



## CASE REPORT

### **A rare case of Colovesical fistula in a middle-aged man managed successfully by conservative management**

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### **Abstract**

Colovesical fistula is an improper connection between the urinary bladder and intestinal tract. Although there are many possible causes of colovesical fistula, Chen et al. have classified them into five main classes: congenital, traumatic, tumor, inflammatory, and other. Intestinal diverticulitis accounts for 50–70% of cases in Western countries, and nearly all of them are related to colonic or bladder fistulas. Malignant tumors (20%) rank second in Western countries as the most common cause, which are situated largely in the large intestine. Other related tumours include bladder, cervical, ovarian and prostate cancers, and non-Hodgkin's lymphoma in the small intestine. The third most prevalent cause is Crohn's disease (10%), which occurs mainly in the ileum. "Other causes" include iatrogenic injury; trauma; foreign bodies in the intestinal tract; radiotherapy; chronic appendicitis

**Keywords:** colovesical, fistula, conservative, cystoscopy.

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## Introduction

Colovesical fistula is an improper connection between the urinary bladder and intestinal tract [1]. Although there are many possible causes of colonovesical fistula, Chen et al. [2] have classified them into five main classes: congenital, traumatic, tumor, inflammatory, and other. Intestinal diverticulitis accounts for 50–70% of cases in Western countries, and nearly all of them are related to colonic or bladder fistulas [3]. Malignant tumors (20%) rank second in Western countries as the most common cause, which are situated largely in the large intestine. Other related tumours include bladder, cervical, ovarian and prostate cancers, and non-Hodgkin's lymphoma in the small intestine. The third most prevalent cause is Crohn's disease (10%), which occurs mainly in the ileum. "Other causes" include iatrogenic injury; trauma; foreign bodies in the intestinal tract; radiotherapy; chronic appendicitis [4]; tuberculosis; and syphilis. The male-to-female ratio is 3: 1. The lower prevalence in females is owing to interposition of the uterus between the bladder and sigmoid colon, but higher rates of both colovesical and colovaginal fistula have been reported in females who have previously undergone a hysterectomy [5].

We put forth a case of a middle-aged male with Colovesical fistula which was managed conservatively and recovered successfully.

## Case presentation

A middle-aged man of 31 years of age presents to the urology outpatient department of a tertiary care centre with complaints of passing faecal material while passing urine since a period of 15 days. Patient reports history of anorectal malformation with colonic pouch for which ileo-anal anastomosis was done at the age of 2 years in childhood. Patient also reports history of recurrent urinary tract infections in the last 6 months. On examination, patient was clinically afebrile and on local examination, external genitalia examination and perineum was normal. Patient was then further evaluated by laboratory investigations and an ultrasound of the pelvis and abdomen, which showed 1.2 mg/dl of serum creatinine and a normal complete blood count ultrasound revealed bilateral normal kidneys with bladder wall thickening. Patient then underwent Computerised Tomography of abdomen and pelvis with oral contrast which revealed rectosigmoid junction adherent to the left postero-lateral wall of bladder (Figures 1 and 2).

The patient then underwent Barium enema study which revealed a fistulous communication seen between rectosigmoid junction and left posterolateral wall of urinary bladder (Figure 3).

