecum and appendix. Endometriotic cyst in a retroperitoneal location mimicking a retroperitoneal tumor through the mesentery of sigmoid colon is an extremely rare presentation. Only few cases of retroperitoneal presentation of endometriotic cyst have been reported in the English literature. Retroperitoneal endometriotic cyst may mimic a retroperitoneal tumor in view of the location.

**Keywords:** Endometrial cyst; Retroperitoneal tumor; Pain; Laparotomy incisions

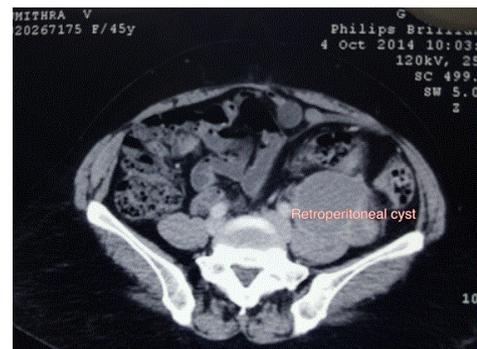
### Introduction

Endometriosis defined as the presence of functioning endometrial glands and stroma outside the uterine cavity was described in 1860 by von Rokitansky. Ectopic endometrial tissues are rarely observed on the serosal surfaces of bowel and laparotomy incisions, in the lungs, bones and in the urinary tract [1,2]. These symptoms may have a relationship with the menstrual cycle being severe close to menstrual periods. A few case reports of endometriosis in the retroperitoneal location has been reported in the English literature [3-5]. Endometriotic cyst in a retroperitoneal location mimicking a retroperitoneal tumor through the mesentery of sigmoid colon is an extremely rare presentation.

### Case Presentation

A 45 year old lady presented with pain abdomen of 3 months duration. Pain abdomen was intermittent, noncyclical, dull aching in nature and radiating to back. There was no significant change in her bowel and bladder habits. She had undergone total abdominal hysterectomy with bilateral salphingo-oophorectomy for multiple uterine fibroids with grade IV endometriosis 1 year back. Clinical examination revealed a pfannenstiel scar in the hypogastrium. No significant mass was made out by abdominal and pelvic examination. Chest X-ray was within normal limits. T whole abdomen and pelvis was done in view of her persistent symptom. CT whole abdomen and pelvis revealed a retroperitoneal mass of size 8.3 × 5.8 × 7.5 cm adjacent to left psoas and left ureter with focal loss of fat plane with sigmoid colon abutting the left iliac vessels. Figure 1 shows the retroperitoneal cystic mass lying over the left psoas muscle and lateral to the left common iliac artery. CT guided biopsy from the mass was performed to arrive at a tissue diagnosis. Biopsy revealed only necrotic material probably because of tissue sampling from the necrotic cyst wall. No definitive tissue diagnosis could be obtained. Hence, she was planned for exploratory laparotomy. On laparotomy, a cystic mass was found in the retroperitoneum over the left common iliac vessels. The mass was extending across the sigmoid mesentery like a dumb bell

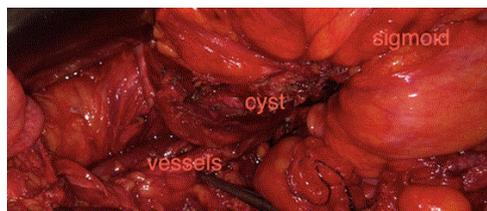
tumor. The left ureter was displaced medially. The left ureter was isolated and dissected away from the mass and safeguarded. Figure 2 shows the left ureter being dissected away from the cystic mass lying in the root of the sigmoid mesentery. The mass was then dissected from the left external iliac and left common iliac vessels posteriorly in a meticulous manner. Figure 3 shows the cystic mass dissected away from the iliac vessels. The mass was dissected all around from the sigmoid mesentery preserving the vasculature of the sigmoid colon. The mass was excised in to preserving the left ureter, left iliac vessels and sigmoid colon. The postoperative period was uneventful. The final histopathology revealed an endometriotic cyst. She has been started on progesterone injections and is symptom free on regular follow up.



**Figure 1:** CT whole abdomen and pelvis showing the retroperitoneal mass lying over the left psoas muscle lateral to the common iliac vessels.



**Figure 2:** Medial view of the retroperitoneal cyst through the sigmoid mesentery. Left Ureter dissected medially and safeguarded.



**Figure 3:** Lateral view of the retroperitoneal cyst through the sigmoid mesentery dissected away from the iliac vessels.

## Discussion

Endometriosis is a relatively common condition but the exact cause and pathogenesis of endometriosis is unclear. There are three main theories to explain this disease. The first theory suggests that it results from the transport of viable endometrial cells through retrograde menstruation. Retrograde menstruation results in shedding of viable endometrial cells into the peritoneal cavity. The second theory is that of transtubal dissemination, which the most common route of spread is. The third one is that of iatrogenic deposition of endometrial tissue following any gynaecologic procedures and caesarean sections [1]. The endometrium and the peritoneum are derivatives of the same coelomic wall epithelium. Metaplastic transformation of the peritoneal mesothelium to endometrial tissue also has been postulated. The transformation may occur spontaneously or by exposure to chronic irritation of the retrograde menstrual fluid. Involvement of the immune system in the pathogenesis of endometriosis has also been suggested. Increased humoral immune responsiveness and macrophage activation while diminished cell-mediated immunity with decreased T-cell and natural killer cell responsiveness has been implicated [1].

Recto-sigmoid junction is the most common site of extra-genital endometriosis, with less frequent sites being the rectovaginal septum, small intestine, cecum and appendix [2]. Retroperitoneal presentation of endometriotic cyst is a rare presentation and only few cases have been reported [3-5]. Subhepatic retroperitoneal endometriotic cyst was reported by Lolis et al. solitary cyst was found in their case in the

retroperitoneum, connected to the inferior surface of the liver which was resected. Histopathological examination of the resected specimen revealed an endometriotic cyst [4]. Our case is that of a densely adherent endometriotic cyst in the retroperitoneum extending across the sigmoid mesentery lying over the iliac vessels and displacing the left ureter medially. There was no connection with any solid organs. A case of endometrioid adenocarcinoma arising from endometriosis of the mesentery of the sigmoid colon was described by Kawate et al., emphasising the importance of recognizing the possibility of tumors arising from endometriosis when evaluating intestinal or mesenteric neoplasms in women, who have previously undergone total abdominal hysterectomy and bilateral salpingo-oophorectomy with history of endometriosis [6]. There was no malignant component identified in our case in the endometriotic cyst. Sakellariou et al., reported a case of retroperitoneal endometriosis causing cyclical ureteral obstruction due to involvement of periureteric tissues [7]. Our patient did not have any cyclical pain though the cyst wall was close to the left ureter probably because of lack of adhesions with the ureter.

In the background of surgery for endometriosis, the endometriotic cyst in the sigmoid mesocolon in our case could be due to the implantation of endometriotic cells during previous surgery. This is akin to incision associated endometriosis due to endometrial cells transplanted during surgery. Time interval between operation and presentation of abdominal wall endometrioma varies from 3 months to 10 years [8]. Though rare, the diagnosis of retroperitoneal endometriotic cyst should be borne in mind in dealing with retroperitoneal masses with a past history of surgery for endometriosis.

## Conclusion

Retroperitoneal endometriotic cyst in the sigmoid mesentery is an extremely rare presentation. Retroperitoneal endometriotic cyst may mimic a retroperitoneal tumor in view of the location. The differential diagnosis of endometriotic cyst should be thought of in a premenopausal woman presenting with a retroperitoneal mass and a history of surgery for endometriosis.

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