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Case Report

Uncommon presentation of sigmoid diverticulitis: colouterine fistula with pyometra

Ashvi U. Solanki, Kausar A. Fakih*, Sandhya Iyer, Mansha Singh

Department of General Surgery, Lokmanya Tilak Municipal Medical College & General Hospital, Sion, Mumbai, Maharashtra, India

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***Correspondence:**
Dr. Kausar A. Fakih,
E-mail: kausarfakih300@gmail.com

ABSTRACT

Pyometra is accumulation of pus in the uterine cavity. We present a case of a 76-year-old female presenting with pyometra secondary to a colouterine fistula in a case of sigmoid diverticulitis. Patient had come with complaints of pain in lower abdomen associated with loose stools and fever. Computed tomography (CT) of abdomen showed circumferential wall thickening of sigmoid colon with diverticulitis. ~125 cc of fluid collection with air fluid level was seen in uterus abutting the sigmoid colon. On administering rectal contrast, leak of contrast was seen in the collection. In order to treat the sepsis, a diverting loop colostomy with dilatation of cervix and drainage of pyometra was done. Patient was planned for definitive surgery of sigmoid resection with hysterectomy after resolution of infection and inflammation. However, patient had a myocardial infarction in postoperative period and succumbed to the same. Since colouterine fistula secondary to diverticulitis is rare, we wish to add this case to current scientific literature.

Keywords: Colouterine fistula, Diverticulitis, Pyometra

INTRODUCTION

Diverticulosis is a clinical condition in which multiple sac-like protrusions develop along the gastrointestinal tract. It is more commonly seen in sigmoid colon due to disordered intestinal motility and deficiency in dietary fibre. 65% of people have diverticulosis by the age of 80. Of these, 20% develop diverticulitis.[1] These diverticula have the potential to get inflamed, resulting in diverticulitis, and cause complications.

Complications of diverticulitis are hemorrhage, abscess, perforation and fistula. Amongst fistulas, colovesical is the most common (65%) followed by colovaginal (25%).[2] Fistulas to other pelvic organs may be seen. Colouterine fistulas are rare with very few cases reported in literature. In this report, we present an uncommon presentation of sigmoid diverticulitis as pyometra.

CASE REPORT

76-year-old female came with chief complaints of pain in right lower abdomen since the last 15 days. She had history of passage of loose stools, 5-6 episodes per day, watery in consistency. It was not mixed with blood or mucus. It was associated with low grade fever. She had no complaints of vomiting, melaena, constipation, per vaginal discharge, weight loss or loss of appetite.

No history of similar episodes of pain or altered bowel habits in the past. She was a known hypertensive on medications and had history of cerebrovascular accident 1 year back, not on any antiplatelet drugs. Patient had pulse rate of 110 beats per minute with blood pressure on lower side (100/60 mmHg).

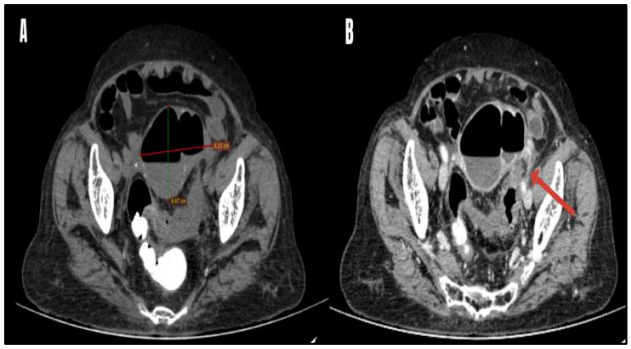

Figure 1: CT abdomen axial view (A) Plain showing collection in uterine cavity with thickened sigmoid colon (B) Contrast scan showing fistulous tract between sigmoid colon and uterine cavity with leak of contrast into the collection (red arrow).

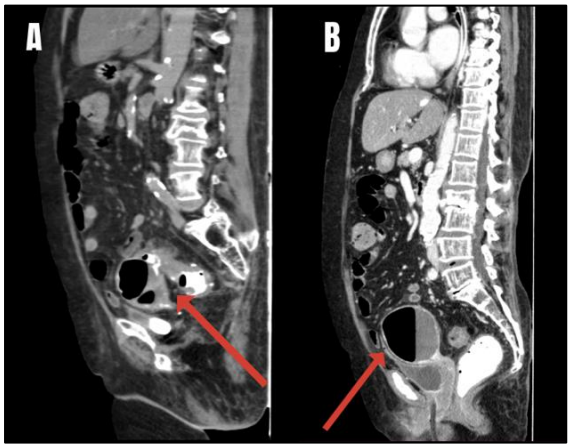

Figure 2: CT abdomen sagittal view (A) Plain scan showing contrast leak from sigmoid colon into the uterine cavity (red arrow) (B) Contrast scan showing pyometra (red arrow).

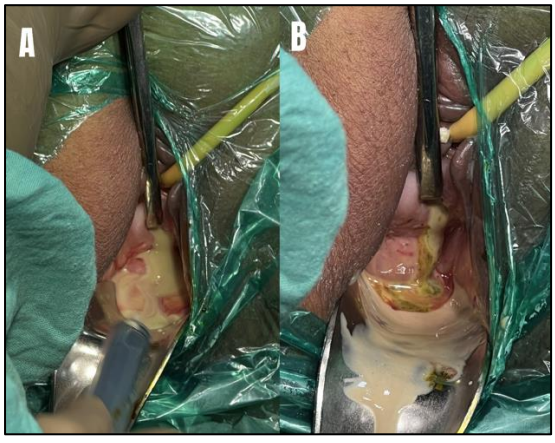

Figure 3: Intraoperative image showing drainage of pus(A) and stools (B) from uterine cavity after cervical dilatation.