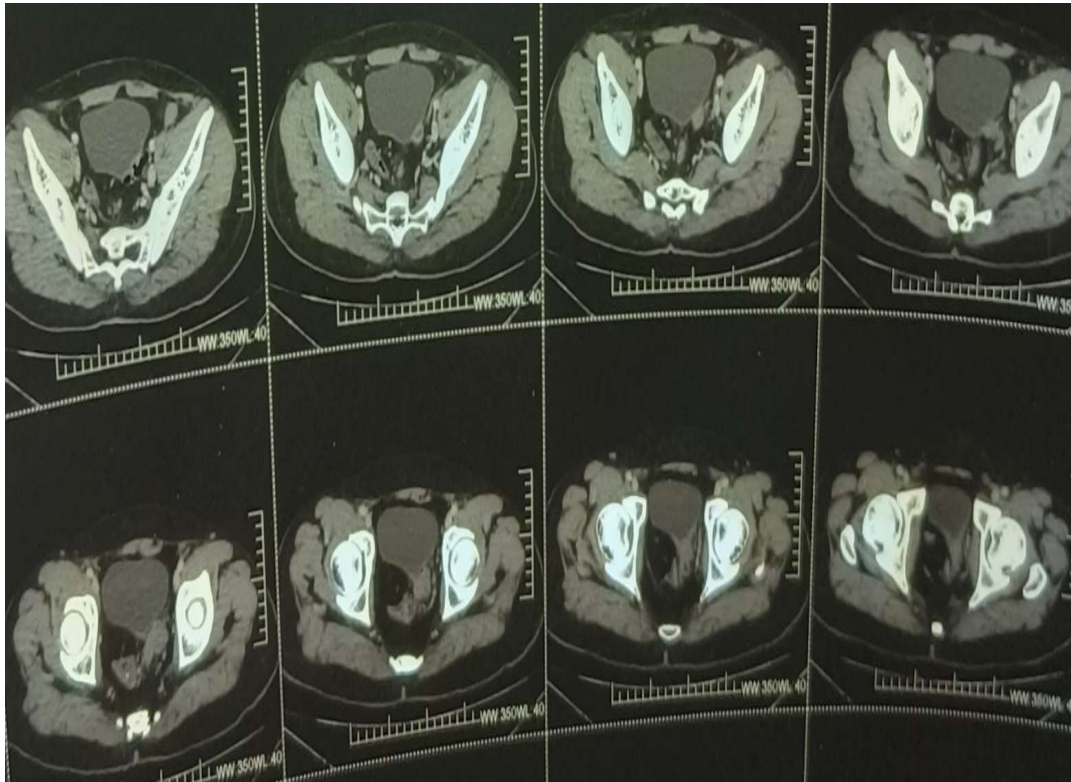


Figure 1. Serial axial sections of CT scan of the patient showing adherent rectosigmoid junction adherent to the left posterolateral wall of bladder.

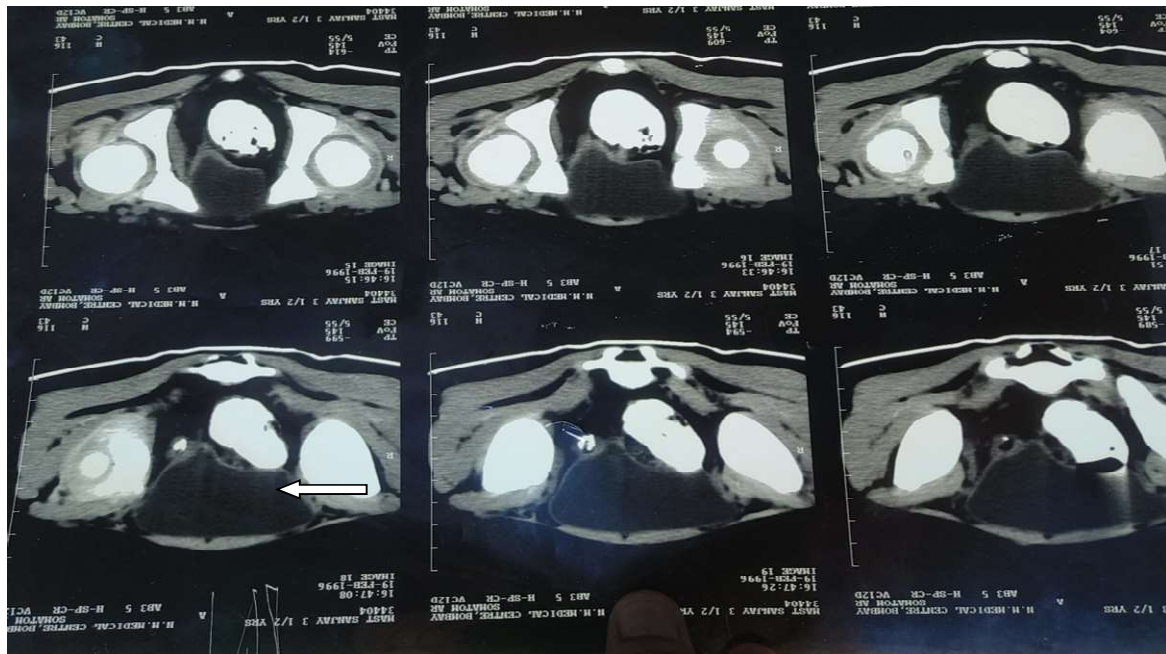


Figure 2. Serial axial sections of CT scan with oral contrast showing the fistulous communication of Colovesical fistula.

