

Vesicocolic fistula

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Abstract: Vesicoenteric fistulae, also known as enterovesical or intestinovesical fistulae occur between the bowel and the bladder. We report a case of vesicocolic fistula after undergoing TURBT. After confirmation following radiological investigations and cystoscopy the patient underwent repair of the fistula.

Keywords: Vesicocolic fistula, enterocutaneous fistula, Gouverneur syndrome

Introduction

A fistula is an abnormal communication between two epithelialized surfaces. Normally, the urinary system is completely separated from the alimentary canal. Connections can occur as a result of incomplete separation of the two systems during embryonic development, infection, inflammatory conditions, cancer, injury, or iatrogenically as a result of surgical misadventures or postoperative complications. The most common cause of vesicocolic fistula is diverticular disease.

Case report

A 63 year old male underwent TURBT (transurethral resection of bladder tumor) 14 months before presentation at another institution. Since the evening of the procedure he noticed air bubbles in his urine. It was not associated with abdominal pain, distension or hematuria. This was present on every episode with occasional passing of dirty shreds in his urine.

The patient was reassured about his condition and discharged on antibiotics and asked to follow up after 3 months. There was no relief of the symptoms over the time period and he had additional features of burning micturation, frequency and occasional foul smelling dirty flakes in his urine. With these complains he was investigated 8 months ago at the previous institution. His IVU, MCU were normal there. (Fig.1, 2) As his condition did not improve he came to our institution.

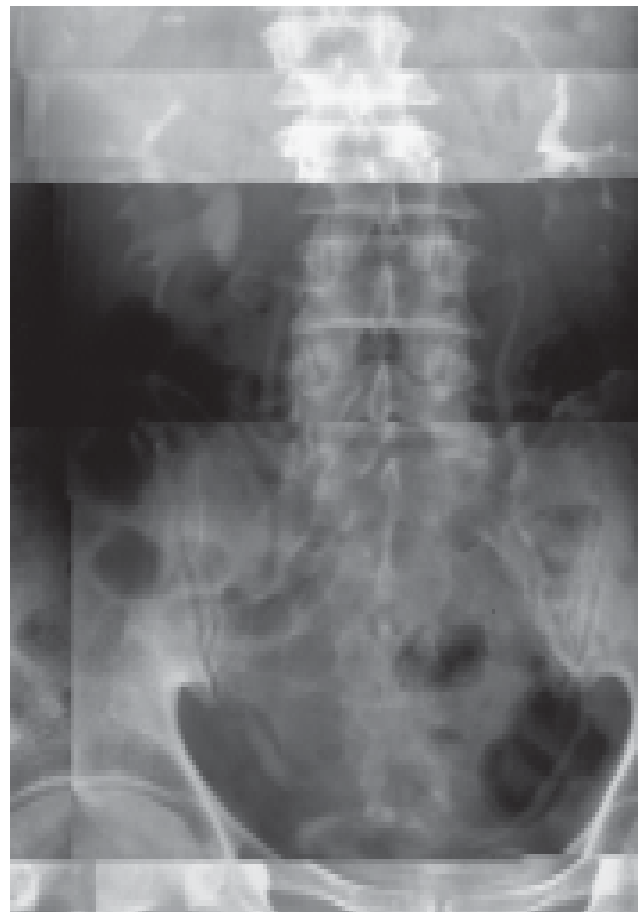


Fig.1. normal IVU

Vesicocolic fistula

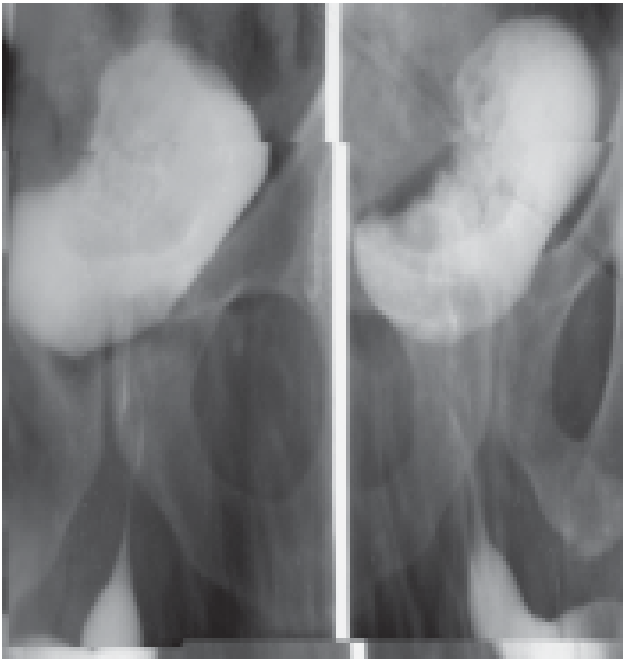


Fig.2. Normal MCU

He was initially treated conservatively with antibiotics but he had persistent air bubbles in his urine and episodes of urinary tract infection. He underwent cystoscopy which revealed puckering of mucosa with efflux of paste like material from the opening. He underwent barium enema which revealed a fistulous tract between the bladder and sigmoid colon. (Fig. 3) His renal function and electrolytes were within the normal range. His urine showed *E.coli* sensitive to nitrofurantoin

