

Colouterine Fistula: A Rare Complication of Acute Diverticulitis

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Introduction

- Diverticulosis is one of the most common colonic pathologies; its incidence is well known to increase with age.
- Complications of diverticular disease include bleeding, perforation, stricture, fistula, and death.
- Fistula formation is considered uncommon in diverticulitis. However when present, fistulization usually occurs between the colon and the bladder.¹
- Fistulae to the female reproductive tract are much less common due to the thick myometrium of the uterus.²
- Fewer than 40 cases of colouterine fistula have been reported in the literature.³
- It is hypothesized that women who develop colouterine fistulae do not experience the typical pain profile of diverticulitis because the connection between the two organs allows the colon to decompress in situ.⁴
- Women most often present with foul-smelling vaginal discharge.

References

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Case Description

- An 80-year-old female presented to the ED with several days of worsening abdominal pain localized to the LLQ and suprapubic region. She denied fevers or chills and had no changes in her bowel or bladder habits. She denied fecaluria and pneumaturia. She had no vaginal discharge or other gynecologic symptoms.
- Her vitals were stable. Physical exam was notable only for tenderness to palpation of the left lower quadrant.

Medical History

PMH: Inflammatory arthritis
PSH: Non-contributory
Allergies: NKDA
Medications:

- Prednisone 5mg PO daily
- Hydroxychloroquine 200mg PO daily

Laboratory Analysis

10.9	454
19.5	35.8

138	104	16	122
3.6	27	0.8	

Hospital Course

- She was admitted to the surgical floor for bowel rest and was given IV ceftriaxone and metronidazole. The day after admission her WBC count decreased, and her symptoms improved.
- On hospital day #4 she became acutely ill with worsening pain, hypotension, fever of 103.2°F, and leukocytosis of 19,700mm³.
- A repeat CT of the abdomen and pelvis with IV contrast revealed worsening of the sigmoid diverticulitis and a new fluid collection surrounding the right ovary. There was gas and fluid within the uterus, suggestive of fistula. The patient was taken immediately to the OR for exploration.
- Intraoperatively, the patient was found to have an obvious colouterine fistula. The sigmoid colon was resected, and an end colostomy was created (Hartmann procedure). An intraoperative gynecology consult was obtained and a hysterectomy, left salpingo-oophorectomy, and right salpingectomy was performed.
- Postoperatively, she was briefly monitored in the SICU and otherwise had an uneventful recovery. She was discharged home on hospital day #8.
- Pathology confirmed the intraoperative findings of diverticulitis and colouterine fistula.
- Ultimately, the patient elected not to have her ostomy reversed.

Imaging



CT Scan

Extensive sigmoid diverticulitis with diffuse inflammation of the sigmoid colon. Multiple locules of air situated between the sigmoid colon and the uterus suggests a walled off abscess. The uterus is fluid filled.

Discussion

- Fistula formation between the colon and the uterus due to diverticulitis is exceptionally rare.⁴
- In reported cases, most women presented with feculent vaginal discharge. This patient presented with abdominal pain only. She did not have vaginal discharge, unlike other cases previously described in the literature.
- Proposed etiologies for colouterine fistula development include:^{5,6}
 1. Rupture of the gravid uterus with impaction and subsequent strangulation of bowel
 2. Intestinal inflammation with spontaneous rupture
 3. Uterine or sigmoid tumor with subsequent ulceration/necrosis
 4. Radiation therapy
 5. Obstetrical trauma
 6. Diverticulitis
- Treatment of this condition is not standardized and is highly variable. While antibiotics can be attempted, in most cases, definitive surgical management is required.

Conclusion

Diverticulitis is one of the most common colonic pathologies and can result in a variety of complications including perforation, stricture, and fistula to surrounding structures. Fistulae to the female reproductive tract typically occurs from the sigmoid colon to the vagina but, as seen in this case, can also affect the uterus.