Different etiologies of an unusual disease: Colouterine fistula - Report of two cases

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Abstract

Colouterine fistula is an extremely rare condition, as the uterus is a thick, muscular organ. Here, we present two different etiologies for this rare condition—diverticulitis and malignancy. A 77-year-old female with colouterine fistula due to diverticulitis presented with complaints of lower abdominal pain localized particularly in the left iliac fossa and fever. Another case was of 73-year-old female with colouterine fistula due to malignancy who presented with abdominal pain, blood in stools, and whitish discharge from vagina. Both cases were evaluated with contrast-enhanced computed tomography (CECT). The presence of air and fluid within the uterus on ultrasound or CT scan, prompts the possibility of colouterine fistula with CECT providing accurate preoperative assessment.

Key words: Colon; diverticulitis; fistula; malignancy; uterus

Introduction

Colouterine fistula is very rare condition with only around 25 reported cases of post-diverticulitis colouterine fistula so far.[1-6] Other causes include sigmoid malignancy, radiotherapy, and iatrogenic conditions such as insertion of intrauterine devices, endometrial curettage with uterine, and bowel perforation, or obstetrical injury.

The most common type of fistula associated with colon is colovesical fistula followed by a colovaginal fistula arising from the sigmoid colon. Because uterus is a thick muscular organ, it provides a protective barrier against invasion of benign or malignant disease. Therefore, a colouterine fistula is an extremely rare. Here, we present two cases of a colouterine fistula caused by diverticulitis and malignancy of sigmoid colon.

Case Reports

Case 1
A 77-year-old female came to the hospital with complaints of lower abdominal pain localized particularly in the left iliac fossa. On initial examination, she was febrile (100.4°F). The abdomen was distended with ill-defined palpable mass in the left lower abdomen. The pelvic examination showed a spontaneous malodorous discharge in the vagina and cervical os. She had leukocytosis (14,500/mm3) and raised erythrocyte sedimentation rate (ESR) (40 mm/h).

She underwent contrast-enhanced computed tomography (CECT) scan which revealed a large collection adjacent to the sigmoid colon. The collection was seen abutting the uterus with air-fluid level within the uterine cavity [Figure 1].

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Based on CT findings, possibility of sigmoid diverticular abscess and colouterine fistula was considered. The patient underwent abscess drainage, hysterectomy, and colostomy. About 2 cm defect was noted in the posterior uterine wall communicating with the abscess and sigmoid colon. The patient improved clinically following surgery.

Case 2
A 73-year-old female patient came to the outpatient department with complaints of lower abdominal pain, blood in stools, and whitish discharge through vagina for 10 days. On examination patient’s vitals were stable. The patient underwent a CECT scan abdomen which revealed irregular wall thickening involving the rectosigmoid region for a length of ~ 7 cm, with wall thickness of ~ 18 mm. There was loss of fat plane between the uterus and the thickened rectosigmoid colon with air pockets within the endometrial cavity [Figure 2]. Mesocolic fat and perirectal fat stranding was also seen with multiple adjacent subcentimetric lymph nodes. Based on CT findings, possibility of rectosigmoid malignancy and colouterine fistula was considered. The sigmoidoscopy and biopsy of the lesion revealed infiltrating moderately differentiated adenocarcinoma of colon. The en bloc resection of the uterus and sigmoid colon with colostomy was performed on the patient and adjuvant chemotherapy started.

Discussion
Colouterine fistula was first reported by Lejemtel in 1909.[7] Three main etiologies were described at that time were uterine trauma, abscess rupture into the bowel, and the uterus and ureter or sigmoid carcinoma. Later radiotherapy was also identified as one of the etiological factors. Although, fistulas are usually caused by injury or surgery, they may also form after an infection which led to severe inflammation and decompresses by perforating into an adjacent viscus, or through the skin. The fistulation occurs between the colon and the urinary bladder (colovesical fistula) in 65% of the cases and between the colon and the vagina (colovaginal) in 25% of the cases. Colouterine fistula is a rare complication of diverticulitis of the colon.[7]

Diverticular disease of the colon is common in developed nations and thought to result from structural abnormalities of the colonic wall, disordered intestinal motility, or deficiencies of dietary fibers. The signs and symptoms of diverticulitis include fever, abdominal pain, and leukocytosis. As per the data recorded among all the nations, there is high prevalence rate of left‑sided diverticulosis.

Besides the usual signs and symptoms, in the course of the diverticulitis, several unusual complications like pylephlebitis, perforation, intestinal perforation, abscess, and fistula formation may be encountered.[9] While colovesical fistula is the most common type of fistula associated with diverticulitis of the colon occurring in 2–22% of patients with known diverticulitis, colouterine fistulas are a relatively uncommon entity arising in the setting of the disease.[9] The rarity of the condition is probably explained by the fact that the uterus is a thick muscular organ, which poses obstacles for invasion for both benign and malignant disease.

Colon cancer, the most common type of gastrointestinal cancer, is a multifactorial disease process, with etiology encompassing genetic factors, environmental exposures (including diet), and inflammatory conditions of the digestive tract. Among the cancers of the colon, the most common type is adenocarcinoma. As colon cancer grows and spreads beyond the colon mucosa, it is called invasive or infiltrating adenocarcinoma. Metastases to the female genital tract from extragenital malignancies are very uncommon, and the most common extragenital primary sites are breast and gastrointestinal system.[7,9] The common
Colouterine fistula is a rare complication of diverticulitis of colon and malignancy of colon. It should be suspected when patient presents with malodoros discharge from vagina. It can be diagnosed by air and fluid within the uterus on ultrasound or CT scan. However, CT scan is essential for an accurate preoperative assessment. The surgical treatment is indicated in almost all patients except in very high risk cases.

**Conclusion**

Colouterine fistula is a rare complication of diverticulitis of colon and malignancy of colon. It should be suspected when patient presents with malodorous discharge from vagina. It can be diagnosed by air and fluid within the uterus on ultrasound or CT scan. However, CT scan is essential for an accurate preoperative assessment. The surgical treatment is indicated in almost all patients except in very high risk cases.

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**Conflicts of interest**

There are no conflicts of interest.

**References**