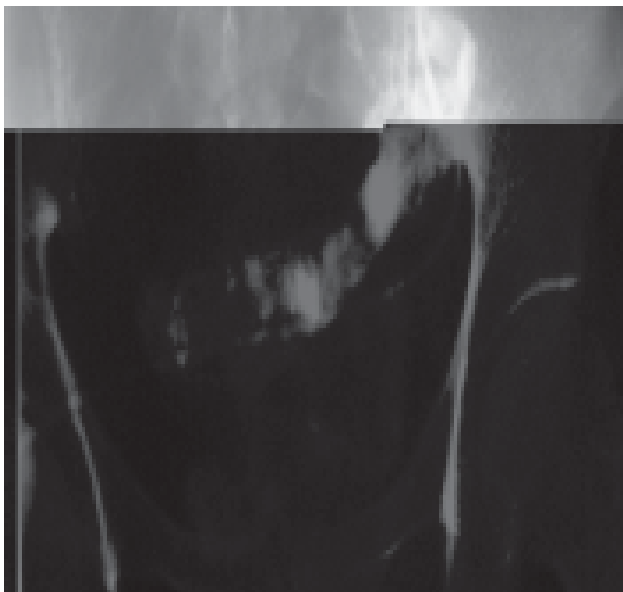


Fig. 3. Barium enema showing Fistulous tract

With the diagnosis of vesicocolic fistula he underwent laparotomy and closure of the fistulous tract. The intra operative finding was a fistulous tract connecting sigmoid colon and posterior wall of bladder. Corrugated and tube drains were kept. He was discharged after 1 week with an uneventful post operative period.

The patient presented to the outpatient department with complains of a foul smelling discharge through the corrugated drain site on the 10th post operative day. He was passing stool and flatus. On examination there was a fecal fistula at the drain site.

He was admitted and fistulogram revealed a fecal fistula with communication with the sigmoid colon. It was a low output fistula. He is currently undergoing conservative treatment. He is doing well now and the fistula has healed by itself.

Discussion

Normally, the urinary system is completely separated from the alimentary canal. Connections can occur as a result of incomplete separation of the 2 systems during embryonic development, infection, inflammatory conditions, cancer, injury, or iatrogenically as a result of surgical misadventures or postoperative complications.

Diverticulitis is the most common cause, arising in 2-4% of such cases. (1)

Vesicoenteric fistulae can be divided into 4 primary categories based on the bowel segment involved, as follows: (1) colovesical, (2) rectovesical (including recto-urethral), (3) ileovesical, and (4) appendicovesical fistulae. A colovesical fistula is the most common form of vesicointestinal fistula and is most commonly located between the sigmoid colon and the dome of the bladder. (2)

Colovesical fistulae occur more commonly in males, with a male-to-female ratio of 3:1.

The presenting symptoms and signs of enterovesical fistulae occur primarily in the urinary tract. Symptoms include suprapubic pain, irritative voiding symptoms, and symptoms associated with chronic urinary tract infection. The hallmark of enterovesicular fistulae may be described as Gouverneur syndrome, namely, suprapubic pain, frequency, dysuria, and tenesmus. Pneumaturia and fecaluria may be intermittent. (3) Pneumaturia occurs in approximately 60% of patients but is nonspecific. Fecaluria is pathognomonic of a fistula and occurs in approximately 40% of cases. Symptoms of the underlying disease causing the fistula may be present. (4)

Urinalysis usually shows a full field of WBCs, bacteria,

and debris. A variant of the Bourne test using orally administered charcoal also is helpful. Charcoal in the urine is detected either visually or microscopically in the centrifuged urine of patients. (5) The predominant offending organism in urine is *Escherichia coli*. CT scan of the abdomen and pelvis is the most sensitive test for detecting a colovesical fistula. CT scan can demonstrate small amounts of air or contrast material in the bladder, localized thickening of the bladder wall, or an extraluminal gas-containing mass adjacent to the bladder. (6) Barium enema (BE) imaging rarely reveals a fistula but is useful in delineating diverticular disease from cancer. Cystography is no longer used in the evaluation of a fistula. (7) Ultrasonographic examination reveals an echogenic "beak sign" connecting the peristaltic bowel lumen and the urinary bladder but is rarely used in diagnosis. (8) Cystoscopy is essential in diagnosis of vesicocolic fistula. Localized erythema, papillary/bullous mucosal changes, and occasionally, material oozing through an area suggest 80-90% of diagnosed cases. Colonoscopy like barium enema is not particularly valuable in detecting a fistula

Fistulae should be repaired in patients with abdominal pain, dysuria, malodorous urine, incontinence, urinary outlet obstruction, recurrent UTIs, bouts of sepsis, and pyelonephritis. (9) Nonsurgical treatment of colovesical fistulae may be a viable option in select patients who can be maintained on antibacterial therapy for symptomatic relief for a prolonged period. It depends on the cause for the fistula. (10) Colovesical fistulae can almost always be treated with resection of the involved segment of colon and primary reanastomosis. When the etiology of the fistula is inflammation, the general principle is resection of the primarily affected diseased segment of intestine with or without closure of the defect in the bladder. A diverting or defunctioning colostomy, with or without urinary diversion, may be used. Laparoscopic repair has also been attempted. (11)

Conclusion

Vesicocolic fistula is a rare condition presenting with suprapubic pain, frequency, dysuria, and tenesmus. Pneumaturia and fecaluria are highly suggestive. Cystoscopy is essential in diagnosis of vesicocolic fistula. Colovesical fistulae can be treated with simple closure, resection and anastomosis or colostomy.

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