On per abdomen examination, patient had right iliac fossa and hypogastric region tenderness with guarding. Laboratory investigations were showing leukocytosis (25,000) with metabolic acidosis with electrolyte imbalance (hypokalemia). Patient was resuscitated and started on higher antibiotics empirically. Chest x-ray showed consolidation in right lower lobe and abdominal x-ray was normal. Ultrasonography of abdomen was normal.

Electrocardiogram (ECG) showed T wave inversions in V1-V3 and echocardiography showed hypertensive heart disease with ejection fraction of 60%. Patient was further evaluated with a computed tomography scan (CT), which showed long segment circumferential wall thickening of the sigmoid colon with adjacent mesenteric fat stranding. Multiple air-filled outpouchings were seen in sigmoid colon suggestive of colonic diverticulosis. The thickened sigmoid colon was abutting the posterior wall of body of uterus with loss of fat planes.

A collection measuring 7.5×6.0×6.0 cm (125 cc) with air fluid level was seen in the endometrial cavity. On per rectal contrast administration, leak of contrast was seen in the collection via a track measuring 7mm in diameter. The endocervical canal appeared normal. These features were suggestive of sigmoid colon diverticulitis and sealed off perforation with colouterine fistula with pyometra. Chest sections revealed bronchiectatic collapse of medial segment of right middle lobe with surrounding fibroatelectic changes (Figure 1 and 2).

Patient was planned for a two staged procedure based on the general condition of the patient and patient being in full blown sepsis. Patient underwent emergency surgery with assistance from gynaecologist. Diversion transverse colostomy was created and cervical dilatation done to drain the pyometra. ~150 cc of feculent pus was drained from the uterine cavity (Figure 3).

Second surgery, sigmoid resection with hysterectomy was planned after 6 weeks. Patient was shifted to ICU on ventilatory support. Patient developed ECG changes on post operative day (POD) 1, suggestive of myocardial infarction after which patient was started on ionotropic support and cardiac medications. Repeat 2D Echo showed 35% ejection fraction. On POD 2, abdomen was soft and stoma was functional. Patient was started on ryle's tube feeds. Patient succumbed on POD 5 inspite of multidisciplinary management.

DISCUSSION

Pyometra is collection of pus in the uterine cavity. Overall incidence of pyometra is 0.1-0.5%.[3] The causes of pyometra are cervical stenosis (most common), puerperal infection, endocervical polyp and leiomyoma.[4] Cervical stenosis is seen in age related atrophic cervicitis, malignancy, radiation, use of intrauterine device and congenital cervical anomalies. Endometrial cancer is the most common cause of pyometra in elderly. Pyometra due to diverticulitis is very rare. It can be seen if an old

female with diverticulitis and cervical stenosis develops colouterine fistula as seen in our case. Colouterine fistulas are rare due to thickness of uterine myometrium. The common causes of colouterine fistula include spontaneous rupture of gravid uterus, obstetric trauma, instrumentation, endometrial curettage, radiation and pelvic malignancy. Although fistulas are a common complication of diverticulitis, colouterine fistulas have rarely been reported. In our case, patient had a colouterine fistula secondary to diverticulitis.

Fistulas are formed due to destruction of serosas of two epithelial surfaces in close proximity to each other. Adhesions formed due to inflammation cause surface necrosis resulting in fistulas. Pericolic abscess formed after localized perforation of colonic diverticula can also cause fistulisation into neighbouring viscera. Patients of colouterine fistula present with vaginal discharge. The discharge can be foul smelling, hemorrhagic, purulent or feculent. They may also present with lower abdominal pain or sepsis. Our patient had a colouterine fistula with concomitant cervical stenosis resulting in pyometra with no per vaginal discharge.

On examination, patient may have a tender abdomen due to active diverticulitis, phlegmon or frank abscess. On vaginal speculum examination, discharge per os may be seen. In contrast, in colovaginal fistula opening at apex of vagina is seen. In our patient os was closed on examination. For further investigation CT scan helps in evaluation of acute abdomen. It differentiates between diverticulitis, colonic and genitourinary malignancy. It shows presence of any collections and administration of rectal contrast can delineate fistulas as seen in our case.

MRI can further give detailed extension of fistulas and inflammatory changes. Colonoscopy can be done to rule out colonic malignancy but it may fail to demonstrate the fistulous opening. In charcoal challenge test, the orally administered activated charcoal passes through bowel into os diagnosing a fistula.[2] However, these tests may not be feasible in emergency settings or when patient is hemodynamically unstable. Methods of drainage of pyometra include USG/CT guided, transvaginal and surgical. The most common organisms isolated are Escherichia coli and bacteroides fragilis.[5] Tai Okusaki et al have reported a case of pyometra with pyogenic spondylitis due to diverticulitis treated with drainage and long-term antibiotics.[3]

Definitive surgery involves resection of sigmoid colon. If malignancy is not suspected, uterine fistulous opening can be closed and drainage through os can be done. However, since diverticulitis occurs in elderly, most surgeons prefer to remove the atrophic uterus. A two-stage approach is safer in obstruction, abscess, sepsis or severe inflammation.[6] Hartmanns procedure or diversion stoma is done in the first surgery. Patient is further planned for anastomosis with sos hysterectomy. Our patient was planned for a two-stage surgery where a diversion colostomy was done due to sepsis.

CONCLUSION

This case demonstrates that sigmoid diverticulitis can lead to colouterine fistula, which may present with symptoms of pyometra. It emphasizes the need for diagnostic evaluation in patients presenting with pyometra-like symptoms but without an apparent gynecological cause. Early recognition of the fistula and timely surgical intervention is essential for effective treatment. Clinicians should be aware of the potential for diverticular disease to cause unusual fistula formation and present with atypical symptoms.

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