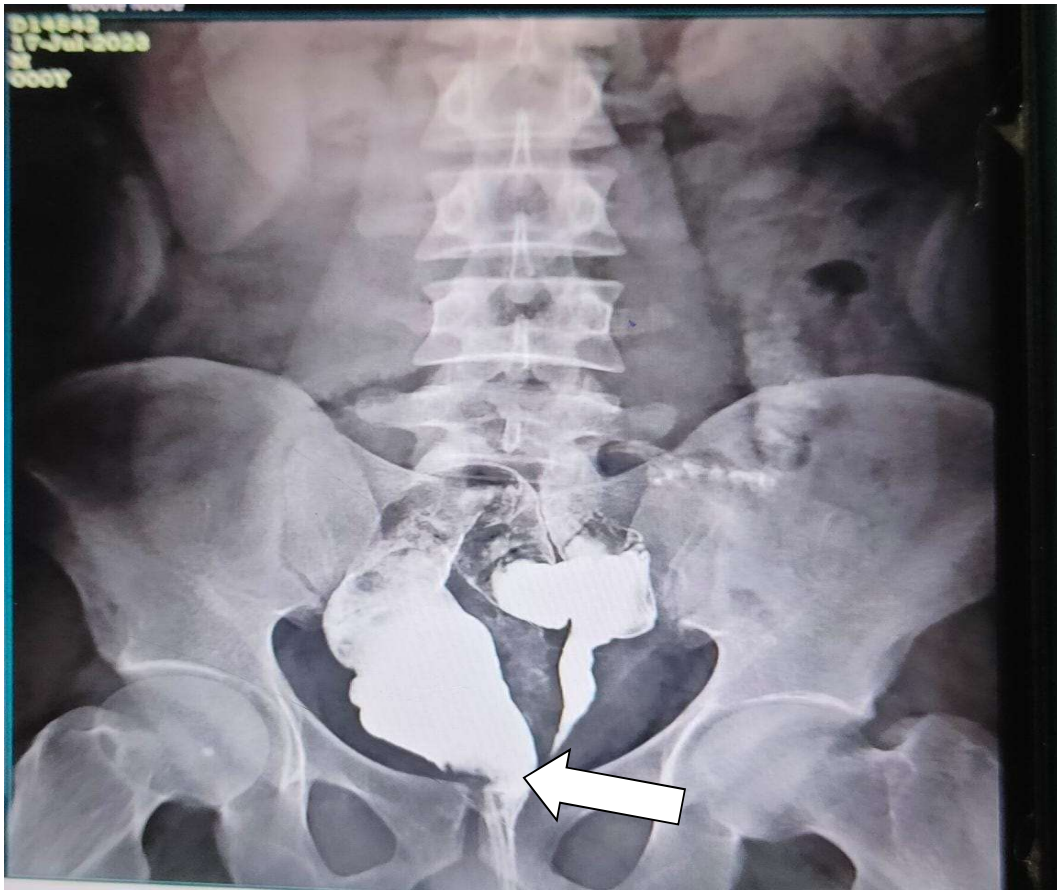


Figure-3: Barium enema showing evidence of colovesical fistula.

A diagnostic cystoscopy was done along with instillation of Betaidine stained solution through a tube inserted into the rectum to aid in the identification of the fistula which revealed infratrigonal single

fistulous opening on the left side of the urinary bladder of size 1cm \* 0.5 cm which was seen to exude betaidine stained fluid confirming the presence of Colovesical fistula (Figure 4).



Figure 4. Diagnostic Cystoscopy image showing evidence of colovesical fistula after betadine instillation through a per rectal tube.

The patient was supervised carefully with antibiotics and avoiding constipation. Over a period of 4 weeks, the symptoms entirely resolved with no active intervention and the patient was discharged. The patient has been on regular follow up till a period of 1 year and has no recurrence of complaints.

### Discussion

Colovesical fistula presents clinically as passage of foul-smelling urine along with passage of gas and stool particles in urine. Recurrent urinary tract infections can also be a presentation. For the diagnosis of Colovesical fistula, traditional diagnostic methods such as cystoscopy, barium enemas, colonoscopy and cystography are used. Barium enemas shall be used to show the primary lesion although there is a negative of the contrast agent into the bladder. But barium enemas only sensitivity ranges from 20–35% [6].

According to Gruner et al., radiography of centrifuged urine samples taken right after a barium enema (Bourne test) can increase the diagnostic accuracy to 90%. Diagnosis cannot be made with simple bladder imaging. Cystography can be performed to show that contrast is passing outside the bladder, but this won't be accurate if the bladder's underfilling or inflammatory oedema causes the fistula's outlet to close. Cystography only reveals gas and an increase in the bladder wall where it attaches. If the patient's position is altered to enhance abdominal pressure or if there is a significant obstruction of the urine outlet, the diagnostic accuracy of cystography increases. Because cystography can detect fistula and be used to rule out urological malignancies, bladder stones, and interstitial cystitis, several authors saw it as a necessary diagnostic procedure. A localized region with erythema, oedema, and congestion is a common finding in the

early stages of fistula. Following this, a fistula is surrounded by bullous oedema and mucosal papillomatous hyperplasia. Occasionally, floating masses, such as faecal waste, are also visible. Nonetheless, more than 50% of patients have a cystoscopy fail to find a fistula; instead, the procedure merely reveals intravesical oedema, which suggests a fistulous tract, mucus, and feces in the bladder. Colonoscopy is not very reliable in identifying fistulas. Nonetheless, colonoscopy is sensitive in identifying underlying colon cancer, particularly those linked to diverticular illness. Research on the use of MRI to diagnose fistulas has been lacking. Given that CT imaging is more widely available, MRIs should be utilized as a second-line inquiry for the diagnosis of colovesical fistulas, such as in the imaging of complex fistulae, as it is unclear whether MRIs provide any appreciable advantages over CT scans [6]. A CT scan is the most sensitive and non-invasive test available, with a 60–100% diagnosis accuracy [3]. The diagnosis of the condition can be aided by observing the contrast agent in fistulae on enhanced CT scans. The location of fistulae can be aided by cystoscopy in conjunction with the detection of a mass outside the bladder wall, local thickening of the bladder wall, and thickening of the nearby bowel wall. A CT scan has the following benefits: it can reveal abscess formation, identify intestinal diverticula, identify adhesions between the intestine and the bladder, show accompanying soft tissue masses forming the fistula between the bladder and the bowel, and enable tumour staging for surgical management. The most typical findings are gas in the bladder, localized bladder wall thickening, neighboring bowel wall thickening, and soft tissue masses adhering to the bladder

wall's outside [8,9]. To prevent bladder opacification, some writers choose for an oral contrast agent instead of an intravenous one [3,10]. Occasionally, the viscosity of the contrast agent prevents it from fitting through a tiny fistula. In certain situations, conservative management may be effective. Surgical management still the most effective technique to treat the illness. There is no standard surgical treatment and hence, the treatment is individualised according to the clinical presentation of the patient. The most commonly employed method for the surgical treatment of this condition is to separate the fistula formed by the impacted bladder and bowel walls, and subsequently fix the lesion. However, if there is underlying malignancy, then the patient will require partial or total remodelling along with chemotherapy and regular review [11].

### **Conclusion**

Colovesical fistula presents a unique challenge to a practising urologist. Various management options are available for its management. Our case report demonstrates how a small Colovesical fistula can be managed successfully by conservative management.

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### **Conflict of Interest**

The authors have no relevant financial or non-financial interests to disclose.

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### **Statement on ethical clearance and consent for participation:**

Patient consent was obtained for publication of the case report.

### **Statement on Data availability**

It is a case report and data was obtained from the hospital records.

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